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The importance of Charles Darwin's theory for Fritz Jahr's conception of bioethics

"Man in his arrogance thinks himself a great work. worthy the interposition of a deity, more humble & I believe true to consider him created from animals."**

Charles Darwin, 1838

ABSTRACT

Fritz Jahr is a pioneer of bioethics. In this article I will present and outline Jahr's bioethical programme with a special emphasis on Charles Darwin's role in Jahr's ethics. According to Jahr, useful and efficient animal protection can only be practised well if we have enough knowledge of nature. Jahr refers to Darwin who revolutionised our view of life and of the relationship between the human being and the rest of living nature. In the first introductory section I will shortly present Jahr's overall perspective and his bioethical imperative. I will also give a very short sketch of today's bioethics. In the second and third section I will outline Darwin's revolutionary theory and its application to the human being. I will also present some of the reactions of his contemporaries which reflect Darwin's achievement for our understanding of living nature. In the fourth section I will go back to Fritz Jahr and will present and discuss different aspects of his approach in more detail. A final quotation from Hans Jonas about the dialectical character of Darwinism will trenchantly highlight Darwin's importance for Fritz Jahr's ethics.

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** The unusual punctuation is used by Darwin in his private notes.

1. Introduction

When reading Fritz Jahr's short article "Bioethics – A Survey of the Ethical Relations of the Human Being towards Animals and Plants"[1] published in 1927 one gets the impression that bioethics was invented once more in the 1970s. Bioethics is not identical to medical ethics and cannot be reduced to it, in fact, medical ethics is just one field of bioethics. Jahr's article does not only predate the "birth" of that branch of bioethics called "medical ethics" but also the discussions on a "global bioethics" including our ethical concern for the preservation of animals and plants, as it was particularly stimulated by Van Rensselaer Potter who introduced the term "bioethics" in the 1970s (Potter 1970, 1971, 1988) and who built on the legacy of Aldo Leopold, a famous founder of environmental ethics.[2] Most people are not even aware of Fritz Jahr's early usage of the term "Bio=Ethik" and of his sketch of a bioethical programme from 1927 on. To date we can consider Jahr as the first one who used and thus coined the term "Bio=Ethik".[3]

As a guiding principle for our action Jahr formulates the "bioethical postulate": "*Respect every living being in principle as an end in itself and treat it, whenever possible, as such*."[4] (Jahr 1927, 4). One year later he formulates this postulate again as a "bioethical imperative", specifying it: "*Respect every living being, therefore also the animals, as an end in itself, and treat it whenever possible as such*."[5] (Jahr 1928a, 102). Jahr includes in his imperative explicitly the protection of animals as well as plants, as his texts show. And he uses the terms "Tierethik" and "Pflanzenethik".

Bioethics as it has been practiced since the 1970s until today is an interdisciplinary and application oriented discipline which aims at a normative understanding about the range and limits of human action towards living nature including the human

[1] "Bio=Ethik – Eine Umschau über die ethischen Beziehungen des Menschen zu Tier und Pflanze" (Jahr 1927). If not stated otherwise the English translations of the quotations from Jahr are mine. A helpful support were the English translations of the selected essays by Jahr in bioethics and ethics (1927-1947) by Irene M. Miller and Hans Martin Sass (published as the *Medizinethische Materialien* 188 (2011), Zentrum für Medizinische Ethik, Bochum). There are similarities but also differences between these translations and mine. See also Sass 2007 as a good introduction into Jahr.

[2] Potter's work was overshadowed by the foundation of the "Joseph and Rose Kennedy Institute for the Study of Human Reproduction and Bioethics" at Georgetown University Washington by which the term "bioethics" was reduced to the meaning of biomedical ethics. For an overview see Callahan 1995, Reich 1995.

[3] I came to know Fritz Jahr through a paper given by Prof. Dr. Rolf Löther in June 1997 at the 6th annual conference of the German Society for the History and Theory of Biology (DGGTB) organized by the Chair for Ethics in the Biosciences at the University of Tübingen. Löther mentioned Jahr in his paper very shortly (see Löther 1998).

[4] Jahr's "bioethische Forderung": "*Achte jedes Lebewesen grundsätzlich als einen Selbstzweck, und behandle es nach Möglichkeit als solchen!*" (Jahr 1927, 4)

[5] Jahr's "bio=ethischer Imperativ": "*Achte jedes Lebewesen, also auch die Tiere, als einen Selbstzweck, und behandle es nach Möglichkeit als solchen*!" (Jahr 1928a, 102)

being. Thus, bioethics is not anthropocentric concerning its objects or subject-matter. Human action encompasses our conduct towards nature in everyday life as well as in the theoretical and practical contexts of science and research. Two developments triggered the emergence of bioethics in the second part of the twentieth century: Firstly increasing environmental problems, i.e. particularly the damage and destruction of the natural environment, of animals and plants, in many countries up to a global problem which we all are facing now, and secondly scientific and biotechnological developments in quite different branches of the life sciences, in medicine as well as in biology, which confronted us with completely new questions and prompted discussions about the nature of humans, animals and plants, the meaning of life and death, the beginning and end of individual life. These developments challenged our traditional intuitions about the human being and nature, causing fear of unintended consequences and risks as well as hopes for overcoming severe diseases and extending the span of life. Confronted with, and often surprised by these new options, which called for ethical as well as legal decisions, bioethics became an inescapable necessity for scientists, physicians and scholars of quite different disciplines as well as politicians and the public.

Although bioethics is application oriented, it is not simply an "applied" ethics like a recipe or an instruction manual that is applied (Engels 2005). Bioethical problems are too complex to be solvable by a simple application of ethical principles and norms to cases. Many times one first has to clarify the objects and cases which are at stake, before one can apply principles and norms. As mentioned above, the described developments have challenged our traditional view of humans, animals and plants. Therefore *natural philosophy* as well as *philosophical anthropology* and *other philosophical disciplines* are essential elements of bioethics. Another indispensable element of bioethics is the *empirical and scientific knowledge* about the objects dealt with in our ethical considerations. It is crucial to know something about the specific constitution of plants and animals when we have to decide about the best way to treat and protect them. We have to know the biological status of an entity before we can judge what their moral status is, that is if they deserve moral consideration and which one or in which way. Last but not least, depending on the basic normative ethics one chooses, bioethical judgments and decisions can be founded on deontological, utilitarian, virtue ethical or other normative theories. Fritz Jahr anticipated these ideas in his short articles in an impressive way.

Fritz Jahr opens his short article of 1927 with the crucial statement that "The strict separation between animal and human, predominant since the beginning of our European culture until the end of the 18th century, today cannot be maintained any

more."[6] (Jahr 1927, 2) He refers to the changing relationship between science, philosophy and religion and highlights the importance of the *natural sciences* for our understanding of nature. Until the French Revolution European thinkers have set their heart on the unity of the religious, philosophical and scientific world view. But this unity had to be abandoned under the pressure of the plethora of knowledge. Jahr describes the *dialectical impact* of the new scientific knowledge. On the one hand "it will always be the merit of modern natural sciences of having made possible in the first place an unbiased view of the events of nature." (Jahr 1927, 2) Jahr mentions successes of animal experiments, blood research etc. as examples which are indispensable to our search for truth.

> "On the other hand we must not underrate the fact that exactly these scientific triumphs of the human mind have deprived the human being himself/herself of his/her dominant position in the cosmos. Philosophy which formerly used to prescribe its leading ideas to the natural sciences now had itself to found its systems on detailed scientific knowledge, and it was only a poetic-philosophical formulation of Darwin's insight, when Nietzsche considered the human being as a rather inferior transitory stage to a higher evolution, as a 'rope drawn between animal and superman [Übermensch]'."[7] (ibid.)

Jahr acknowledges that it was Charles Darwin who laid the scientific foundation for bridging the presupposed gap between animals and humans by showing that there is a *real relationship* between animals and humans. Jahr justly describes this step as a "revolution" [Umwälzung].

