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Article

Are *katamenia* a first potentiality or first actuality of a human?

São as *katamenia* a primeira potencialidade ou a primeira atualidade de um ser humano

Berman Chan

<https://orcid.org/0000-0003-3747-4261>

Purdue University, Department of Philosophy, West Lafayette, Indiana, USA. Email: bermanchan77@gmail.com.

ABSTRACT

In Aristotle's writings regarding the biology of embryology, especially in the *Generation of Animals*, he contends that the mother's menstrual fluids provide the material for the generation of the offspring, and the father's form determines its formation as a member of that species (e.g. human). The *katamenia* (menstrual fluids) of the mother are said to be potentially all the body parts of the offspring, though actually none of them. So, the fluids are potentially the offspring. But are they a first potentiality or second potentiality (first actuality) of a human, in the terminology of *De Anima II*? In this paper I will argue that *katamenia* are a first potentiality of a human. My first argument is that *katamenia* do not have the potential for human activities such as thinking, but rather the potential of becoming something having the potential for those activities. I answer the objection that *katamenia* are not even a first potentiality, by appealing to an important text contending that for any x whose source of becoming is external, x is potentially y if nothing in x with respect to matter needs to be changed in order for an external principle to make x into y.

Keywords: Aristotle, *katamenia*, potentiality, actuality, *Generation of Animals*.

RESUMO

Nos escritos de Aristóteles sobre a biologia da embriologia, especialmente na *Geração dos Animais*, ele afirma que os fluidos menstruais da mãe fornecem o material para a geração da prole, e a forma do pai determina sua formação como membro dessa espécie (por exemplo, a humana). Diz-se que a *katamenia* (fluidos menstruais) da mãe são potencialmente todas as partes do corpo da prole, embora na verdade nenhuma delas. Assim, os fluidos são potencialmente a prole. Mas eles são uma primeira

potencialidade ou uma segunda potencialidade (primeira atualidade) de um humano, na terminologia do *De Anima II*? Neste artigo, argumentarei que a *katamenia* é uma primeira potencialidade de um humano. Meu primeiro argumento é que a *katamenia* não tem potencial para atividades humanas como o pensamento, mas sim o potencial de se tornar algo com potencial para essas atividades. Eu respondo à objeção de que a *katamenia* não é nem mesmo uma primeira potencialidade, apelando para um texto importante que afirma que para qualquer *x* cuja fonte de devir é externa, *x* é potencialmente *y* se nada em *x* com relação à matéria precisa ser mudado para que um princípio externo transforme *x* em *y*.

Palavras-chave: Aristóteles, *katamenia*, potencialidade, atualidade, *Geração dos Animais*.

Introduction

To those familiar with Aristotle's biology of embryology, especially the *Generation of Animals*, it is well known that the mother's menstrual fluids provide the material for the generation of the offspring, and the father's form determines its formation as a member of that species.¹ Clearly, *katamenia* (menstrual fluids), like the father's seed, are in some way a precursor of the new creature, such as a human offspring. As will be examined at greater length below, in the *Generation of Animals* the menstrual fluids of the mother are said to be potentially all the body parts of the new creature, though actually none of them (GA II, 3.737a23-4). So, the fluids are potentially the offspring, but in what sense? Are they a first potentiality or second potentiality (i.e. first actuality) of a human, in the terminology of *De Anima II*? This question is intriguing because the menstrual fluids, as we will see, are not an independent life, but yet they are already prepared to be turned into a new creature of that kind. In this paper I will argue that *katamenia* are not a first actuality, but a first potentiality of a human.

