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Cognitive Limits and the Beginning of Life

An Objection against the Identity Argument*

Abstract:

The question which moral status the embryo has is of great practical significance because the possibility to justify a governmental prohibition of a set of important therapeutical and scientific measures depends on a special and therefore legal protectable status of the embryo. The identity argument which is often used in this context cannot constitute this status due to its mere epistemic character under the condition of the determinism.

At an early stage of the discussion, Kliemt (1979) has pointed out that governmental interventions into private decisions of the citizens concerning the subject of human reproduction can very well cause moral complications and therefore do require justification. From the point of view of constitutional law, such interventions may even require the fulfillment of very strict conditions, since the affected constitutional rights—for instance the right of reproductive autonomy that can be deduced from the general personal rights (Koppernock 1997), or the freedom of science that is granted without any reservation—in general have a high status. Furthermore, in a pluralistic society and in a philosophically and religiously neutral state that has been prescribed by the German constitution (see Huster 2002), such limitations of liberties need reasons that are not only based on mere individual or groups' beliefs and convictions but that are accessible for the general public (see Huster 1997; Beck 2006, 173ff.).

In this context, the question of the moral status of the fertilised prenatal human ovum—below: the embryo—is of paramount interest. This question is practically relevant, since the possibility to justify a state prohibition of a whole set of important therapeutic and scientific measures—from abortion and pre-implantation diagnostics to stem cell research—depends on a special status of the embryo that is thus worthy of special legal protection. Furthermore, the embryo's political, legal and philosophical status is highly controversial.

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1. The Status Discussion in Reverse

In bioethics, we have a broad and sophisticated discussion on the embryo's status. These bioethical arguments have often been seized in other contexts. Typically, four arguments are being distinguished in order to support a moral status of the embryo: (1) continuity, (2) species membership, (3) potentiality, and (4) identity (see also Damschen and Schönecker 2003). Whereas the argument of continuity is very popular in public but suffers from factual weakness (see Merkel 2002, 157ff.),¹ the persuasiveness of the other arguments is still highly controversial. Although probably none of the arguments (2) to (4) will be strong enough to base a special status of the embryo on it, it is less obvious that arguments (2), (3) and (4) taken together will not have moral relevance.² At first sight, it is not quite implausible that an entity that can be identified as an individual and that is a member of the human species and has the potential to develop into a grown-up human being, will possess a special status. Here and now it does not need to be determined whether this special status should already be a stringent protection of life and dignity or merely a weak obligation of solidarity, a feeling of piety or any other vague obligation.³

It is striking that the discussion is mainly 'forward looking': namely towards the commonalities of the embryo with the born human being and its development in this direction. The 'reverse' of the discussion enjoys considerably less attention, namely the dissociation from pre-forms of the embryo, i.e. the sperm cell and the (unfertilised) ovum or oocyte (but see Leist 1990, 85ff.). Insofar, the earliest point of time for a special status of the embryo is totally undisputed: this is the fusion of ovum and sperm cell. Arguments that distinguish between 'human life' and '(human) persons', whereas they grant (full) moral status only to the latter, are also based on the supposition—and take this as self-evident—that human life begins with this fusion (cf. Hoerster 2002, 37f.). If not only vague feelings of respect but clear moral obligations are linked to this point of time, one needs a casuistic distinction when the exact time of fusion actually is.⁴

2. The Determination of the Genetic Identity as Reason for the Relevance of the Fusion

Especially for the proponents of the continuity argument the fusion is a crucial break: Their distinctive argument is that the fusion is the only relevant break

¹ Nevertheless, this argument is interesting in one respect; cf. below section 4.

² The necessity for such an overview is conceded also by the proponents of this argument (cf. Honnefelder 2002, 91).

³ Such a weaker obligation regarding the early embryo is proposed—with many differences in singular aspects—by Hoerster (2002, 109ff.) and Merkel (2002, 184ff.). In the judicial discussion, the concept of a graded protection is widely proposed; see Dreier 2002a, 377ff., and Hilgendorf 1996, 758ff. For aspects of medical ethics, see the summaries in Wagner-Westerhausen 2008, 6ff.

⁴ Cf. the discussions on the pre-nucleus stage, like in Honnefelder 2002, 96f.

whereas all other propositions for the beginning of the moral status are arbitrary. But what is the actual feature of the fusion?

It cannot be the species affiliation, since apparently ovum and sperm cell are also 'human material'. Similarly, the reference to the potentiality of the fertilised ovum is not convincing, since ovum and sperm cell also have the potential to develop towards a human being—even though only collectively (see also Harris 1995, 39; 2007, 97 and 166; and Warnock 1990, 230). Hence, typically the identity argument is being referred to: With the fusion, a new individual being has come into existence that is said to be identical with the human being who is later being born.