These "scientific triumphs of the human mind" by which we have gained an "unbiased view of the events of nature" also include the disillusioning insight, that we humans are animals and that we have descended from other animals, as Darwin has shown us. Only a highly developed mind like ours, which raises us above the rest of nature, was capable of gaining this knowledge. But the finding of our search for

[6] "Die scharfe Scheidung zwischen Tier und Mensch, die seit Beginn unserer europäischen Kultur bis zum Ende des 18. Jahrhunderts herrschend war, kann heute nicht mehr aufrecht erhalten werden". (Jahr 1927, 2)

[7] "Es wird stets das Verdienst der modernen Naturwissenschaft bleiben, daß sie eine vorurteilslose Betrachtung des Weltgeschehens erst möglich gemacht hat. Wir würden uns heute als Wahrheitssucher aufgeben, wenn wir die Erfolge der Tierexperimente, Blutversuche, Serumforschung u.v.a. ablehnen wollten. Andererseits dürfen wir nicht verkennen, daß gerade diese wissenschaftlichen Triumphe des Menschengeistes dem Menschen selbst seine beherrschende Stellung im Weltganzen genommen haben. Die Philosophie, die früher der Naturwissenschaft ihre Leitgedanken vorschrieb, mußte nun selbst ihre Systeme auf naturwissenschaftlichen Einzelerkenntnissen aufbauen, und es war nur eine dichterphilosophische Formulierung der Erkenntnis Darwins, wenn Nietzsche den Menschen als ein recht minderwertiges Übergangsstadium zu einer höheren Entwicklung, als ein ‚Seil, gespannt zwischen Tier und Übermensch' ansah." (Jahr 1927, 2)

truth is the discovery that we are not the crown of creation, but just animals, even though special animals.

In his article "Death and the Animals. Contemplating the 5th Commandment" (Jahr 1928b) Jahr refers again to Darwin and his influence on "biology, the science of life", which particularly since Darwin has discovered many related characteristics between the human being and animals and which are now utilized in medicine. Besides the applications already mentioned, Jahr cites as an example the transplantation of animal tissues into humans, nowadays called "xenotransplantation". Again he points to the physiological as well as psychological affinities of humans and animals (Jahr 1928b, 5).

For Jahr a consequence of this revolution is also the "fundamental equality of man and animal" ["grundsätzliche Gleichstellung von Mensch und Tier"] as test objects of zoology, physiology and psychology. "Like in comparative anatomical-zoological research, most instructive comparisons are also drawn between human and animal soul."[8] (Jahr 1927, 2)

I cannot discuss the question here whether Jahr's interpretation of Nietzsche as recipient of Darwin's idea of evolution is adequate. It may however be said that Darwin did not vindicate the idea of an evolutionary progress from animal through man to "superman". Compared to his contemporaries Herbert Spencer and Ernst Haeckel who ardently believed in evolutionary progress, Darwin was much more ambivalent and addressed many times the problem of defining objective criteria for "lower" and "higher" stages of evolution, although he himself used these traditional terms. Nevertheless he was sensitive to the problems connected with this terminology.

There are however two aspects which have to be highlighted in this context. This is firstly Jahr's conviction that scientific knowledge plays a crucial role for the protection of nature and thus, one can add, for bioethics:

> "Useful and efficient animal protection can only be practised well if enough knowledge of nature and at least some understanding of nature is available. For, in fact, we will only come to a real protection of the animals, if we know to some degree their physiological and psychological traits and conditions of life. Therefore it is one of the main goals of the animal protection movement to arouse, spread and deepen such knowledge and such understanding of nature as far as possible. This interest in nature then will quite on its own not be restricted to animals but will have to include on the one hand plants, on

[8] " […] und wie es eine vergleichende anatomisch-zoologische Forschung gibt, so werden auch höchst lehrreiche Vergleiche zwischen Menschen= und Tierseele angestellt." (Jahr 1927, 2)

the other hand (and for us this is more important in this context) the human being."[9] (Jahr 1928a, 101).

The second aspect is Jahr's recognition that we owe to Darwin the insights into the close relationship between humans and other living beings. Indeed, only a few years after the publication of Darwin's *Origin of Species* (1859) as well as its German translations several books with comparative reflections on animals and humans were published as well as innumerable articles on the impact of Darwin's new theory on our general view of the human being and nature.[10] More important for comparative psychology were Darwin's works *Descent of Man* (1871), and *The Expression of the Emotions in Man and Animals* (1872).

Jahr does not only mention animal psychology but he also points to the beginnings of a plant psychology (G. Th. Fechner, R. H. Francé, A. Wagner and the Indian Bose). Therefore he considers it only as consistent that Rudolf Eisler uses the term "Bio-Psychik" ("soul study of all that lives"). From here there is only a small step to "*Bio=Ethik*, i.e. to the assumption of moral obligations not only towards the human being but towards all living beings." (Jahr 1927)

According to Jahr, bioethics has not been discovered in the present. In his articles he mentions several important predecessors of animal ethics, beginning with "a particularly attractive example from the past", Francis of Assisi (1182-1226). He also mentions Michel de Montaigne (1533-1592), Jean-Jacques Rousseau (1712-1778), Johann Gottfried Herder (1744-1803), Immanuel Kant (1724-1804), Friedrich Schleiermacher (1768-1834), Karl Christian Friedrich Krause (1781-1832) and Arthur Schopenhauer (1788-1860) who influenced Richard Wagner (1813-1883). An influential source of animal ethics is Indian philosophy, particularly the idea of reincarnation.

There are also forerunners of plant ethics. As examples Jahr mentions Richard Wagner, referring to his Parsifal, as well as the philosopher Eduard von Hartmann (1842-1906). My enumeration is not complete. For the protestant pastor also the bible was a rich source of bioethical insights. Jahr thus draws on secular as well as

[9] "Nun ist jedoch ein zweckmäßiger, leistungsfähiger Tierschutz nur dann gut möglich, wenn genügende Naturerkenntnis und wenigstens einiges Naturverständnis vorhanden ist. Denn tatsächlich kann man die Tiere nur dann wirklich schützen, wenn man ihre physiologischen und psychologischen Eigenschaften und Lebensbedingungen einigermaßen kennt. Daher ist es mit ein Hauptziel der Tierschutzbewegung, solche Kenntnis und solches Verständnis der Natur nach Möglichkeit zu wecken, zu verbreiten und zu vertiefen. Solches Naturinteresse wird sich dann ganz von selbst nicht auf die Tiere beschränken, sondern nach der einen Seite die Pflanzen, nach der anderen Seite (und das ist für uns in diesem Zusammenhange das Wichtigere) den Menschen mit einbeziehen müssen." (Jahr 1928a, 101)

[10] Haeckel 1863 (see Haeckel 1924), Haeckel 1868, Huxley 1863, Vogt 1863, Wundt 1863 (see Wundt 1990), Rolle 1865, Büchner 1868. See also the bibliography in Engels 1995, pp. 395-414.

biblical sources as bioethical references. And he can already point to a growing sensitivity towards animals and plants which manifests itself also at the legal level.

It is however surprising that Jahr did not know the writings of Albert Schweitzer and his "Ethics of Respect for Life" published in 1923 in his work *Philosophy of Culture* (Schweitzer 2007). Neither was Schweitzer familiar with Jahr's writings.

Jahr does not go into detail about Darwin's theory. Therefore I will describe the essential core of Darwin's theory and his scientific revolution which was also a philosophical revolution, because it changed our view on living nature and the relations between humans and all other living beings. After this I will present Darwin's arguments in *Descent of Man* which is the application of his general theory to the human being and other animals. Darwin's evolutionary anthropology was the beginning of a radical change of our image of the human being and his/her relationship with animals and the rest of living nature.

2. Charles Darwin's scientific and philosophical revolution

What does the "Umwälzung", the *revolution*, which Jahr mentions in his essay, consist in? Darwin's *scientific revolution* consists in explaining the origin of species within the framework of natural science, i.e. by drawing on *natural laws*.[11] Species come into being by the *transformation of other species*. Darwin does not claim to be able to explain the origin of life as such. Rather he wants to describe the mechanisms by which new species of plants and animals come into being when we presuppose the existence of a few or only one simple form of life. Thus Darwin rejects the idea of a special or separate creation of each species by the Creator as well as the idea of the fixity of species. Expressed in the language of the philosophical and theological tradition: Darwin has abandoned the physico-theological *argument from design* (William Paley etc.) and the idea of an intelligent designer as a primary cause. He only allows for *secondary causes*, i.e. for natural laws and causes. Thus he wants to raise natural history, botany and zoology to the same scientific level already reached in other natural sciences, in physics and astronomy. Darwin however does not claim to be able to refute the existence of God by his theory. Rather he claims to formulate a theory with greater explanatory power than the traditional doctrine of special creation and which avoids the difficulties of this doctrine.

[11] I have extensively presented Darwin's theory as well as his evolutionary anthropology and his theory of the moral sense in my monograph (Engels 2007) and other publications (e.g. Engels 2009) and cannot go into the details here.

