

Biomedical ethics: abortion - 08 May 2023

1. Framing the debate
2. The historical context
3. The complexity of the abortion debate

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1.1 Framing the debate: preliminary points

The abortion debate centres on the relationship between mother and developing human.

It is not about spontaneous abortion (a natural process), but about the **deliberate termination** of a human pregnancy, **performed up to a certain developmental stage** because of a **good ethical reason**.

An asymmetry characterises this debate, given that it is the mother who might be allowed to choose whether to interrupt pregnancy, while the developing human, of course, cannot choose.

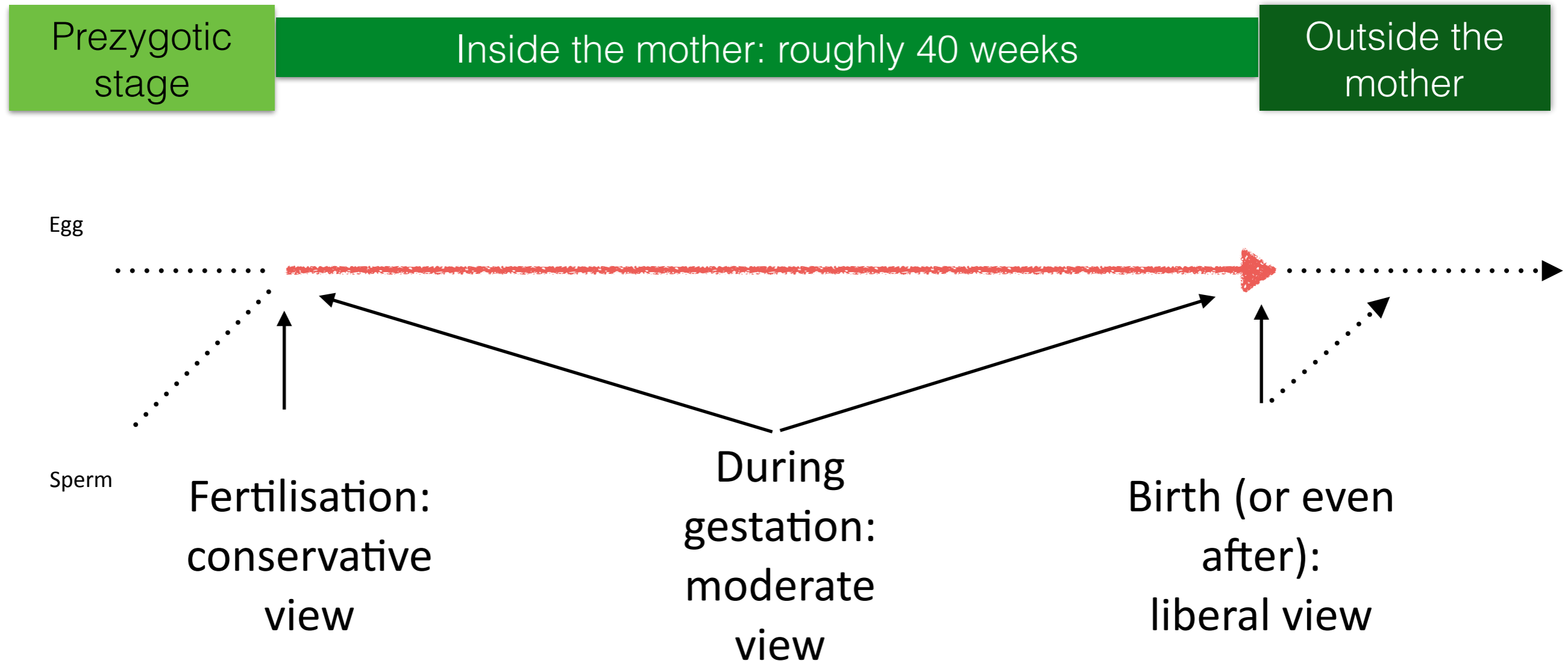
1.2 Framing the debate: preliminary points

Many arguments in the abortion debate focus on the putative rights of the developing human and on the putative rights and duties of the mother.

I shall tackle the issue from the vantage point of the former perspective because it's a significant focus of medical bioethics.

On this basis, the pivotal question about abortion we shall consider - among the many interesting ones - concerns the **identification of the developmental stage at which it becomes meaningful to consider the developing human as a person with moral rights.**

1.3 Framing the debate: preliminary points




The morally significant break in the developmental process:
at which point during development does the developing human become a person with rights? Extremist and moderate views.

1.4 Framing the debate: Portugal's case

Df. abortion (slide 1.1): **Interruption of pregnancy**: the **deliberate** termination of a human pregnancy, performed **up to a certain developmental stage** because of a **good ethical reason**.