1. Potentiality and Actuality

This discussion would be incomplete without a proper review of Aristotelian potentiality and actuality in *De Anima II*. There, Aristotle gives an example in which someone is described as a *knower* of grammatical language in different ways, corresponding to differences in degrees of potentiality and actuality:

- (1) *We can speak of something as 'a knower' either [(a)] as when we say that man is a knower, meaning that man falls within the class of beings that know or have knowledge, or [(b)] as when we are speaking of a man who possesses a knowledge of grammar; each of these has a potentiality, but not in the same way; the one [(a)] because his kind or matter is such and such, the other [(b)], because he can reflect when he wants to, if nothing external prevents him. And there is the man who is already reflecting [(c)]—he is a knower in actuality and in the most proper sense is knowing, e.g. this A (DA II.5, 417a23-30).*

Not everything counts as a knower in sense (a). For instance, a rock or even a dog do not count, while humans do fall within the class of beings that can know. Next, Aristotle explains that someone who is not merely able to know but also "possesses a knowledge of grammar" would count as a knower in sense (b). This person can identify sentences that are grammatical and those that are not, for instance, and possess-

¹ Quotations to Aristotle's works will be drawn from *Generation of Animals*, *De Anima*, and *Metaphysics* as these are found in J. Barnes ed. *Complete Works of Aristotle: The revised Oxford translation*. 2 vols., 1984. These sources are abbreviated and placed in the text as GA, DA, and Met.

es the capacity to use proper grammar. However, until the person does use this grammatical knowledge and thereby becomes a knower in sense (c), such as by speaking a grammatical sentence, the person remains a knower in sense (b). So, one is a knower (of grammatical knowledge) in these 3 senses:

- i. Can have knowledge.
- ii. Has grammatical knowledge.
- iii. Is realizing this grammatical knowledge.

These three senses also correspond to 3 different degrees of potentiality and actuality. A knower in sense (a) has the potential of possessing knowledge, while the knower in sense (b) actually possesses this knowledge. But knower (b) still has the potential of actually realizing and using this knowledge. Knower (c), on the other hand, actually uses this knowledge. Thus, since (a) and (b) have "potentiality, but not in the same way", the three different knowers can be characterized as follows:

1. First potentiality
2. Second potentiality (First actuality)
3. Second actuality

Knower (b) from before actually has grammatical knowledge, and so that knower corresponds to first actuality. First actuality is also a kind of potentiality, since it has the potential of actually realizing the activity of the second actuality (e.g. speak a grammatical sentence). Another important example of a first actuality that Aristotle gives earlier in *De Anima* is the example of the soul: "That is why the soul is an actuality of the first kind of a natural body having life potentially in it." (412a27). Soul is a way of being that has the potential to realize the life activities of its natural kind by itself. It has the potential of nourishing itself, moving itself,² and, in the case of humans, of perceiving and thinking. Lastly, something which realizes these activities is a second actuality.³

To make some progress on the question "Are *katamenia* a first potentiality or first actuality", we must provide much needed clarity to the formulation of the question itself. Such formulations of degrees of potentiality and actuality are incomplete statements similar to "Is Socrates potentially or actually?" So, the first clarification is that well-formed questions of relative potentiality and actuality stand in need of also including the goal with respect to which they are potential and actual, such as "Is Socrates potentially or actually a hundred years old?" In the remainder of our discussion, I will focus on the question of whether *katamenia* are potential or actual, with respect to being a human being. A second clarification can be made most easily by using an example. The answer to the question "Is Biden a potentiality or actuality with respect to being a member of the United Nations?" should be *neither*; for a sort of category mistake is made, since only nations can be members of the UN, whether potentially or actually. So, some things, *x*'s, are just neither a potentiality nor an actuality with respect to some end *E*, because *x*'s are neither the sort of thing to be a potentiality nor an actuality with respect to *E*.

2. Aristotle's biology of embryology

Recall that our question is whether the menstrual fluids are a first potentiality or first actuality of a human. We turn now to Aristotle's biology of embryology in search of the answer. Aristotle's account

² Regarding a living thing moving itself, Aristotle contrasts such a thing with an inanimate thing, "[F]or it is not of a body of that sort [inanimate] that what it is to be, i.e., its account, is a soul, but of a natural body of a particular kind, viz. One having in itself the power of setting itself in movement and arresting itself" (412b15-17).