For this argument, a reference to the weak concept of purely numerical identity is not valid: This is since in this spirit I am not only identical to 'my' embryo but also to 'my' ovum and 'my' sperm cell, in any case I have emerged from and consist of 'my' ovum and 'my' sperm cell.⁵ Well, it might be argued that typically no one will know which ovum and which sperm cell will become a human being, which means that the promise of moral protection will prove irrelevant. But this argument will at least be invalid if we have a controlled in vitro fertilisation—in this case, ovum and sperm cell can easily be identified. Nevertheless, hitherto no one has claimed a special status of ovum and sperm cell prior to their fusion, a status that would prohibit their destruction or experimental utilisation.

Hence, quite often—and particularly in discussions of constitutional law—it is being referred to the determination of the genetical identity by way of the fusion: "The individual unique genome is already fixed: the genetic identity of the human being."⁶ In this account, the fusion is the correct but also earliest possible beginning of protection, since with the fusion a human life newly enters the world, a life that is becoming individual in this very moment by the genetic determination.

3. The Epistemic Character of the Identity Argument

At first sight, this identity argument is very feasible since here the worthiness of protection is linked to a simple biological fact: the formation of individual human life at the time of the fusion defining the genetic identity. Hence the fertilised ovum is legally different from the oocyte and the sperm cell: Indeed, until

⁵ There is a possible objection against that insofar as we merely have a material but not a numerical identity, since oocyte and sperm cell are two things that are identifiable in time and space (see also Quante 2002, 85). But this objection cannot concern the argument of the proponents of the identity argument: They can not only refer to the numerical identity in this sense, since the fertilised ovum should be granted a special status even in the pre-nucleus stage. This is because it is surely numerically identical to the later person.

⁶ Isensee 2002, 58: "Fixiert ist schon das individuelle, als solches einzigartige Genom: die genetische Identität des Menschen." Similar Kirchhof 2002, 21: "[...] erfasst der Lebensschutz bereits das befruchtete Ei, mit dem die Entwicklung des Menschen in seiner abschließenden genetischen Prägung und der dadurch begründeten Individualität beginnt."

the moment of nuclear fusion, t_1 , everything could have taken another way;⁷ a being with the genetic code Y instead of code X could have developed, had the DNA strands arranged in a different way. To say it simpler: Prior to moment t_1 the individual Y could still have developed instead of individual X. The life of individual X starts at moment t_1 which is the moment of the determination of his genetic code. In order to understand this there is no need to claim that the human being is determined by his genes or something like that. Barring the particular case of monozygotic twins, genetic fitting apparently remains a good and nowadays even the primary criterion for individuation, even if other factors are acknowledged as influencing the personality development.⁸ Furthermore, the fusion argument is advantageous for the proponents of the embryo's moral status, since it is not contrary to but seems to be supported by biological cognition: It is the understanding of modern genetics that has granted us an insight into the development of the genetic identity in the process of nuclear fusion.⁹ However, if biological research should discover that the genetic individuality is determined at a later point of time, that would also push the beginning of a moral status to a later point of time, with respect to this reasoning.¹⁰

But what is the meaning of statements like 'until the moment of nuclear fusion everything could have taken another way' or 'prior to moment t_1 the individual Y could still have developed instead of individual X'? The crucial question is what the word 'could' in these sentences means. In which respect is the individuality being determined after t_1 but undetermined prior to t_1 ? Let's imagine the situation some hours prior to the nuclear fusion (t_{1-n}), the time when the sperm cells are moving towards the oocyte. At first sight, it looks like we are far away from any kind of individuation: It is neither clear which sperm cell will 'win the race', nor is it determined in which way the DNA strands will arrange around each other.

However, this is the very perspective that we use to take automatically. But let's instead assume for a while that the situation at t_{1-n} is being looked at by a being with complete knowledge of the (relevant) world at the moment t_{1-n} , with complete knowledge of natural laws and with unlimited calculating capacities. If the world is deterministically closed, it has all to commend it that already at the moment t_{1-n} , this Laplace-demon will have knowledge of the genetic individuality of the embryo that is just developing. This is because he can apply natural

⁷ Of course, not everything could have taken another way, since the existing genetic material delimits a ceiling: Never can a dog emerge from the oocyte and the sperm cell of two cats. But all this does not change the fact that—in a certain sense that still has to be defined—the individual cat is not yet determined.

⁸ Hence, the following argument is too strict in Dreier 2002b, 24f.

⁹ Cf. the arguments in *Kongregation für Glaubenslehre* 1987: "Von dem Augenblick an, in dem die Eizelle befruchtet wird, beginnt ein neues Leben [...]. Die neuere Genetik bestätigt diesen Sachverhalt, der schon immer eindeutig war [...], in eindrucksvoller Weise."