Portuguese legislation: Lei nº 16/2007, de 17 de Abril - Instance of a moderate view (slide 1.4).

- Deliberation of the woman but conscientious objection of medical staff is allowed.
- Developmental stage = **up to 10 weeks.** 
- No reason needed to justify the woman's request up to 10 weeks, but a good ethical reason is relevant in exceptional cases:

Up to 16th week in case of rape.

Up to 24th week in case of malformation of the foetus.

Always in case of grave risk for the health of the mother.

1.5 Framing the debate: Portugal's case

Rationale of Portuguese law: at **10 weeks** the developing human has a specific **property z** that makes it a **person**; property z is **associated to a phenotype** (see slide 3.2).

- 1. Ethical question:** what is the relevant property z that makes a developing human a person with moral rights?
- 2. Scientific question:** at which developmental stage does the developing human acquire the phenotype p associated with property z?
- 3. Social policy question:** how should we behave in light of our answer to the ethical and scientific questions? (slides 3.6-3.7)

1.6 Framing the debate: personhood

The concept of person generally refers to a member of the moral community with moral (and legal) rights. Characterisable in many ways, **each way identifying specific phenotypes acquired at different times during development:**

Person = member of *Homo sapiens* = phenotype: possessing a unique human genome (position of the Catholic Church today).

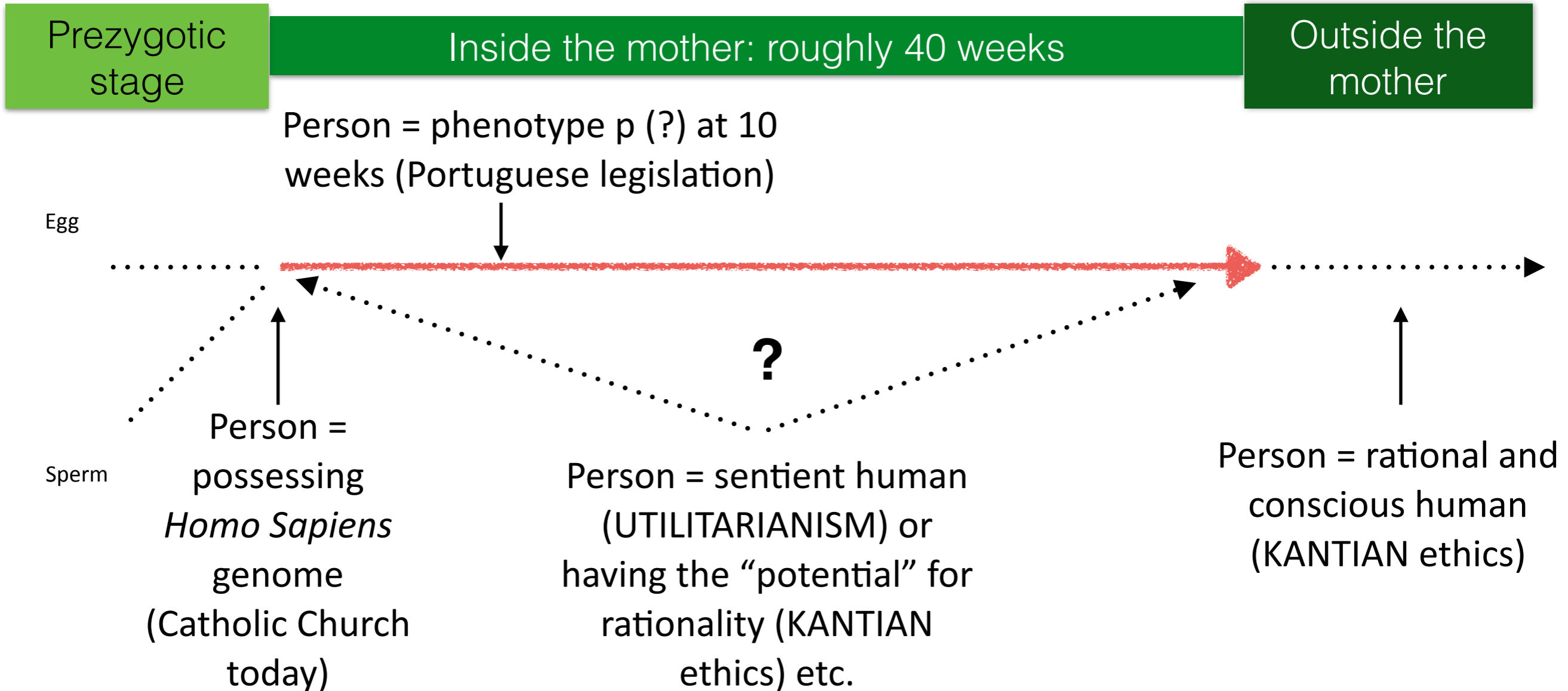
Person = possessing phenotype p (?) at 10 weeks (Portuguese legislation).