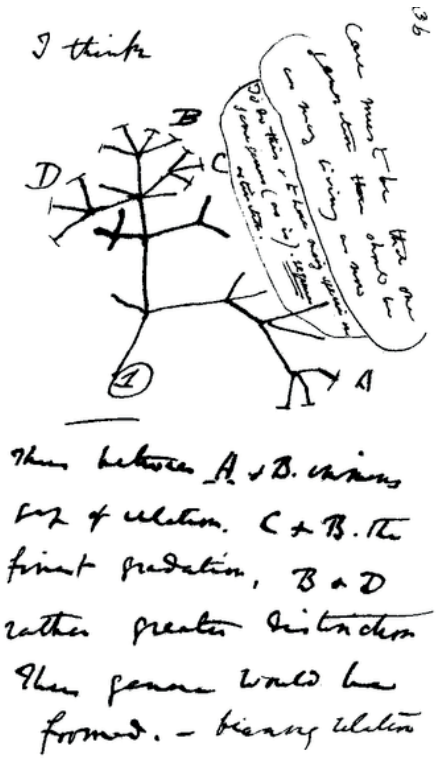
Darwin names his theory "theory of descent with modification through natural selection" (Darwin 1964, 459). He proceeds from the observation that two organisms of the same species are never completely identical. There are always *variations*, however small, and thus also differences in adaptation to an environment. Those organisms of a species whose traits are better adapted to their environment, that is, more purposively outfitted than their conspecifics, have a higher chance of survival and thus can more successfully reproduce than the others. This means that a *natural selection* of the better adapted takes place. Those traits which are advantageous for survival can accumulate during generations by inheritance and thus increasingly change, compared to the traits of the aboriginal stock. This gradual process leads to the emergence of new varieties and in the course of large periods of time to the origin of new species. Thus natural selection not only leads to the dying out of species but also fulfils the *constructive* function of bringing forth new species. The mechanism which exerts this selection in nature is what Darwin calls the "struggle for life" or "struggle for existence", drawing on Malthus' principle of population.

Darwin incorporated the critical reception of his work into the new editions. Particularly his metaphors "natural selection" and "struggle for existence" were subject to much misunderstanding. The term "struggle for life" or "struggle for existence" can have quite different meanings: 1. competition among individuals of the same species (intraspecific competition), 2. competition among individuals of different species (interspecific competition), 3. struggle for existence of an individual against environmental dangers (drought, coldness, wetness etc.). Darwin moreover emphasises another aspect and mentions more meanings of the term. He uses the term "Struggle for Existence in a large and metaphorical sense, including dependence of one being on another, and including (which is more important) not only the life of the individual, but success in leaving progeny." (Darwin 1964, 62). The phrase "struggle for existence" has often been interpreted as a bloody or deadly fight between individuals, races or species. Depending on the situation the *struggle for existence* can however be coped with by competition or cooperation. "Mutual aid" is a line of Darwin-reception which was pursued particularly in the Russian reception by Peter Kropotkin and others (Todes 1989, 2009). In his correspondence with the physiologist William Preyer of Jena, Darwin also thematises the problem of translating the term "struggle" into German by the word "Kampf":

> "I suspect that the German term, Kampf etc., does not give quite the same idea. The words 'struggle for existence' express, I think, exactly what concurrency does. It is correct to say in English that two men struggle for existence, who may be hunting for the same food during a famine, and likewise when a single man is hunting for food; or again it may be said that a

man struggles for existence against the waves of the sea when shipwrecked." (Darwin 1869, DAR 147)

Thus in the course of long periods of time, from individual variants hereditary varieties, subspecies and finally new species evolve. Darwin advocates a *gradualism* and draws on the *principle of continuity* of natural philosophy. The old principle "Natura non facit saltum" (nature makes no leaps) "is on this theory simply intelligible." (Darwin 1964, 471). However, the principle of continuity is not static any more, it becomes *dynamic* and it stands for a *real relationship* between species.



Charles Darwin's 1837 sketch, his first diagram of an evolutionary tree from his First Notebook on Transmutation of Species (1837) on view at the Museum of Natural History in Manhattan. Wikimedia Commons

Darwin adduces evidence from a variety of disciplines and compiles facts like homologies, examples from embryology, rudiments, the fossil record etc. Homologies are similarities between the bodily structure of animals of the same class, like dogs, cats and humans (mammals), as well as between animals belonging to different classes of the same phylum or clade, like fish, amphibians, reptiles, birds and mammals. The facts of embryology adduced by Darwin are the similarities between embryos of different species and even of different classes. They reflect a common descent. Rudiments are traits of organisms which have no function in these organisms. They can be ex-

plained as remains of former organisms in which they had functions. These facts as such have already been discovered by well-respected experts in different fields before Darwin and independently of his *theory of descent*. But the philosopher of science and scientist Darwin can make use of them to back up his theory by showing that they can be best explained by a *common descent* of the human being and other animals whereas the belief of the separate creation of each species cannot provide such an explanation and leaves many questions open.

To sum up, Darwin's theory contains four elements or theorems which are also important for understanding the relationship between the human being and other living beings. These are 1. the theorem of descent, 2. gradualism, 3. the theorem of natural selection and 4. the principle of divergence. The last one means, that under the pressure of natural selection not only one, but several species can evolve from one and the same stock in adaptation to different ecological niches. For the evolution of "divergence of characters", which presupposes the possibility of reproductive isolation, the Galapagos Archipelago was an exemplary laboratory.

These four elements are important for our understanding of the relationship between the human being and other living beings which will later lead us back to Fritz Jahr's claim of a revolution in our view of living nature.

Already at the end of the first edition of *Origin of Species* Darwin alludes to the importance of his theory of descent for our understanding of the human being. "In the distant future I see open fields for far more important researches. Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history." (Darwin 1964, 488). Although Darwin's conviction of the relationship between the human being and other animals can be traced back to his early *Notebooks* of 1837, Darwin did not publish his *Descent of Man* and *The Expression of the Emotions in Man and Animals* before 1871 and 1872 for fear of more prejudices against his views. These books are milestones in comparative ethology and comparative psychology.

Darwin's above mentioned four theorems have consequences for our understanding of the *human being*: 1. the theorem of descent means that the human species has ultimately descended from another, a nonhuman species 2. gradualism means that the human being has evolved from nonhuman animals by a process of gradual evolution. There are no leaps, no saltations in this process: Natura non facit saltus. 3. Natural selection was the important mechanism of the evolution of the human being and 4. The human species and other species have evolved from common progenitor species.

Children share their characters with their parents and their brothers and sisters. Due to the principle of descent and to that of divergence there is a *real direct kinship* between the human species and our apelike progenitors (our parent species) as well as with those apes that evolved as our sibling species from a common progenitor. The apes and we have a common ancestor. Today we know that bonobos are our closest relatives and that we have a common parent ape.

But the human being is not only related to its next relatives but also to remote relatives. *The whole of living nature is a unity and there is a real kinship between human beings and the rest of living nature.*

> "There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved." (Darwin 1964, 459).

Already before Darwin there had been developments in medicine and biology showing the similarities between the plant and the animal kingdom. Remarkable similarities in structure, growth and development were discovered within as well as between the animal and plant kingdoms by comparative anatomy, embryology, morphology and cell theory. In 1839 Theodor Schwann (1810-1882) and Matthias Schleiden (1804-1881) developed a cell theory describing the general features of plant and animal cells. In the 20th century this scientific process of revealing the unity of nature was impressively continued by molecular genetics and its discovery of the universality of the genetic code. The "letters" of the genetic alphabet are the same in all living beings, and the diversity of living forms is due to the multiplicity of combinations of these "letters" to "words" and "texts".

Although scientific progress in the above mentioned disciplines of comparative anatomy, embryology, morphology and cell theory was impressive in the 19th century, the similarities within and between the animal and plant kingdom could not be explained scientifically without a unifying theory. This *unifying framework* was provided by *Darwin's theory of descent*. Already many of his contemporaries realized the revolutionary character of his insights and compared him with the great revolutionary thinkers in astronomy and physics, with Nicolaus Copernicus, Galileo Galilei and Isaac Newton. In Germany particularly this unifying merit of Darwin's theory was recognized by many readers of Darwin's work from all sorts of disciplines (Engels 2011). An important role was played by the first German translator of Darwin's *Origin of Species*, Heinrich Georg Bronn (1800-1862), a distinguished palaeontolo-

gist and zoologist and ordinary professor at the University of Heidelberg who very quickly translated Darwin's revolutionary work into German. This translation, already published in 1860, also had an impact on all countries where German rather than English was read or spoken. English was not a world language in the 19th century as it is today. And in many countries Darwin's work could not be read in the original English language but only in translations.