¹⁰ I owe this important hint to a contribution of Peter Dabrock. As it is well-known, the nuclear fusion is in fact not that simple, since even after the fertilisation multiples or genetic modifications can develop (on the moral philosophical discussion see Stoecker 2003, 137ff.). These constraints shall be ignored here for the sake of argument.

laws to the initial conditions and calculate the embryo's future development up to moment t_1 and beyond.¹¹

It is more than improbable that human beings will ever be capable of this kind of calculation. However, this kind of thought experiment is helpful, since it shows that the expression 'everything could have taken another way' in the sentences above does not make any sense logically or by natural law but it is epistemically meaningful. At the moment of t_{1-n} everything could have taken another way (only) in the sense that 'we' are unable to predict the further development; but physically the fitting of the embryo was already determined at this moment (see also Merkel 2001, 481). This means that it is due to the limits of human cognitive capabilities that under the above conditions we say that the individuality is undetermined at the moment t_{1-n} .¹² The omniscient observer already knows what will happen. All this is not totally unreal, since—compared to early eras of human history, without any knowledge of molecular genetics—nowadays we are in a comparable position.

4. Preconditions and Normative Conclusions

Based on these considerations, we now can rephrase the question how significant the fusion is for the status discussion: Can the determination of the moral status of a being depend on the moment when we are able to determine the individuality? The answer is clear: No, the moment of cognition must be irrelevant, since this moment depends on our (limited) human cognitive capabilities; for the moral status, at best the moment can be relevant when the individuality is in fact determined. Based on the identity argument, an opposing point of view on that would consequently have to claim that the individuality and hence the moral status of unborn life began even later in former times prior to the age of molecular biology when we had no knowledge of DNA strands. But this is totally implausible, and hence the proponents of the identity argument can today refer to state-of-the-art biological knowledge.

What are the preconditions for and the conclusions of this argument? Of course the most vulnerable precondition is the strict determinism that is assumed here. So, the objection is obvious that the findings of quantum mechanics show that such a determinism does not exist, but that in the realm of very small particles, at the most probability statements are possible. We do not want to go deeper into this question here, especially since it is still not finally clear how these findings should be interpreted.¹³ Thus, right from the start this argument would not be touched if we merely claimed an epistemic indeterminism. The situation would be quite different if indeed an ontological indeterminism were feasible.

¹¹ In any case, this is valid until the moment when human decisions of free will come into play. It may remain open whether or not they also are subject to the determinist principle.

¹² See Dennett 1984, 144ff., who—in the course of the discussion on free will—has interpreted the famous 'could have done otherwise' as an epistemic notion.

¹³ From a philosophical point of view, see Honderich 1995, 92ff.

But in this case our robust determinist common perception of natural processes would require from the proponents of the identity argument to show whether and how far the process of fusion is indeed an indeterminist one. As far as we know, this has not yet happened. Anyway, it is more than questionable whether the ethical discussion should shoulder this kind of baggage (see also Quante 2002, 48).

Furthermore, what is required is only a certain but quite self-evident concept of natural processes: The biological process knows no breaks or caesuras that are meaningful in themselves. It is a slow and calm flow, a continuum where one event just follows the other.¹⁴ None of these events has a special significance by itself. If we talk of breaks, caesuras etc., these are just interpretations based on our capacities to cognize by pointing to especially apparent events within this continual process. Of course, such interpretations are totally inevitable if we want to give names to events and if we want to ‘arrange’ the world.¹⁵ It is practically meaningful for our life that we only call a tree blossoming as soon as we can perceive the first bud—even as we know that the chain of causes that has inevitably led to this event has started long before we could see the first bud.

It is important that these interpretations are meaningful only in this pragmatic sense. It has nothing to commend—and this is the normative consequence of this argument—to give moral significance to these interpretations, unless they are based on moral grounds right from the beginning. Ever since we have known about the contexts of molecular biology, the nuclear fusion of oocyte and sperm cell is also an event that immediately comes to mind as the moment from which on we speak of a new individual human life. Even if we accept the—disputed—premise that every human being in itself possesses a special moral status, the nuclear fusion alone does not have a normative consequence at all. This is because it is not ‘nature’ that throws an individual being into the world at that moment; no, in this respect we just make a determination that is suggested by our (current) cognitive capacities.¹⁶ In principle, there is nothing to be said against even protecting the oocyte and sperm cell in a similar way, if and as far as we know that by natural law they necessarily will develop into an individual being—even if we do not yet know which being that will be. Hence, there is no way to avoid the specific determination of the morally relevant moment, even if we should grant such a special status to each and every human being as such.