Person = rational, conscious and free agent = phenotype: rationality (or at least the potential of being rational - see slides on deontology).

Person = sentient human = phenotype: sentience (see slides on utilitarianism).

Without agreement on the relevant phenotypic basis of personhood, the abortion debate cannot be adjudicated (see slides 3.1-3.5).

1.7 Framing the debate: personhood



Different criteria of personhood: each criterion identifies phenotypes that are acquired at different stages of development.

2.1 Historical context

The debate on abortion has been influenced by our growing knowledge of developmental biology.

One way to understand this historical influence is by considering the clash between two radically opposing views about development.

Preformationism: formation of new features during development is only apparent; development consists merely in the unfolding of phenotypes preformed in the germ (i.e., the sperm, the egg, or the zygote).

Epigenesis: no pre-existing form but emergence of genuinely new phenotypes from an unstructured, formless, or homogeneous germ (i.e., the sperm, the egg, or the zygote).

2.2 Historical context

Aristotle is sometimes seen as a preformationist and sometimes as an epigenesist (Goy 2018).

At times, Aristotle endorses an epigenetic view: the development of a human embryo requires the gradual acquisition of three souls, i.e., vegetative, sensitive and rational. Thus, “hominisation” [i.e., the process of becoming a human person] is **delayed** in the sense that it is a process that takes time during embryonic and foetal development, as it requires vegetative, sensitive and rational “ensoulment”.

However, Aristotle at other times endorses a preformationist view: the development of a human depends on the crucial causal role of the “developmental plan” present in the male semen. Thus, “hominisation” in this case seems **immediate** in the sense that it happens at fertilisation.

2.3 Historical context

Aristotle as a preformationist used an analogy:

“The male emits semen in some animals and where he does, it does not become part of the embryo; just as no part of the carpenter enters into the wood in which he works but the form is imparted by him to the material by means of the changes which he effects It is his information that controls the motion of his hands.” From Delbrück 1971, p. 54.

Thus, the male semen is, like a carpenter, an imposer of form on the embryo, while the female egg in turn is like the material, the wood, out of which the bed is constructed.

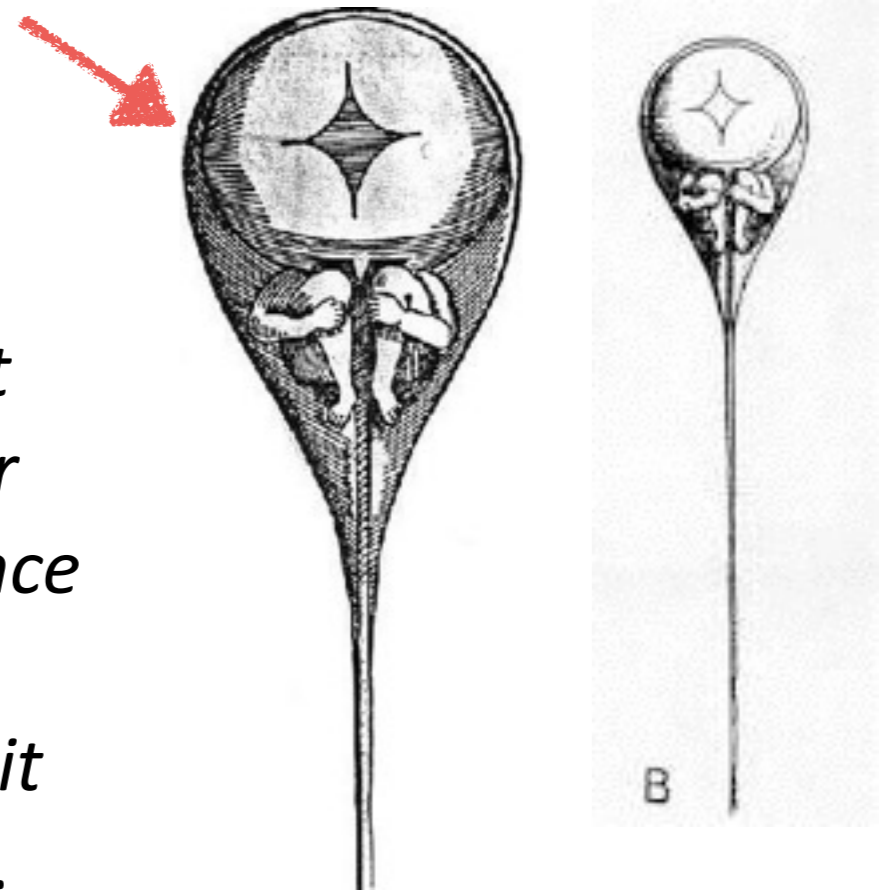
Aristotle was in this sense a “spermist”.