Bronn added to his translation a critical epilogue as chapter 15 "Closing Words of the Translator" in which he describes Darwin as "a genuine naturalist who regards in an ingenious and penetrating manner from a new perspective old facts that he has collected and considered for twenty years, over which he has incessantly been reflecting and brooding for twenty years."[12] (Bronn 1860, 495).

In spite of the difficulties of Darwin's theory which Bronn clearly addresses he admires it for methodological reasons, for its explanatory force, once its foundations have been stabilized:

> "The possibility, under this theory, to connect all the phenomena in organic nature through *a single idea*, to view them from *a single point of view*, to derive them from *a single cause*, to take a lot of facts that previously stood separately and to connect them most intimately to the rest and show them to be necessary complements to those same facts, to strikingly explain* most problems without proving impossible with respect to the remaining ones, gives this theory a stamp of truth and justifies the expectation that the great difficulties that remain for this theory will be overcome at last."[13] (Bronn 1860, 518)

It was particularly this aspect of *unification* and the *explanatory power* of Darwin's theory which fascinated many scientists and philosophers, among them the philosopher Jürgen Bona Meyer (1829-1897): Whereas former natural philosophy lapsed into a seemingly unity of things ignoring its differences, modern science makes the opposite mistake and splits nature into innumerable parts. Meyer considers Dar-

[12] "Es sind neue Gesichtspunkte, unter welchen ein gediegener Naturforscher in geistreicher und scharfsinniger Weise alte Thatsachen betrachtet, die er seit zwanzig Jahren gesammelt und gesichtet, über die er seit zwanzig Jahren unablässig gesonnen und gebrütet hat." (Bronn 1860, 495)

[13] "Die Möglichkeit nach dieser Theorie alle Erscheinungen in der organischen Natur durch einen *einzigen Gedanken* zu verbinden, aus einem *einzigen Gesichtspunkt* zu betrachten, aus einer *einzigen Ursache* abzuleiten, eine Menge bisher vereinzelt gestandener Thatsachen den übrigen auf's innigste anzuschliessen und als nothwendige Ergänzungen derselben darzulegen, die meisten Probleme auf's Schlagendste zu erklären, ohne sie in Bezug auf die andern als unmöglich zu erweisen, geben ihr einen *Stempel der Wahrheit* und berechtigen zur Erwartung auch die für diese Theorie noch vorhandenen grossen Schwierigkeiten endlich zu überwinden." (Bronn 1860, 518; emphasis by E.-M.E.) I am quoting the English translation by Gliboff 2008, 130. He here* translates "explains away". I dropped the word 'away', because the terms 'explain' and 'explain away' have a different meaning.

win's theory as an antidote against the danger of modern science's isolating division of nature, losing the "bond of unity pervading nature out of sight" ["das Band der Einheit aus den Augen zu verlieren, das die Natur durchzieht"]. The trend of our time is the "striving for *progress and unity*" [Fortschritt und Einheit"]. Darwinism complies with the "urge for *unity of our knowledge*" ["Einheitstrieb des Erkennens"] and insofar Darwinism corresponds to an "existing silent urge" ["einem vorhandenen stillen Verlangen"] (Meyer 1866, 452; emphasis by E.-M.E.).

The physicist and philosopher Hermann von Helmholtz (1821-1894), who was a great admirer of Darwin, wrote:

> "Besides we do not want to forget which clear understanding *Darwin's* grand idea brought into the until then so mysterious notions of natural relatedness, of the natural system and homology of organs of different animals […] Formerly affinity appeared to be only a mysterious, but completely groundless similarity of forms; now it has become a real blood relationship. The natural system […] now gains the meaning of a real phylogenetic tree of organisms. *Darwin* has raised all these isolated areas from a state of mysterious quaintness into the connection of a great evolution […]." (von Helmholtz 1968, 53f.).[14]

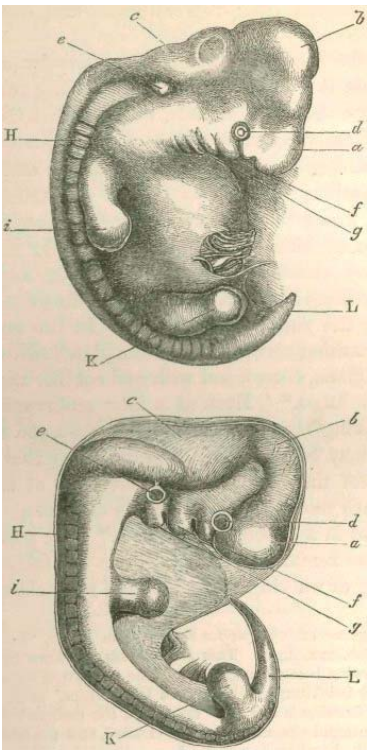
For many people Darwin's theory was attractive because it was estimated as a serious scientific attempt of explaining all phenomena of organic nature by one principle or law. Darwin's theory contains a *unifying principle*, it has *explanatory power* and it is *consistent with other natural explanations*. It provides the framework for connecting the otherwise isolated facts of the different biological disciplines to a consistent system of biological knowledge. This theory also allowed for integrating new scientific knowledge not yet available in Darwin's time, like modern genetics. And it was backed up by new findings and discoveries of other natural sciences, like geology and physics, concerning the age of the earth. It promoted the initiation of new research programmes, like comparative psychology (Wundt 1863) and comparative ethology.

[14] "Daneben wollen wir nicht vergessen, welch' klares Verständniss *Darwin*'s grosser Gedanke in die bis dahin so mysteriösen Begriffe der natürlichen Verwandtschaft, des natürlichen Systems und der Homologie der Organe bei verschiedenen Thieren gebracht hat; […] Die natürliche Verwandtschaft erschien sonst nur als eine räthselhafte aber vollkommen grundlose Aehnlichkeit der Formen; jetzt ist sie zur wirklichen Blutsverwandtschaft geworden. […] jetzt erhält es [das natürliche System] die Bedeutung eines wirklichen Stammbaums der Organismen. […] *Darwin* hat alle diese vereinzelten Gebiete aus dem Zustande einer Anhäufung räthselhafter Wunderlichkeiten in den Zusammenhang einer grossen Entwickelung erhoben […]." (von Helmholtz 1968, 53f.)

3. The descent of the human being from other animals

In his *Descent of Man* Darwin outlines his evolutionary anthropology, thus pursuing the programme which he already hinted at in his *Origin of Species*. Here I will only present those aspects of Darwin's ideas which are important for the overall subject of my article, Fritz Jahr and Charles Darwin.[15]

In his chapter "The evidence of the descent of man from some lower form" Darwin adduces "three great classes of facts" in order to substantiate his assumption that the human being has evolved from other animals. These are the already mentioned *homologies* as well as facts from *embryology* (see figure) and thirdly *rudiments*. They reflect the common descent of the human being and other animals.



Woodcut depicting the similar appearance of a human embryo (top) and a dog embryo (bottom), from Charles Darwin's Descent of Man (1871). Original caption: Fig. 1.—Upper figure human embryo, from Ecker. Lower figure that of a dog, from Bischoff.
Wikimedia Commons

In the next chapter Darwin presents his hypothesis "On the manner of development of man from some lower form". The evolution of bipedality, of an upright posture, was crucial for becoming a human being. In the course of time, the organs which now are our arms and hands, became free from the need of locomotion and

[15] See the chapters IV and V in Engels 2007.

from climbing trees, the thumbs developed in opposition to the fingers, the sense of touch improved, and the hands thus could be used for making tools. Darwin quotes Sir Charles Bell: "The hand supplies all instruments, and by its correspondence with the intellect gives him [man] universal dominion." (Darwin 1989 I, 55). According to Darwin, the evolution of reasoning powers and of articulate speech have mutually influenced each other. He also thinks that there is a connection between the use of language and the evolution of the brain.

Darwin describes features which are unique for the human being but which can be explained by having gradually evolved from other animals. The "anthropomorphous apes" like the gorilla are in an "intermediate condition" because they can walk or run upright but also move in a quadrupedal way. Apes as well as monkeys can handle objects with the thumb in opposition to the fingers.