³ Note that the same thing can be both potential and actual, but in distinct ways. For instance, the runner is actually moving (second actuality) but may be potentially a speaker of Greek (first potentiality). Or, this speaker of Greek speaking Greek (2nd actuality) may be potentially (first potentiality) a speaker of English and potentially a runner (second potentiality). All these are capacities of soul.

of the generation of animal offspring is relatively sophisticated, offering explanations of how offspring come to be male or female, and how they can sometimes come to resemble not only the mother rather than father. Further, the account seeks to explain how the offspring can resemble even female ancestors of the paternal line and male ancestors of the maternal line (Cooper, 2004). Our discussion will leave aside his account of resemblance and sex selection, however, since all that is needed is Aristotle's basic treatment of the mother's and father's contributions to the genesis of the embryo.

One should not think that the sperm is the offspring's form while the menstrual fluid is its matter, as if form and matter could exist separately. As Aryeh Kosman remarks, "The body, in other words, is always proximate matter, never matter *ex quo*; ... although animals are made up of their bodies, they are never made out of their bodies, but out of the *katamenia*" (Kosman, 1987, p. 377)⁴. The menstrual fluid is not prime matter, and neither is the sperm identical to form. Instead, Aristotle's account is sophisticated, beginning with the postulation of "movements" (*kinesis*) that both the father's and mother's contributions possess:

(2) *Now semen is a residue and is moved with the same movement as that in virtue of which the body increases (this increase being due to subdivision of the nutriment in its last stage). When it has entered the uterus it puts into form the corresponding residue of the female and moves it with the same movement wherewith it is moved itself. For the female's contribution also is a residue, and has all the parts in it potentially though none of them actually (GA II.3, 737a19-24);*

So, the father's semen carries movements that shape the mother's material into a new member of the same species. During generation, the offspring is said to be passed the movements of the father, movements of which had moved the *katamenia* "with the same movement wherewith it [seed] is moved itself".⁵ These movements and their origin deserve more explication, as will be provided below.

The movements of the semen are derived from movements in the father's blood. In Text (2), semen "is a residue and is moved with the same movement as that in virtue of which the body increases..." (737a19). Cooper suggests that the movements in the father's seed are "derived from those that are present in his blood: it is from the further 'concoction' and concentration of his blood that the sperm is produced" (Cooper, 2004, p. 176) There are also other texts attesting to semen being concocted from his blood (726b3-18, 728a18), which nutritive part brings into being the whole and the parts (of the father). Because the movements of the semen are derived from movements in the father's blood, the semen carries with it "the form which makes the father a human being" (Cooper, 2004, p. 176). It is therefore not surprising that the seed can "make, if anything at all, another thing of the same species as the father" (Cooper, 2004, p. 176).

The mother's material also contains the same range of movements as semen's. Menstrual fluids, like semen are also a "residue" of the nutritive part of blood (726b3-727a7, especially 727a3). This nutritive part of blood fills up the female's channels every month, causing it to overflow: "Then nature ... uses it up in this place for the sake of generation, that another creature may come into being of the same kind as the former was going to be, for the menstrual blood is already potentially such as the body from which it is discharged" (738b1-3). Since the menstrual fluids (*katamenia*) are a concoction of this nutritive blood (738a34), which is able to form all that creature's body parts (744b32-38), *katamenia* also contain the full range of movements in the nutritive blood.

⁴ Kosman's textual evidence was from *De Anima* "it is not that which has lost its soul which is thus potentially living, but that which has it' (*de An.* II.1413a2)." *Katamenia* would be *ensouled* matter. After his remarks about animals not being made out of their bodies, Kosman continues: "A horse's form and its matter are seen to differ only as *energia* and *dunamis* differ ... Our simple-minded questions have thus exposed that very identity between a substance's form and matter which Aristotle introduces in his difficult remarks at the end of *Metaphysics H*, but in a way that may help us to explicate these remarks" (Kosman, 1987, p. 377-378).