2.4 Historical context

Another spermist preformationist, Nicholaas Hartsoeker, was even able to “see” a “homunculus” in the human sperm with his microscope (1694).

While Albrecht von Haller was an ovist preformationist: *“It follows that the ovary of an ancestress will contain not only her daughter but also her granddaughter, her greatgranddaughter and her greatgreatgrand-daughter, and if it is once proved that an ovary can contain many generations, there is no absurdity in saying that it contains them all.”* (quoted in Needham 1959, p. 200).

Do spermism and ovism imply that a “person” already exists even before fertilisation?



2.5 Historical context

Contemporary developmental biology can inform the abortion debate and show that some conceptualisations of the developing organism are at odds with current knowledge.

The historian of biology Jane Maienschein distinguishes between “public” and “biological” embryos: *“The difference between the publicly imagined and biologically studied embryos is in the meaning assigned to fertilization and to the earliest developmental stages.”* Maienschein 2016, p. 133

2.6 Historical context

*“By public embryos, I mean those that exist in the public and political arenas This embryo ... starts as an egg cell that undergoes ‘conception’ as it is fertilized and becomes the very first stages of an individual’s life. we imagine that the embryo is alive, a ‘life’ that is essentially the same at all developmental stages **For some, the embryos in their earliest stages are already tiny persons** To kill them therefore seems morally wrong to the strongest proponents of this view.”*