So Darwin shows many similarities between the human being and other animals in their bodily structure by which he supports his theory of a common descent of the human being and other animals. This may be true for bodily structures and traits, but does this also hold for the emotional and cognitive faculties? Yes: "Nevertheless the difference in mind between man and the higher animals, great as it is, certainly is one of degree and not of kind." (Darwin 1989 I, 130). Darwin wants to show "that there is no fundamental difference of this kind. We must also admit that there is a much wider interval in mental power between one of the lowest fishes, as a lamprey or lancelet, and one of the highest apes, than between an ape and man; yet this interval is filled up by numberless gradations." (Darwin 1989 I, 69f.).

Although Darwin uses the terms "higher" and "lower" as well as the traditional term "ascending organic scale" in accordance with the general language use he addresses the problems of this terminology and relativises the supreme position of the human being. Already in his early Notebooks from 1837 on, which were published posthumously (Barrett et al. 1987), Darwin writes:

"It is absurd to talk of one animal being higher than another.– *We* consider those, where the cerebral structure intellectual faculties most developed, as highest.– A bee doubtless would when the instincts were.– " (Barrett et al. 1987, 189, B 74).[16]

The expressions "cerebral structures" and "intellectual faculties" are written one above the other and bracketed.

[16] Barrett et al. 1987, 189, B 74 means: Quotation from Darwin's Notebook B, his pagination p. 74 in Barrett et al 1987, p. 189.

"Man in his arrogance thinks himself a great work. worthy the interposition of a deity, more humble & I believe true to consider him created from animals.– " (Barrett et al. 1987, 300, C 196f.).

"Origin of man now proved.– Metaphysic must flourish.– He who understands baboon <will> would do more towards metaphysics than Locke." (Barrett et al. 1987, 539, M 84e).

"Plato […] says in Phaedo that our "*necessary ideas*" arise from the preexistence of the soul, are not derivable from experience. – read monkeys for preexistence – " (Barrett et al. 1987, 551, M 128).

"If all men were dead then monkeys make men.– Men makes angels–" (*sic*) (Barrett et al. 1987, 213, B 169).

In the chapters on the mental powers of man and animals Darwin describes a broad range of emotional as well as cognitive faculties which can be found in humans as well as other animals (Darwin 1989 I, ch. III, IV). Darwin's elaborations on animals are remarkably up to date, he discusses all those faculties which are discussed today in the context of animal intelligence and feelings. Darwin draws on the results of internationally renowned scientists and authors, on the study of domestic animals as well as on the reports of his correspondents all over the world. He extensively presents and discusses the emotional and cognitive powers of quite different animals. The following list does not hold for all animals, since there is a large scale of mental powers among animals, there is no all or nothing.

Animals feel pleasure and pain, happiness and misery, joy and affection, jealousy, love as well as the desire to be loved, shame, fear, modesty, anger, rage. Also more intellectual emotions and faculties can be found in animals, like excitement and suffer from ennui, wonder, curiosity, suspicion, imitation. There is also a broad range of cognitive faculties. Depending on the species, animals display memory, attention, association, imagination, abstraction and reason, mental individuality and perhaps even self-consciousness. Animals use tools, they also communicate with each other, although articulate language is a specific faculty of the human being.

Darwin also describes the social life of animals. Animals of many kinds are social and feel miserable when separated from their companions. They render important services to each other, utter cries which express both danger as well as safety, and mutually defend each other. Orphan monkeys are adopted by other monkeys, who also adopt animals of other species. This is due to the social instincts. "Besides love and sympathy, animals, [*sic*] exhibit other qualities connected with the social instincts, which in us would be called moral." (Darwin 1989 I, 107).

In *The Expression of the Emotions in Man and Animals* (Darwin 1872) Darwin describes a rich variety of facial and bodily expressions of emotions in animals as well as the human being. Darwin pursues two main goals by this book. Firstly he wants to adduce evidence for the universality of facial expressions in humans thus showing the unity of mankind. For Darwin all the different so called human races belong to one human species. This was not at all taken for granted at Darwin's time, when a struggle between monogenists and polygenists was still going on. Darwin rejected biological racism and slavery which he had come in touch with during his Beagle-voyage. Like all other members of his family he detested slavery and considered it as a "great crime" (Darwin 1989 I, 121). Already his two famous grandfathers Erasmus Darwin and Josiah Wedgwood campaigned against slavery. Secondly he wants to adduce from the similarities in the expression of the emotions between humans and animals evidence for his theory of common descent and show that animals and humans have a common origin.

In spite of all these similarities between human beings and other animals described by Darwin the human being takes a special position in nature. "Man in the rudest state in which he now exists is the most dominant animal that has ever appeared on this earth. He has spread more widely than any other highly organized form: and all others have yielded before him. He manifestly owes this immense superiority to his intellectual faculties, to his social habits, which lead him to aid and defend his fellows, and to his corporeal structure. The supreme importance of these characters has been proved by the final arbitrament of the battle of life." (Darwin 1989 I, 52).

Moreover the human being has a unique character which no other animal possesses, a *moral sense* or *conscience* and thus the ability of being moral. "A moral being is one who is capable of comparing his past and future actions or motives, and of approving or disapproving of them. We have no reason to suppose that any of the lower animals have this capacity; therefore, when a Newfoundland dog drags a child out of the water, or a monkey faces danger to rescue its comrade, or takes charge of an orphan monkey, we do not call its conduct moral. But in the case of man, who alone can with certainty be ranked as a moral being, actions of a certain class are called moral […]." (Darwin 1989 I, 115f.).

Humans are able to *evaluate* their thoughts and actions according to moral and ethical principles. Our moral capacity depends on instinctive social impulses which have their roots in our evolutionary past as animals – "A man who possessed no trace of such instincts would be an unnatural monster." (Darwin 1989 I, 116) – as well as on our increased intellectual capacities in connection with articulate language. Although the moral sense has its roots in the social instincts of animals, it is a new capacity unique for man. According to Darwin, morality is not blind behav-

iour driven by social instincts but conscious judgment and action according to moral principles.[17]

Darwin also has a clear concept of moral progress in the course of history. Moral progress is the increasing enlargement of our sympathy towards members of other groups, nations and races, to the imbecile and maimed and finally to members of other species, to the animals (Darwin 1989 I, 127-129). The wellbeing of animals was near and dear to Darwin and became for him sort of a yardstick for progress in humanity. Darwin did not only advocate animal protection in the theoretical context of his *Descent of Man*, but also in practical life. In their village Downe, where Darwin and his wife Emma Darwin lived together for forty years until Darwin's death in 1882 Darwin fulfilled important social functions. In 1863 Emma and Charles Darwin jointly composed a four-page pamphlet which protested against the cruelty of steel vermin-traps. It was published in the local *Bromley Record* as well as in the national *Gardeners' Chronicle* (Burkhardt et al. 1999, 776-781). The couple also distributed the "Appeal" to their own acquaintances and others. As Darwin's son Francis Darwin writes, his father's "humanity to animals was well known in his own neighbourhood." (F. Darwin 1887 III, 200).

Darwin's theoretical as well as practical attitude towards animals is interesting for our bioethical context: Although animals are no moral beings because they are not capable of morality, they have to be treated with sympathy and moral consideration. They are "moral patients" and belong to the "moral community", although they cannot be "moral agents".[18]

From this presentation it should have become clear that Jahr has good reasons to refer to Darwin, although he does not go into details in his texts with respect to Darwin. But the Darwinian revolution was well known at his time, and particularly Germany had been a stronghold of Darwin-reception since the 19th century. So Jahr may have known more about Darwin than becomes apparent in his texts. Jahr's articles are generally very short, and also the other thinkers and authorities whom he mentions, are hardly dealt with more elaborately.

[17] For new reflections on these questions see Benz-Schwarzburg, Knight 2011.

[18] This is Tom Regan's terminology in his classic book *The Case for Animal Rights*, first published in 1983 (Regan 2004).

4. The foundations of Fritz Jahr's bioethics

Bioethics means for Jahr that we recognise our *moral obligations* not only towards humans, but also towards animals and plants. "The fact of the close connection between animal protection and ethics is ultimately based on the existence of our moral obligations not only towards our fellow human beings but also towards the animals, indeed even towards the plants – in short towards all living beings – so that we can really speak of a 'bioethics'."[19] (Jahr 1928a, 101). And the "bioethical imperative" as guiding principle reads: "*Respect every living being, therefore also animals, as an end in itself, and treat it whenever possible as such*."[20] (Jahr 1928a, 102). And he emphasizes that this imperative includes animals and plants.