⁵ At the beginning of generation, which this quote is about, the menstrual fluids have turned into the embryo, so the offspring is also moved by the same movements which the seed is moved itself.

The movements of the seed, however, are of a stronger form, since the seed is a purer, hotter, concoction of nutritive blood (728a26-30), males being hotter while females colder, the latter “being incapable of concocting the nutriment in its last stage into semen ... owing to the coldness of her nature” (728a19-21). Menstrual fluid is not capable of generating independent life by itself or making anything else come alive (737a27-30). However, since it is derived from nutritive blood and has the full range of movements, the *katamenia* are the right material for semen to work on to form the offspring. Thus, Cooper points out, human semen cannot work with dog *katamenia* since the latter are disposed only to become a dog embryo. So, *katamenia* of a certain kind is the right material for semen of that kind to work with, because *katamenia* are derived from the nutritive blood of the mother, and was “already potentially material for the mother’s body” (Cooper, 2004, p. 177).⁶

Cooper not only states that *katamenia* have the right movements, but rightly emphasizes they are movements of *matter*, whereas the seed has the right movements as the source of the offspring’s *form* (Cooper, 2004, p. 177-178). When it comes into contact with *katamenia*, it is the seed which makes something come alive, as Text (3) indicates:

(3) ...[W]henver a wind-egg is produced by an animal, the egg so forming has in it the parts of both sexes potentially, but has not the principle in question, so that it does not develop into a living creature, for this is introduced by the semen of the male. When such a principle has been imparted to the residue of the female, it becomes an embryo (DA.II.737a30-34).

While he does not explicitly have this passage in mind, Cooper holds that seed can make something formed from *katamenia* become possessed of “an independent source of its own self-regulation, including most crucially the source of its own capacity to make its own nutritive blood (also its own auxetic blood)” (Cooper, 2004, p. 178).

3. The question: Are *katamenia* a first potentiality of a human?

Now recall that the question posed earlier was whether *katamenia* are a first potentiality.⁷ The texts cited above do not explicitly take a stand on this question. For *katamenia* to be a first potentiality is for them to have the potential for becoming a human. For *katamenia* to be a first actuality is for them to have the potential for human activities. (For them to become a second actuality is for them to realize those activities). However, *GA* does not explicitly answer the query whether *katamenia* have the potential for human activities (first actuality reading), whether they merely possess the potential of becoming a human (first potentiality reading), or whether they lack even first potentiality (a question we will take up much later).

While Aristotle is not explicit in the *GA* or elsewhere about the status of the *katamenia* regarding potentiality and actuality, let me offer an argument that he is implicit that they are a first potentiality for a human being. This argument contrasts the potentialities of *katamenia* with the potentialities of a human being. What are the potentialities of *katamenia*? The menstrual fluid does not have the potentialities (capacities) for activities of perception or thinking. Further, it does make sense to ask about the potentialities (capacities) of body parts: “Suppose that the eye were an animal—sight would have been

⁶ Keep in mind that seed, as much as *katamenia*, also contains the full range of movements of nutritive blood, in virtue of being its residue, and so seed also has all the bodily parts of the relevant kind in it potentially (though not as matter for an offspring but as the source of its form). See also Cooper (2004, p. 176-8).

⁷ In the final section we will also incidentally explore the question of seed’s potentiality.

its soul, for sight is the substance or essence of the eye which corresponds to the formula, the eye being merely the matter of seeing; when seeing is removed the eye is no longer an eye, except in name—it is no more a real eye than the eye of a statue or of a painted figure” (DA II.1.412b18-22). A part of the body such as an eye does not have a soul, but if it did, the “substance or essence of the eye” would be seeing. It is plausible that its *potentiality* would then be that of sight. The potentiality of *katamenia* might be something to do with reproduction, but whatever it is, it does not include the potentiality for human activities of perception and thinking. Thus, so this argument goes, *katamenia* are not a first actuality any more than an eye is a first actuality of a human. Instead, *katamenia* are a first potentiality because they have the potential for becoming something that has the potentiality for human activities, though not actually possessing that latter potentiality.