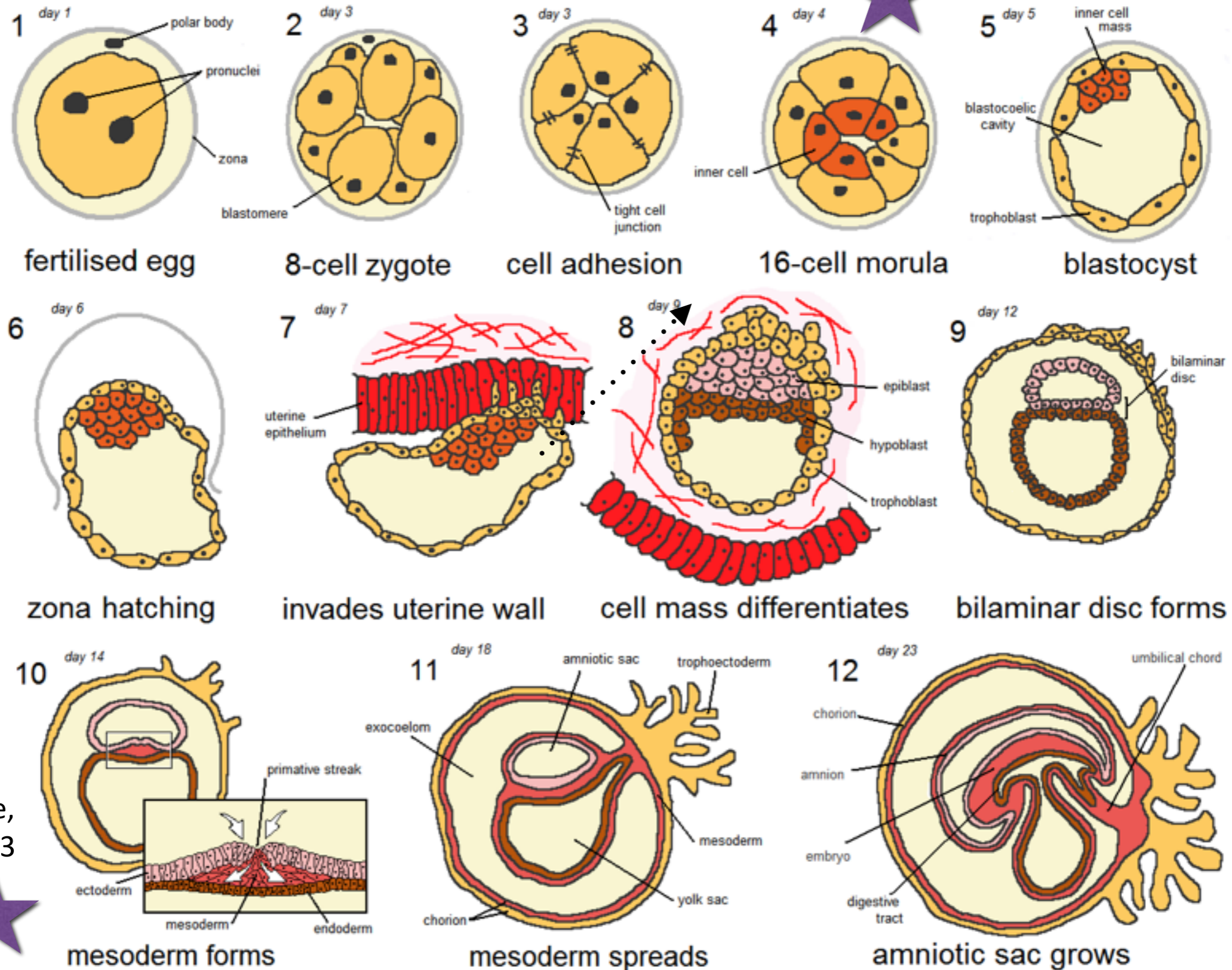
Maienschein 2016, pp. 129-130

2.7 Historical context

*“The primary difference between this biological embryo and the publicly imagined one is that this is ‘just’ biological material without structure and with very little function until later stages. There is very little differentiation at the early stages, and in humans the first eight cells each remain totipotent [or 16 cells?]. That is, each of them has the capacity to become a whole organism **In short, this biological embryo in its earliest stage is a bunch of cells** Its ‘meaning’ is quite different from the newly conceived public embryo with its imagined emerging personhood that has evoked calls for protection*” Maienschein 2016, pp. 131-132

Morula stage,
cf. slide 2.7

2.8 Historical context



Gastrula stage,
cf. slide 4.1-4.3



2.9 Historical context

Importantly, religious interpretations used to postulate a discontinuity of the developmental process (Maienschein 2016, p. 132), i.e., “quickenings” (i.e., first movement of the developing organism) or “ensoulment”:

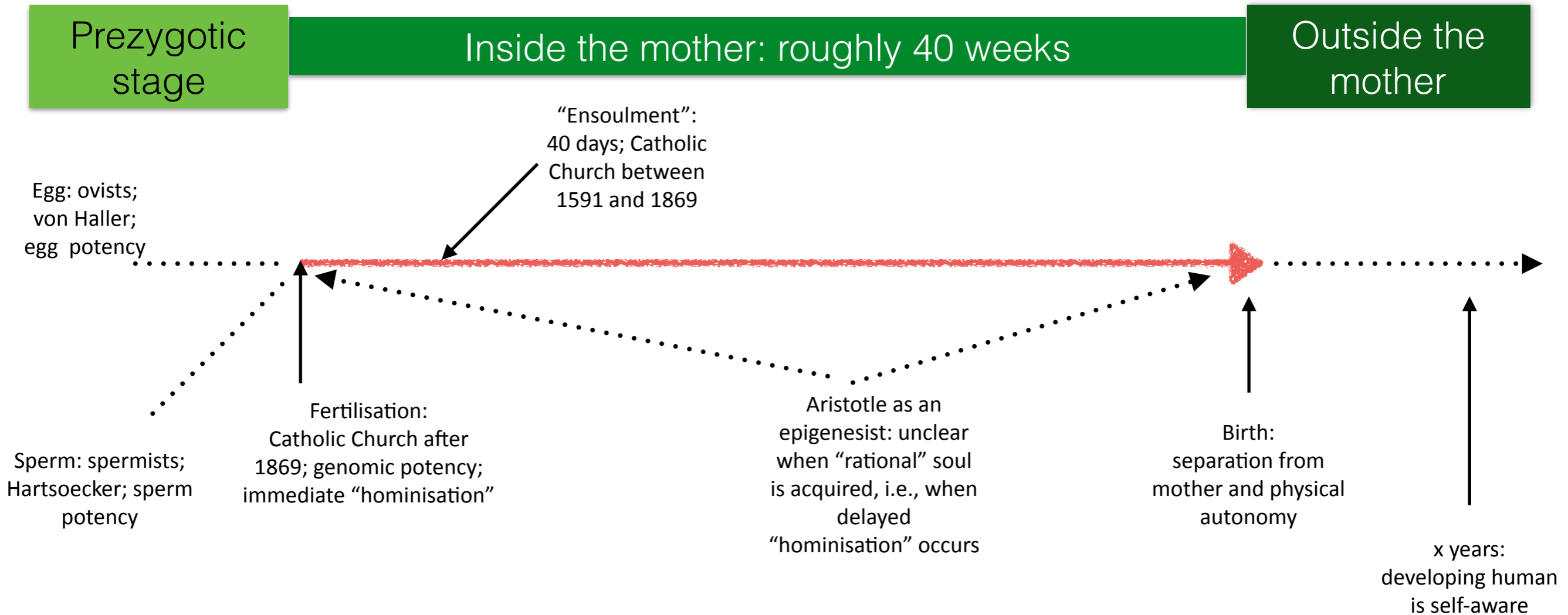
*“.... for millennia the public understanding of embryos had placed an imagined **beginning for each individual organism at the time of ensoulment, or forty days.** By the middle of the nineteenth century, however, while biologists were observing many details about the series of developmental stages that brought very gradual emergence of form, for Catholics life suddenly was seen as starting at conception.”* Maienschein 2016, p. 133