Considering an entity as an "end in itself" usually implies that we have *direct duties* towards this entity. Thus Jahr's bioethical imperative implies that we have direct duties not only towards humans but also towards animals and plants. They are not just instruments for us humans, not just means for our manifold purposes, but have to be respected as beings that possess an inherent value, an "Selbstwert", as we say in German. This means that also in those situations, when we use animals and plants for our purposes, we must not lose their inherent value out of sight. That's what we postulate with regard to the treatment of humans. We all are means for others in various situations and roles. But we have to be respected *at the same time* as an end in itself, never as mere means for this or that will. Even Kant admits this in his ethics (Kant 1999 [1785] 53f.). This is the meaning of Kant's categorical imperative which he formulates in different versions.

What are Jahr's arguments for holding this ethical position? Four elements are important here: *Firstly* empirical scientific knowledge about the relationship between the human being and the rest of living nature, *secondly* a certain standpoint of normative ethics, supported by a variety of philosophers and theologians, *thirdly* a growing sensitivity towards animals which manifests itself in the existence of animal protection paragraphs, i.e. a legal practice which is improved in the course of time and *fourthly* a certain kind of realism, recognizing the fact that we humans are also living beings who have the right to life and to means of sustenance. I will elaborate on this in my following remarks.

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[19] "Die Tatsache des engen Zusammenhanges zwischen Tierschutz und Ethik beruht letztlich darauf, daß wir nicht nur gegen die Mitmenschen, sondern auch gegen die Tiere, ja, sogar gegen die Pflanzen – kurz gesagt gegen alle Lebewesen – ethische Verpflichtungen haben, so daß wir geradezu von einer ‚Bio=Ethik' sprechen können." (Jahr 1928a, 101)

[20] Jahrs "bio=ethischer Imperativ": *"Achte jedes Lebewesen, also auch die Tiere, als einen Selbstzweck, und behandle es nach Möglichkeit als solchen!"* (Jahr 1928a, 102)

The importance of scientific knowledge about the connection between humans and animals and ultimately plants was already demonstrated in our presentation of Darwin's theory and his evolutionary anthropology. Helmholtz summarised Darwin's position to the point by describing the relationship between humans and animals as a "real blood relationship". Although it is not possible to deduce directly and merely from the existence of a blood relationship and its scientific explanation moral obligations towards animals and plants – this would be a *naturalistic fallacy* –, such a relationship may well be ethically relevant when its statement is combined with other premises, with ethical premises. We will later see what is meant by this.

What is Jahr's foundation of bioethics and particularly of this kind of normative bioethics which claims that we also have moral obligations to animals and plants, not only to humans?

A prominent representative of duty ethics (deontology) is Immanuel Kant. He makes a distinction between *direct* and *indirect duties*. According to Kant only the human being and every being endowed with reason, self-consciousness, i.e. a *person*, has an "*absolute value*" [absoluter Wert] and thus exists as an *end in itself* [Zweck an sich selbst]. Beings without reason have only a "relative value" as means and are therefore called "things" ("*Sachen*"). For Kant we therefore have direct duties only towards persons. Only persons are able to reciprocally obligate themselves. Since animals and plants are no persons, they are no end in itself and therefore we have no direct duties towards them according to Kant. But animals are "an analogon of humanity" ["ein Analogon der Menschheit"] (Kant 1990, 256f.). Our meekness and mercy towards animals as well as our violence and cruelty towards them are conveyed to our attitude and behaviour towards humans. Therefore violence and cruelty towards animals infringe on the duty of the human being towards humanity, because our compassion with other humans is weakened and finally destroyed by this cruelty towards animals. Compassion, however, is a predisposition [Anlage] in the human being which is very conducive to our moral behaviour towards our fellow humans. Therefore Kant argues: "Even gratitude towards an old horse or dog for having provided their service for a long time (as if they were household members) belongs *indirectly* to the human being's duty, namely in relation to these animals [*in Ansehung* dieser Tiere], considered *directly* however it is always only a duty of man towards himself."[21] (Kant 1993 [1797, A 108] § 17, 579).

Kant also argues for the protection of "beautiful crystals and the indescribable beauty of the plant kingdom"[22] (Kant 1993 [1797, A 107] § 17, 578). The propensity

[21] "Selbst Dankbarkeit für lang geleistete Dienste eines alten Pferdes oder Hundes (gleich als ob sie Hausgenossen wären) gehört *indirekt* zur Pflicht des Menschen, nämlich *in Ansehung* dieser Tiere, *direkt* aber betrachtet ist sie immer nur Pflicht des Menschen *gegen* sich selbst." (Kant 1993 [1797, A 108] § 17, 579)

[22] "schöne Kristallisationen, das unbeschreiblich Schöne des Gewächsreichs". (Kant 1993 [1797, A 107] § 17, 578)

for mere destruction ("spiritus destructionis") violates the duty of the human being towards himself/herself, because it weakens and destroys a feeling in us which is not by itself moral but which has an important function for morality, because it prepares us for loving something without having its utility in mind (ibid.).

It would be a mistake – this is the message of Kant's section – to consider something which is a duty of the human being towards himself/herself as a duty towards others, in this case towards animals, plants and other natural objects like crystals. So we don't have any direct duties to them but only towards persons.

Arthur Schopenhauer who advocates an ethics of compassion, of pity [Mitleidsethik] formulates a sharp criticism of Kant's version of animal ethics. "Thus, one should only feel pity for animals for exercise, and they are so to speak the pathological phantom for the exercise of pity for humans."[23] (Schopenhauer 1977 [1840], 202). For Schopenhauer Kant's position means that our compassion towards animals and our humane treatment of them is only a means of training our moral sense towards humans. Schopenhauer confronts Kant's position with his "formula of morals" "*Neminem laede, imo omnes, quantum potes, juva*" (ibid. 199) [Don't hurt anyone, but help everybody as far as you can.] (ibid. 199)[24].

Jahr takes the part of Schopenhauer then, and not that of Kant. For Jahr the Golden Rule as well as Kant's categorical imperative only describe a formal criterion of a "good" way of action. "In spite of this criterion the motive could even be blatant egoism, a kind of reciprocal contract: Don't harm me, then I won't harm you either. (that's what Schopenhauer shows in his 'Grundlage der Moral')."[25] (Jahr 1934, 183f.). And Jahr also refers to Schopenhauer for the "best concrete description of a moral way of conduct" and quotes the sentence "Neminem laede, imo omnes, quantum potes, juva!" (ibid., 184).

This means that Jahr's bioethical imperative is not founded on a deontological position like that of Kant. Since Jahr's bioethical imperative implies all living beings, plants, animals and humans as end in itself, reason, self-consciousness, personhood obviously are not the criteria or presupposition for deserving respect as "end in itself". Jahr's ethics is based on compassion which means that it includes all living be-

[23] "Also bloß zur Uebung soll man mit Thieren Mitleid haben, und sie sind gleichsam das pathologische Phantom zur Uebung des Mitleids mit Menschen." (Schopenhauer 1977 [1840], 202)

[24] "Verletze niemanden, vielmehr hilf allen, soweit du kannst". (ibid. 199) There is also a more generous interpretation of Kant's animal ethics than that of Schopenhauer. In short, it claims that Kant's ethics allows for a very demanding protection of animals because the ultimate goal, respect for humanity, is a very demanding imperative (see Baranzke 2002, 2005).

[25] "Das Motiv könnte trotz dieses Kennzeichens sogar krasser Eigennutz sein, nämlich eine Art Vertrag auf Gegenseitigkeit: Tue mir nichts, dann tue ich dir auch nichts. (Das zeigt Schopenhauer in seiner ‚Grundlage der Moral'.) (Jahr 1934, 183f.)

ings that are capable of feeling pleasure and pain and that can be an object of welfare and harm.[26]

"But are the animals really so close to us that we have to regard and treat them sort of as our neighbours? – Without doubt there are huge differences between the human being and animals, and also modern natural science only confirms this fact." (Jahr 1928b, 5)[27] This by no means excludes many similarities between animals and humans which have been discovered particularly since Darwin, as Jahr emphasises. As already mentioned at the beginning, Jahr points to the results of modern natural science where we find the principle equality of man and animal as test objects of anatomy, physiology as well as psychology.

Here we can come back to the fact that animals are our "blood relatives" and expand on this idea. We may ask on what basis we humans claim for ourselves to be treated as an end in itself, not to be tortured and killed but to be treated in a way which is beneficial for our well being. The answer is that we are living beings who have needs and desires regarding the present and the future and who can feel pleasure and pain. Veracity and consistency call for an equally respectful treatment of humans and animals. Even if perhaps most animals have no self-consciousness like we have they are nevertheless aware of their pain and pleasure, they have a self-awareness. If animals have a choice they chose the environment which is conducive to their wellbeing and they avoid less comfortable and harmful situations. This is already true for insects, or how else could we interpret the behaviour of a fly that tries to escape through a closed window? The fly's will to escape is the best explanation of its behavior. Drawing upon the relationship between animals and us for claiming animal protection does not imply a naturalistic fallacy if we combine the statement of kinship with normative premises about our own right to protection and the demand for consistency and veracity.