One might object using this short argument in favour of the first actuality reading instead: Clearly every part of the mother’s body is human, including *katamenia*. So, *katamenia* do have the potentiality for human activities because they are part of a whole that does. However, this argument makes a category mistake. *Katamenia* are neither the sorts of things that can be potentially nor actually a human being any more than Joe Biden is a sort of thing that can be potentially or actually a member of the UN (even though Biden is a part of a UN member, the United States). Thus, such an argument in favour of the first actuality reading is defective.

In addition to the argument above in favour of *katamenia* as a first potentiality of a human being, there is another reason to take this reading: Aristotle does make several remarks in the GA (736b9-12,740a24-25) about the *embryo’s* first potentiality that support the first potentiality reading. Consider the following:

- (4) *It is plain that the semen and the embryo, while not yet separate, must be assumed to have the nutritive soul potentially, but not actually, until (like those embryos that are separated from the mother) it absorbs nourishment and performs the function of the nutritive life” (GA 736b9-12).*

So, even the embryo does not have the nutritive soul actually, but possesses it only potentially. Presumably it absorbs nourishment by the nutritive soul of its mother.⁸ David Charles puts it this way, “the embryo, when not separate from the mother, has the nutritive soul only potentially As such, it is potentially but not yet actually a human being (as the wood is potentially but not yet actually a house)” (Charles, 2010, p. 180). Then, since even the attached embryo does not actually have the nutritive soul, then *katamenia* also do not actually have the nutritive soul. Anything that does not have nutritive soul is definitely not actually a living thing, not to mention a human being. So, *katamenia* are not actually a human being. So, *katamenia* are not a second potentiality of a human, but a first potentiality of one.

4. Objection and Reply

So far then, I have argued that *katamenia* are a first potentiality of a human being. An objector, however, might grant that they are not a first actuality, but dispute the claim that they are even a first potentiality. This is a worry that might arise from another text where Aristotle appears to state that for x to potentially be y (where $x \neq y$), some internal principle must already be present and be operating on x such that it would eventually become y barring any external impediment. The objection asserts that the relevant internal principle, which is the principle of soul from the father’s seed, becomes operational on the *katamenia* only after the menstrual fluid is fertilized. Thus, only then would the menstrual fluid

⁸ One might think the embryo possesses nutritive soul, just is not exercising it. But the text is clear that the attached embryo does not possess nutritive soul at all; the embryo has nutritive soul “potentially, but not actually” (first potentiality).

be something which would eventually become a human being barring any external impediment.⁹ In other words, only after they are fertilized do *katamenia* become potentially a human being. The text in question is as follows, appearing to state that something is potentially a man only if it contains its own independent “motive principle”:

(5) *And in the cases in which the source of the becoming is in the very thing which suffers change, all those things are said to be potentially something else, which will be it of themselves if nothing external hinders them. E.g. the seed is not yet potentially a man; for it must further undergo a change in a foreign medium. But when through its own motive principle it has already got such and such attributes, in this state it is already potentially a man; while in the former state it needs another principle, just as earth is not yet potentially a statue, for it must change in order to become bronze (Met. θ.7.1049a12-18).*

Seed is not potentially a human being, since it must “undergo a change in a foreign medium”, that is, join with *katamenia* to make an embryo. The embryo is plausibly something which would then possess “its own motive principle”, and thus is potentially a human being. More carefully, Aristotle claims a kind of *internal principle* thesis.

Internal Principle thesis

x is potentially a y if there is a motive principle operating on x such that as long as there is no external factor impeding x, it will realize its end of becoming y.

Since the embryo possesses the internal principle of becoming a human, the embryo’s motive principle is such that the embryo will become a human barring any external impediment. Then, because the embryo possesses the internal principle to realize its goal of becoming a human, it is potentially a human being (first potentiality). But seed is not potentially a human being because the internal (motive) principle in question does not operate upon seed; most likely, seed is the motive principle, and so it is to commit a category mistake to ask if that principle operates upon it.