2.10 Historical context

*“Pope Pius IX challenged the canonical tradition about the beginning of ensouled life set by Pope Gregory XIV in 1591. He believed that **while it may not be known when ensoulment occurs, there was the possibility that it happens at conception.** Believing it was morally safer to follow this conclusion, he thought all life should be protected from the start of conception. In 1869 he removed the labels of ‘aminated’ fetus and ‘unanimated’ fetus and concluded that abortions at any point of gestation were punishable by excommunication.”*

From <https://embryo.asu.edu/pages/pope-pius-ix-1792-1878>

2.11 Historical context



The morally significant break in the developmental process from an historical point of view.

3.1 The complexity of the abortion debate

We started from the question (slides 1.2 + 1.3): at which point during development does the developing human become a person with rights?

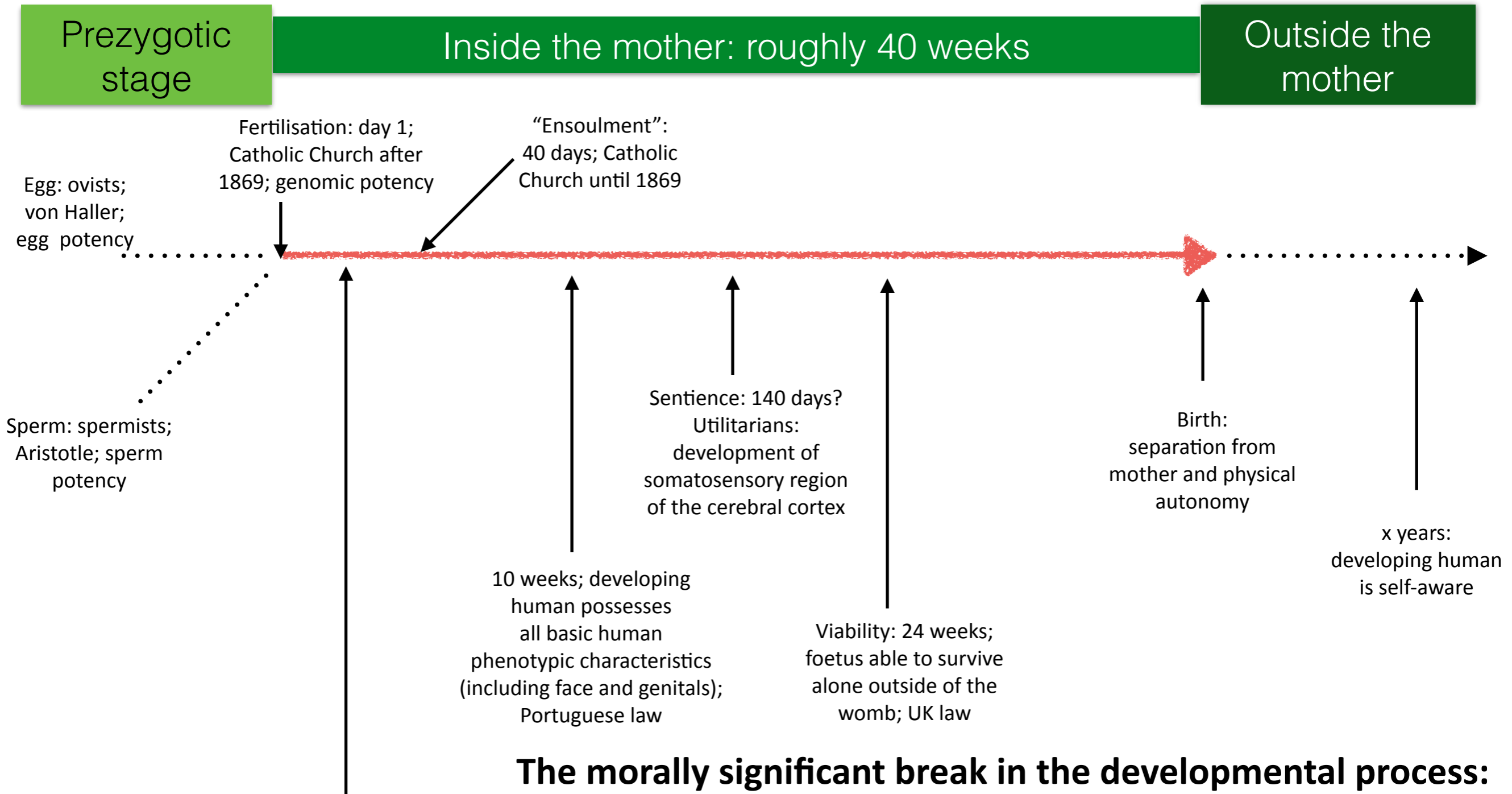
In order to answer this question, we said that we need to choose a property z (slides 1.5) that identifies a specific biological phenotype that, when acquired by the developing human, will make it a person with rights (slide 1.6-1.7).