But here we are not exempt from error if we take the biological descriptions too literal or if we sneak in evaluations. Let’s finally look at the following argument in favour of fusion as the morally relevant moment. In the following way,

¹⁴ On a similar argument, see also Harris 1995, 40.

¹⁵ Quante (2002, 92) emphasises that, irrespective of moral disputes, the question about the beginning of life cannot be answered purely from the point of view of natural sciences, but that it requires “further metaphysical assumptions”.

¹⁶ Irrespected of moral questions, other conclusions regarding the beginning of life are well possible; for example, the self-monitoring can be referred to, which starts a few days after the fertilisation (see Quante 2002, 69ff.).

the author distances himself from the thesis that other morally relevant breaks do exist:

“Right from the beginning, the embryo is a human being. This applies from the moment of fertilisation on, which is itself a process that starts with the penetration of the sperm cell into the oocyte and which ends with the fusion of the cell nuclei. The fertilisation itself is a continual sequence of events. One event is the precondition for the following unfolding. Biologists indicate that it is just a human perception to observe it as a process in stages: ‘The listing of singular events is only caused by the degree of exactness of our observations. Due to the fact that the fertilisation appears to us as a sequence of events and reactions, the whole process has also been called ‘cascade of fertilisation.’ [...] But we have to see clearly that the described stages of the cascade are the result of our terminological classifications but not of reality. Every ‘stage’ is a continuous consequence of the prior processes.’ [...] Every development stage continuously passes into the next one. There is no moment in the development of a human being that could be called as the one moment when the embryo becomes a human being. ‘Again and again people have tried to make personhood start with the maturation of the brain. But the differentiation of the nervous system is one of the best examples for the fact that we cannot find a singular moment when suddenly something new emerges. Even the synaptogenesis is a continuous process.’ [...]”¹⁷

We can accept all these statements but involuntarily we ask: Is there any argument here that a “continuous sequence of events” can be observed not even prior to the nuclear fusion—especially as we talk about the “penetration of a sperm cell into the oocyte” prior to the fusion of the nuclei? Why isn’t here also

¹⁷ See Lehmann 2002: “Der Embryo ist von Anfang an Mensch. Dies gilt von der Befruchtung an, die selber einen Prozess darstellt, der mit dem Eindringen eines Spermiums in die Eizelle beginnt und mit der Fusion der Zellkerne endet. Die Fertilisation selbst erfolgt als eine kontinuierliche Abfolge von Ereignissen. Das eine Ereignis ist Voraussetzung für die folgende Entfaltung. Die Biologen machen aufmerksam, dass es sich dabei um eine menschliche Wahrnehmung handelt, wenn man einen stufenmäßigen Prozess dahinter sieht: ‘Die Aufzählung der Einzelereignisse wird lediglich von unserer Beobachtungsgenauigkeit bestimmt. Wegen des stufenartigen Erscheinungsbildes aufeinanderfolgender Reaktionen hat man den ganzen Vorgang auch als ‘Befruchtungskaskade’ (H. M. Beier) bezeichnet. Es muss aber klar gesehen werden, dass die beschriebenen Stufen der Kaskade Ergebnis unserer begrifflichen Abgrenzungen, nicht aber der Wirklichkeit selbst sind. Jede ‘Stufe’ folgt kontinuierlich aus den vorausgegangenen Prozessen.’ (G. Rager, in: *Ärztliches Urteil und Handeln. Zur Grundlage einer medizinischen Ethik*, hrsg. von L. Honnefelder und G. Rager, Frankfurt 1994, 77) Jedes Entwicklungsstadium geht kontinuierlich in das folgende über. Es gibt keinen Moment in der Entwicklung, an dem man sagen könnte, erst hier werde der Embryo zum Menschen. ‘Es ist immer wieder versucht worden, das Menschsein mit der Reifung des Gehirns beginnen zu lassen. Die Differenzierung des Nervensystems ist aber eines der besten Beispiele dafür, dass sich kein Punkt festlegen lässt, an welchem sprunghaft etwas Neues entsteht. Auch die Synaptogenese ist ein kontinuierlicher Prozess.’ (G. Rager, a.a.O., 346, Anm. 52, vgl. genauer 89ff.)”

“the listing of singular events only caused by the degree of exactness of our observations”? This is apparently inconsistent: Here, the continuity argument is unilaterally ‘forward looking’, so that we can only come to the conclusion that secretly the nuclear fusion is fitted with a certain aura that is beyond the possible biological observations. In former times this was called animation (Beseelung), and the identity argument is only feasible on this basis. But this argument is useless for the purpose of forming and interpreting the legal order in a pluralistic society.

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