This leads us to a further question: If animals are so similar to humans that they are used in physiological and psychological experiments with the aim of gaining knowledge about humans, do we not have the moral obligation to treat animals with respect and avoid their pain and discomfort as far as possible by reducing, replacing

[26] In today's animal ethics the members of certain species of animals are also called "persons". An example is the practical ethics of Peter Singer (Singer 1998). For Singer some non-human animals like the great apes are persons, because they are endowed with reason, self consciousness and a sense of time. And if other animals are also endowed with these traits they are as well persons. However this does not at all mean that in Singer's system all other animals are regarded as instruments or means and only persons included certain animals have an intrinsic value. For Singer it means however that the prohibition of killing persons is stricter than that of killing non-person animals and non-person humans.

[27] "Stehen uns die Tiere aber wirklich so nahe, daß wir sie gleichsam als unsere ‚Nächsten' einschätzen und behandeln müßten? – Ohne Zweifel sind ganz gewaltige Unterschiede zwischen dem Menschen und den Tieren vorhanden, und auch die moderne Naturwissenschaft bestätigt diese Tatsache nur." (Jahr 1928b, 5)

and refining animal experiments? This is exactly the development prompted by William M.S. Russell and Rex L. Burch with their "3 Rs" which have set standards for research on animals and have become guiding principles in many civilized countries in the ethical and legal frameworks for organizing animal experiments (Russell, Burch 1959).

But can this conception of bioethics and its imperative "Respect every living being principally as an end in itself and treat it, whenever possible, as such!" be realized in practice? Is it not utopian, asks Jahr. He presents several arguments for refuting this possible objection, drawing on Herder, Schleiermacher and Krause.

First of all, our moral obligations towards a living being practically conform to the "needs" (Herder) or to the "destiny" ["Bestimmung"] (Krause) of that living being. Plants, animals and humans have equal rights ["gleichberechtigt"], however not to "equal things but each of them only to that which is a necessary prerequisite for the attainment of its/his/her destiny."[28] (Jahr 1927, 3; 1928a, 101). This means that the specific features of a living being have to be taken into account in our treatment of this being, features which are species specific but also dependent on the individual situation of an organism. The claim of equal rights for plants, animals and humans means an equal consideration of their specific kind and needs and does not mean an equal treatment in every sense and way. Peter Singer expresses something similar by using the term "equal consideration of interests" as distinct from an equal treatment (Singer 1998). Gotthard M. Teutsch refers to the principle of equality which is a principle of justice. It means that we have to treat equal entities equally and different entities differently (Teutsch 1987). Thus justice may call for a different treatment of entities for the purpose of the equal consideration of their interests.

Jahr thinks that animals have fewer and less complicated needs than humans and that we have therefore fewer practical moral obligations towards animals. This holds the more with respect to plants. These differences of needs between humans, animals and plants facilitate our compliance with the bioethical imperative (Jahr 1934, 187). It may well be true that we humans can appropriately satisfy the needs of animals and plants. But in the light of our immense increase of knowledge about the emotional, cognitive and behavioural faculties of nonhuman animals we have to be careful not to underestimate the complexity of animals' needs. Here we have to remember Jahr's own statement quoted at the beginning: "Useful and efficient animal protection can only be practised well if enough knowledge of nature and at least some understanding of nature is available. For, in fact, we will only come to a real

[28] "allerdings nicht zu gleichem, sondern ein jedes nur zu dem, was ein notwendiges Erfordernis zur Erreichung seiner Bestimmung ist." (Jahr 1927, 3; 1928a, 101)

protection of animals, if we know to some degree their physiological and psychological traits and conditions of life." (Jahr 1928a, 101). Particularly in the tradition of Charles Darwin cognitive ethology has made much progress.[29]

Does our bioethical imperative also imply the prohibition of killing animals? The 5th Commandment, "Thou shalt not kill!" does not explicitly forbid only the killing of humans. Should it not be valid for our behaviour towards animals and plants as well? The extension of the 5th Commandment to our treatment of animals at first sight seems to be utopian, "for slaughter and killing of animals are virtually unavoidable, even if the last one only happens collaterally by depriving animals of their necessary conditions of life, which is a consequence of the distribution [Ausbreitung] of the human species. It is the struggle for life which inflicts this necessity on us."[30] (Jahr 1928b, 5). There is a struggle for life between humans and animals, which seems to render the extension of the 5th Commandment to our treatment of animals and thus the application of the bioethical imperative impossible.

Jahr invalidates this critique by pointing to a similar situation in the relation among humans themselves. The principle of the struggle for life ["Prinzip des Kampfes ums Dasein"] is influential in everyday life and influences as well as "modifies our moral obligations towards our fellow humans, much as we may regret this." (Jahr 1928a, 101). According to Jahr, in all branches of our life and in all professions (politics, business, laboratory, workshop, in the field etc.) our entire life and activity is in the first place not focused on love, but frequently, however, on struggle with our competitors.

> "Mostly we are not quite aware of this, as long as the struggle does not breach the limits of the law. In such struggle for life we humans deliberately and consciously use human power, human health, human life, not only in times of war, but also in 'peaceful' life such as in cultural development, especially in some of the industries. In spite of all this no one considers the 5th commandment a utopian charge. As our attitude towards animals – as determined by struggle for life – basically does not fall outside our attitude towards man, the commandment can and must be valid here as well, an ideal and a point of reference for our moral strife." (Jahr 1928b, 6.; transl. by I. A. Miller in Miller, Sass 2011, 5f.)[31]

[29] See the new *Journal of Animal Ethics* 2011.

[30] "[…] denn das Schlachten und Töten der Tiere, möge dieses letztere auch nur mittelbar geschehen durch Entziehung der notwendigen Lebensbedingungen infolge der Ausbreitung des Menschengeschlechtes, ist schlechterdings unvermeidlich. Der Kampf ums Dasein ist es, der uns diese Notwendigkeit auferlegt." (Jahr 1928b, 5)

[31] "Wir werden uns dessen meist nur nicht bewußt, solange dieser Kampf in gesetzlich erlaubter Weise geführt wird. In diesem Kampfe der Menschen ums Dasein wird auch mit vollem Bewußtsein Menschenkraft,

Jahr calls for consistency of argumentation: The discrepancy between ideal norms and practice which does not keep us from maintaining moral obligations among humans as well is no reason to discard the bioethical imperative regarding animals.

Although Jahr considers "slaughter and killing of animals as virtually unavoidable", it would be nevertheless in accordance with his line of argumentation to plead for vegetarianism. For it is not necessary for humans to live on meat, the slaughter of animals is avoidable. Particularly in numerous highly industrialized countries since the 1960s Jahr's principle to respect animals as an end in itself is violated by mass (intensive) animal keeping, by the breeding of high-performance animals to the point of what may be called "tormentive breeding", by cruel animal transport, and by feeding in ways inappropriate to a given species. All such practices derive from the desire to maximize profit and to accommodate the excessive consumption of animals and their products. For Jahr "the moral postulate also to protect animal-life is absolutely valid, without any consideration, if it is advantageous for us, as ethics in general does not and must not ask these questions."[32] (Jahr 1928b, 6). This however means that people in the industrialized countries have at least to reduce their meat consumption, which would not only be in accordance with our obligation towards animals but also towards humans as well as the environment. For only then we could break the cycle of producing food for feeding animals, destroying the environment, causing hunger in third world countries and torturing animals.