We considered first the following question:

1. Ethical question: what is the relevant property z that makes a developing human a person with moral rights?

There is no agreement on what property z is. This is one aspect of the complexity of the abortion debate (see slide 3.5).

3.2 The complexity of the abortion debate



The morally significant break in the developmental process: what is property z making the developing human a person with rights? Many possible answers, no agreement.

3.3 The complexity of the abortion debate

Another aspect of the complexity of the abortion debate is that it is sometimes difficult to answer the:

2. Scientific question: at which developmental stage does the developing human acquire the phenotype associated with property z?

For instance, if $z =$ sentience, then how do we ascertain whether a developing human is sentient?

The typical answer is that sentience requires the development of some specific neuronal structure (the relevant morphological phenotype in this case), for instance the somatosensory region of the cerebral cortex; but the evidence is controversial.

3.4 The complexity of the abortion debate

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PERSPECTIVE

**Natural
Sciences** 

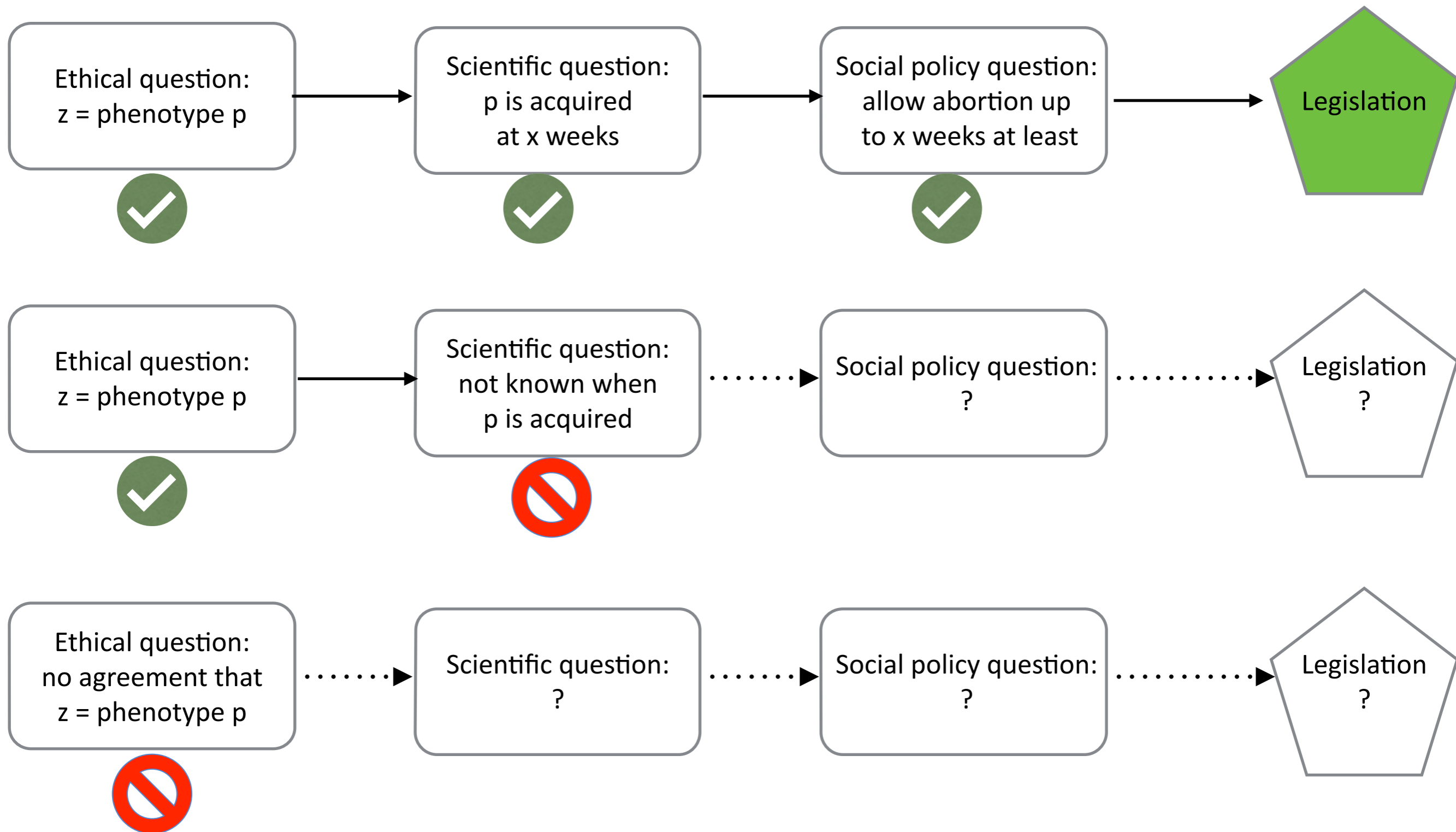
Pseudo-embryology and personhood: How embryological pseudoscience helps structure the American abortion debate