Now, notice that the relevant internal principle fails to operate on *katamenia*, and so *katamenia* would not be potentially a human being by appeal to the internal principle thesis. Charles’ response is that it is arguable, instead, that *katamenia* merely need be in a certain state in order for it to be potentially a human being. Charles argues this by first recognizing that Aristotle is not decisively clear whether, for them to possess this potentiality, *katamenia* need only be in the right state so that an internal principle can operate on them after fertilization, or whether the internal principle would need to already be operating on them. However, Charles points out that Aristotle’s analogy with the bricks and the builder in that same chapter (*Met.θ.7*), where Aristotle states that the bricks (with no mention of the builder) are nevertheless potentially a house,¹⁰ does favour the first supposition. Charles writes:

It may well be that Aristotle is not (at this point) concerned to adjudicate between these two possibilities. This said, Aristotle’s analogy with the case of the bricks and the builder seems to favour the first alternative: the bricks are potentially a house not only in the presence of the actual builder but also when they are (e.g.) on the way to the building site (Charles, 2010, p. 180 fn. 15).

So, Charles puts a little more weight on the bricks and builder analogy and thus sides with the view that *katamenia* are a first potentiality of a human being. However, given *katamenia*’s lack of an operational internal principle, it is so far unclear how to explain *katamenia*’s being a first potentiality of a human.

⁹ This objection is raised by Charles, even though he is not sympathetic with it in the end (2010, p. 180 fn.15).

¹⁰ We will see this later in Text (6).

What should one think about the potentiality of *katamenia* with respect to being a human? I think we should maintain that *katamenia* are a first potentiality with respect to being a human being. This stance, I believe, can be defended by carefully using Charles' own reading of why seed fails to be a potentiality and developing that insight to vindicate *katamenia*'s potentiality. This response points out that the *internal principle* thesis does not apply to *katamenia*. According to *Met.*θ.7, what is important and relevant for something such as *katamenia* to be a first potentiality of a human, is for it to require no further material change in order for a principle to later come to operate upon it. Thus, this kind of response will also turn out to vindicate and explain why Charles should put more weight on the bricks analogy.

Immediately before Text (5), Aristotle writes the following:

(6) *Similarly there is potentially a house, if nothing in the thing acted on—i.e. in the matter—prevents it from becoming a house, and if there is nothing which must be added or taken away or changed; this is potentially a house, and the same is true of all other things for which the source of their becoming is external (Met. θ.7.1049a8-13).*

From the standpoint of *katamenia*, the source of the human's "becoming" is external, being contained in the seed. So, the bricks and builder analogy is relevant. The source of the house's "becoming" is the builder, which is external to the bricks. In addition, so long as nothing in the matter prevents the right pile of bricks from becoming a house, then the bricks are potentially a house. Similarly, since *katamenia* contain the material for a human being—"there is nothing which must be added or taken away" as far as matter¹¹ is concerned—*katamenia* are potentially a human being. So, for things such as *katamenia* for which the source of the creature's becoming is external, Aristotle would likely have endorsed the following *right material* thesis:

Right material thesis

x is potentially a y if nothing as far as the matter in x needs to be added, taken away, or changed, such that a principle can begin to act upon x to make it y.

So, for things for which the source of the creature's becoming is external, those things merely have to qualify on the basis of the *right material* thesis to be counted as potentially that creature. So, *katamenia* are potentially a human.