Nevertheless we live in many ways at the expense of other living beings, of animals and plants. Which practical influence can the application of the 5th Commandment for the protection of animals and plants have, considering these restrictions? We must not kill or destroy animals and plants without a "reasonable purpose" ["vernünftiger Zweck"] for doing so (Schleiermacher, Krause) (Jahr 1927, 3; 1928a, 101). In the first paragraph of the recent German Animal Protection Law we find a similar formulation: "The purpose of this law is the protection of the life and well-being of the animal, based on the human being's responsibility for the animal as fel-

Menschengesundheit und Menschenleben verbraucht, und das gilt nicht etwa nur für Kriegszeiten, sondern auch für das ‚friedliche' Leben der fortschreitenden Kulturentwicklung, besonders in manchen Industriezweigen. Trotz alledem wird niemand das 5. Gebot als eine utopische Forderung ansehen. Und da das Verhalten gegen die Tiere, wenn es durch den Kampf ums Dasein bestimmt wird, grundsätzlich nicht aus dem Rahmen unseres Verhaltens gegen die Menschen herausfällt, so kann und muß das Gebot als Ideal, als Richtungspunkt unseres sittlichen Vorwärtsstrebens, auch hier seine Geltung behalten." (Jahr 1928b, 6)

[32] "Die Forderung, auch das tierische Leben zu schonen, hat absolute Geltung, ohne jede Rücksicht darauf, ob uns ein äußerer Vorteil daraus erwächst, wie denn überhaupt die Ethik nach solchen Dingen nicht fragt und nicht fragen darf." (Jahr 1928b, 6)

low creature. Nobody must inflict pain, suffering or damage to an animal without reasonable purpose [ohne vernünftigen Grund]."[33]

Jahr also points to animal-protection paragraphs for further orientation how we can take pity on animals.

Jahr however does not defend exaggerated practices of protection of nature like the "fanatic self-harm of the school of yoga" which allows the eating of plants only under certain circumstances. Jahr's wording is interesting here. "The possession not to harm any living being in its self-preservation even today leads certain Indian penitents to live of horse manure."[34] (Jahr 1927, 2) Not only animals and plants have the right to live but also humans. It would be inconsistent to defend animal and plant protection at the expense of humans, because we too are living beings. And we have duties towards ourselves, particularly the duty of self maintenance (Jahr 1934).

According to Jahr the bioethical imperative has become self-evident as far as the protection of animals is concerned. Although Jahr formulates a bioethical imperative and not just an animal ethical imperative and although he explicitly includes plants in his claim, in his examples he more often refers to animals than to plants. He rejects the malicious destruction of flowers and the wilful damage of trees. Intuitively we agree with him. Watching this kind of vandalism causes outrage and anger in us. But what is the argumentative basis for considering a plant or species of plants as an end in itself and for protecting them not just for esthetical, environmental and ecological reasons but in the first place with respect for themselves? With respect to "plant ethics" Jahr refers to our intuitions [das Gefühl] which during a walk keep us from "beheading" plants by our cane or from picking flowers and discard them carelessly after a short time (Jahr 1927, 4). It is more difficult to give a foundation for biocentrism in the sense of admitting the inherent value of plants than to give a foundation of sentientism or zoocentrism. The question of how biocentrism can be founded is a central issue in today's bioethical debates.

We might ask if it is not also in this context a question of consistency and veracity to respect plants for their own sake and not just as means for our or other animals' ends. Our species is a very late product of evolution, whereas the first life forms came into being to our estimation about 3.5 billions [Milliarden] years ago. Humans are only one single species of thousands and thousands other species, and we owe our existence a long line of ancestors, and without them and the very first living

[33] Tierschutzgesetz (TierSchG) "§ 1 Zweck dieses Gesetzes ist es, aus der Verantwortung des Menschen für das Tier als Mitgeschöpf dessen Leben und Wohlbefinden zu schützen. Niemand darf einem Tier ohne vernünftigen Grund Schmerzen, Leiden oder Schäden zufügen." (Emphasis by E.-M.E.)

[34] "Die Sucht, keinem Lebewesen bei der Selbsterhaltung zu schaden, führt auch noch heute gewisse indische Büßer dazu, sich von Pferdemist zu nähren." (Jahr 1927, 2)

organisms on this planet we wouldn't exist. Plants and animals have a common origin and are siblings. So we are not only the relatives of other animals but also of plants. Perhaps it is possible to base on our kinship with the other living beings a new solidarity with living nature (Engels 2007, 205f.).

Jahr finally faces the question: "What is the impact of the extension of our moral obligations beyond our fellow humans to animals on our relationship towards other humans? Don't we have to fear that our attention is diverted from our fellow humans' misery when we focus on animals?" (Jahr 1928b, 6)[35] For Jahr the opposite is the case, and here he draws on Immanuel Kant's claim that the protective and merciful treatment of animals is a duty of the human being towards himself/herself. It can be of highest importance for an "ethics of society" ["Gesellschaftsethik"] (Jahr 1928a, 101).

"*Respect every living being, therefore also the animals, as an end in itself, and treat it whenever possible as such*! And if one cannot recognize the *absolute validity* of this principle insofar as it refers to the animals and plants, one may, as I already said, nevertheless follow it out of consideration for the moral obligations towards the whole human society."[36] (Jahr 1928a, 102)

Thus Jahr tries to give a double normative foundation of his bioethical theory, one which includes direct duties not only towards humans but also towards animals and plants, the other one which accepts direct duties only to humans and which nevertheless can lead to a strict and effective animal and plant protection.[37] The imperative of the protection of living nature has entered legal and regulatory frameworks at the national and international level. The protection of the natural basis of existence and of the animals [Schutz der natürlichen Lebensgrundlagen und der Tiere] has become a special article in the German Basic Law (Art. 20a), and "the dignity of the creature" [die "Würde der Kreatur"] is protected by the Swiss constitution since 1992.

I will finish with a quotation from Hans Jonas, an impressive philosopher of biology as well as bioethicist. Long before Jonas published his famous book *The Imperative*

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35 "Welche Wirkung hat die Ausdehnung unserer sittlichen Verpflichtungen über den Menschen hinaus auf die Tiere auf unser Verhältnis zu unseren Mitmenschen? Ist nicht zu befürchten, dass unsere Aufmerksamkeit von der Not der letzteren abgelenkt wird, wenn wir unser Augenmerk auf die ersteren richten?" (Jahr 1928b, 6)

36 Emphasis on "absolute validity" by E.-M.E. "*Achte jedes Lebewesen, also auch die Tiere, als einen Selbstzweck, und behandle es nach Möglichkeit als solchen!* Und wenn man die absolute Geltung dieses Grundsatzes, soweit er sich eben auf die Tiere und Pflanzen bezieht, nicht anerkennen will, so möge man ihn, um schon Gesagtes zu wiederholen, mit Rücksicht auf die sittlichen Verpflichtungen gegen die gesamte menschliche Gesellschaft dennoch befolgen." (Jahr 1928a, 102)

37 This reminds us of Bryan Norton's "convergence hypothesis", meaning, that when we pursue practical goals of environmental protection policy, anthropocentrists and nonanthropocentrists can act in concert in spite of the differences in their basic premises (Norton 1991). Nevertheless the question remains which position provides a more stable protection of nature throughout all the changing practical and political situations.

of Responsibility (*Das Prinzip Verantwortung*) he presented results of his philosophical biology. This leads us back to the importance of Charles Darwin for our understanding of nature and for bioethics:

> "In the hue and cry over the indignity done to man's metaphysical status in the doctrine of his animal descent, it was overlooked that by the same token some dignity had been restored to the realm of life as a whole. If man was the relative of animals, then animals were the relatives of man and in degrees bearers of that inwardness of which man, the most advanced of their kin, is conscious in himself […] So it happened that in the hour of the final triumph of materialism, the very instrument of it, 'evolution', implicitly transcended the terms of materialism and posed the ontological question anew – when it just seemed settled. And Darwinism, more than any other doctrine responsible for the now dominant evolutionary vision of all reality, turns out to have been a thoroughly dialectical event." (Jonas 2001, 57f.)[38]

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[38] "In der lauten Entrüstung über den Schimpf, den die Lehre von der tierischen Abstammung der metaphysischen Würde des Menschen angetan habe, wurde übersehen, daß nach dem gleichen Prinzip dem Gesamtreich des Lebens etwas von seiner Würde zurückgegeben wurde. Ist der Mensch mit den Tieren verwandt, dann sind auch die Tiere mit dem Menschen verwandt und in Graden Träger jener Innerlichkeit, deren sich der Mensch, der vorgeschrittenste ihrer Gattung, in sich selbst bewußt ist. […] So geschah es, daß in dem Augenblick, da der Materialismus seinen vollen Sieg gewann, das eigentliche Mittel dieses Sieges, die ‚Evolution', nach seiner inneren Konsequenz die Grenzen des Materialismus sprengte und die ontologische Frage neu aufwarf – als sie gerade entschieden schien. Und es stellt sich heraus, daß der Darwinismus, der mehr als jede andere Lehre für die nunmehr dominierende evolutionäre Schau aller Wirklichkeit verantwortlich ist, ein von Grund auf dialektisches Ereignis war." (Jonas 1973,84f.)

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