Scott F. Gilbert^{1,2} 

Key points:

- There is no consensus among biologists as to when personhood begins.
- Different biologists have proposed that personhood begins at such events as fertilization, gastrulation, the acquisition of an EEG pattern, and birth. Other scientists claim that the acquisition of personhood is gradual or that the question of personhood is not a biological one.

3.5 The complexity of the abortion debate



3.6 The complexity of the abortion debate

3. SOCIAL POLICY QUESTION: How should we behave in light of our answer to the ethical and scientific questions?

Lacking an answer should arguably not paralyse social policy and other ethical and political debates.

For example, what are the societal effects of not having legislation (or even criminalising) abortion? What is the impact on women's prospects for equality? What is the mental health impact on unwanted children?

As you can see, the abortion debate encompasses issues that exceed the two questions treated before. Social policy issues are arguably even more important than those considered in this class.

3.7 The complexity of the abortion debate

For instance, it has been argued that there is a correlation between the introduction of abortion legislation and lowering crime rates (Donohue & Levitt 2001). Thus, from a utilitarian perspective, the benefit of abortion legislation might trump its negative effects.

Another example: are practices of clandestine or selective abortion (i.e., discrimination vs. certain social groups, e.g., females) actually taking place given the legislative vacuum? If it is considered a duty of government to protect all citizens, then deontological considerations might ground arguments in favour of abortion legislation. While, again, from a utilitarian perspective, the benefit of abortion legislation might trump its negative effects.

4.1 Appendix - 16 days argument

16 days argument - Smith & Brogaard 2003.

z = being a biological entity with an indivisible biological organisation.

*“It is with gastrulation (around day 16) that the foster [NB. THE AUTHORS USE THE DANISH TERM “FOSTER” TO DENOTE THE DEVELOPING HUMAN] ceases to be a cluster of homogenous cells and is transformed into a single heterogeneous entity **Gastrulation brings a new type of integration of the foster, which is manifested in the fact that twinning is from this point no longer possible.... while human life is present at earlier stages, it is gastrulation which constitutes the threshold event for the beginning to exist of the human individual.**”*

Smith and Brogaard 2003, pp. 62-3

4.2 Appendix - 16 days argument

PREMISE 1 (ONTOLOGICAL) - To become a person, a developing human must acquire a property z that endows the organism with the developmental potential to thrive and flourish in unique ways.

PREMISE 2 (FACTUAL) - Only at gastrulation the developing human becomes abruptly a single and indivisible organism.

PREMISE 3 (FACTUAL) - Single and indivisible organisms possess a unique developmental potential to thrive and flourish in unique ways.

PREMISE 5 (MORAL) - It is wrong to kill developing humans when they become a single and indivisible organism.

CONCLUSION - Hence, abortion after gastrulation is wrong.

Primary resources:

1. Maienschein, J. 2016. Embryos, microscopes, and society. *Studies in History and Philosophy of Biological and Biomedical Sciences* 57:129-136.

Additional resources cited:

1. Delbrück M. 1971. Aristotle-totle-totle. In: Monod J, Borek E (eds) *Of microbes and life*. Columbia University Press, New York.
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4. Goy, I. 2018. Was Aristotle the ‘father’ of the epigenesis doctrine? *History and Philosophy of the Life Sciences*. <https://link.springer.com/article/10.1007%2Fs40656-018-0193-2>
5. Needham, J. 1959. *A History of Embryology*. 2nd edition. Cambridge, England: Cambridge University Press.
6. Smith, B. & Brogaard, B. 2003. Sixteen Days. *Journal of Medicine and Philosophy* 28(1):45–78.

Additional bibliographic resources:

1. On Pope Pius IX: <https://embryo.asu.edu/pages/pope-pius-ix-1792-1878>
2. Papal bull *Apostolicae Sedis moderationi*: https://web.archive.org/web/20110828025043/http://stjosef.at/dokumente/de_ecclesiasticis_censuris/seite6.tif

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