Seed, however, is not something for which the source of the creature's becoming is external, since seed contains the form of the creature. As indicated in Text (5), ". . . in the cases in which the source of the becoming is in the very thing which suffers change, all those things are said to be potentially something else, which will be it of themselves if nothing external hinders them" (*Met.*θ.7.1049a12-14). For these things, x is potentially a y if x will become y by itself so long as there is no external hindrance. This passage (Text [5]) continues to require x to have a "motive principle" operating on it, as seen earlier. Thus, it turns out that for things whose source of the creature's becoming is internal, the *internal principle* thesis applies. Then, the reason seed is not potentially a man is that seed lacks a principle operating on it such that seed will by itself become a human. Why? Seed lacks the right material for the form it contains to operate on. Charles translates the relevant sentence in Text (5) as follows: "For example, the sperm is not yet potentially a man (for it needs to be placed in something else and change); rather something is potentially a man when it is the state in which it can be a man by virtue of a starting point which belongs to it" (Charles, 2010, p. 178-179) Only once sperm is "placed in something else" is it (embryo) in a proper state to be potentially a man. This state plausibly includes being in the right material state. This explains why Text (5) had continued as follows: "while in the former state it [seed]

¹¹ "Matter" should not be taken as pure (prime) matter, just as the bricks were called matter without it being pure matter.

needs another principle, just as earth is not yet potentially a statue, for it must change in order to become bronze". This analogy with the statue confirms that what seed lacks, for it to be potentially a man, is "a principle" of having the right material, since earth too lacks the potentiality to be a statue because it is not the right material, but needs to be changed to bronze. Only once it has the right material (and becomes embryo) can the form contained in seed operate upon the material, and become potentially a human by appeal to the *internal principle* thesis. As Charles sums up about seed, it "lacks the type of matter required for the operation of an internal principle whose actions are governed specifically by the goal of becoming a human being. It is not yet in a state ready for the relevant actuality-inducing agent to do its work" (Charles, 2010, p. 179). The embryo, however, whose source of becoming is also internal to it, does contain this appropriate material. Thus, the embryo is potentially a human.

As motivated earlier, *katamenia* is something whose source of becoming human lies external to it, and so to qualify as potentially a human being, needs only do so via the *right material* thesis. Aristotle is clear that *katamenia* already are the right material to be acted upon, being potentially all of the parts of the body by dint of being derived from human nutritive blood (GA II, 3.737a23-4). So, while Charles does not make this explanation explicit, *katamenia* is thus potentially a human for this reason, and so Text (5) does not present an objection to the claim that they are a first potentiality of a human being.

Now, if *katamenia* is a first potentiality of a human, and so is an embryo, then what is the difference between them with respect to potentiality for being a human? Our discussion so far has not uncovered any grounds for a difference, but for them to be identical with respect to potentiality (for being a human) is implausible since the embryo should be closer to being a human. However, as we saw, *katamenia* being a first potentiality of a human being draws strong support from Text (6) and the *right material thesis*, and also from other textual evidence (discussed in section 2) of *katamenia* already being potentially material for all of a human's body parts. So, it is more defensible to hold that both *katamenia* and embryo are a first potentiality of a human.

However, embryo is plausibly closer to becoming a human being. Hence, I will make a few speculative remarks in what follows: Even though both *katamenia* and embryo are first potentialities of a human being, *katamenia* is merely proximate matter whose source of becoming is external to it. So, perhaps a distinction can be defended such that *katamenia* is a *material* potentiality of a human being, while embryo is a potentiality *simpliciter* of a human being. Thus, this could explain why an embryo is closer to being a human being than *katamenia*. A second material potentiality of a human being would be the matter making up an actual human being, this matter being a metaphysical (i.e. not proper) part of a human, since matter cannot exist separately from form. What about seed? Would seed be a first *formal* potentiality of a human being? No, seed is the source of becoming for a human. Seed is (the source of) an actual motive principle, and so cannot be a potentiality.

Again, these remarks are speculative, and what appears most solidly defensible is that *katamenia* and the embryo are both first potentialities of a human being. Indeed, for the reasons given above and in section 3, *katamenia* are not a second potentiality (first actuality) because they do not possess the potentiality for human activities. Further, because of their satisfaction of the *right material* thesis, they are plausibly a first potentiality. Thus, for Aristotle, *katamenia* are a first potentiality of a human being.

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