

Articoli/Articles

PREDICTING AND CHOOSING BABY'S GENDER IN
THE *HIPPOCRATIC CORPUS*

FLORENCE BOURBON
Université Paris-Sorbonne, F

SUMMARY

Many various Hippocratic treatises, as Epidemics, Aphorisms, Barren Women, Superfetation and Generation, deal with baby's gender. According to them, there are a few ways to know if a pregnant woman is waiting for a boy or a girl. It is even possible to decide having a boy or a girl by giving drugs to woman or controlling man's body. Those predictions and technics rely upon opposite theories about generation (like the ones of Generation and Regimen) and enable us to explain how, in the Hippocratic Corpus, the particularities of female and male body take part in genetics.

Wondering about genetics and heredity also implies wondering about child's gender: will it be that of the mother or that of the father? Hippocratic physicians were already interested in this question because it falls within some of their duties. They must have a complete knowledge of the human body, thus knowing to explain how generation happens; they must go beyond the stage of astonishment by explaining why some couple give birth only to boys while others only to girls or both; they must give a prognosis: for instance, is the woman waiting for a girl or a boy? And finally, they must be able to relieve their patients (i.e. those who could have complained about giving birth only to boys or girls).

Key words: Hippocratic Corpus - Generation - Gender

The *Hippocratic corpus* includes many prognosis about the unborn's gender as well as means of choosing the gender of future babies. These passages belong to *series* of aphorisms (*Aphorisms*, *Epidemics II*) and treaties dealing with infertility (*Superfetation*, *Barren women*, *Prorrhetic II*) or embryology (*Regimen*). Few of them are consistent with the implicit theories about generation that are scattered in the corpus and with the two explicit Hippocratic theories given by *Generation* and *Regimen*¹.

By studying all these processes, beyond the diversity of the sources and the differences between the theories, some common elements may appear². First we'll look at all indices that had to be noticed by the doctors and which can be given *a capite ad calcem*: to predict the gender of the unborn, doctors do observe the faces of the pregnant women, their breasts and belly. To predict what would be the child's gender in any case, they take account of the genitals of men and women. And for the parents who want to choose the baby's gender, Hippocratic physicians take advantage of food and diet.

Predicting from the complexion

Above all, the complexion of a pregnant woman can help predict the sex of her unborn child:

*Pregnant woman who have spots on their face are carrying a female, whereas those who retain their good complexion are generally carrying a male*³.

Good complexion indicates a male fetus whereas an ephelid, which is a kind of large freckle, indicates a female one. In the absence of theoretical passages explaining the phenomenon, we will simply assume that the woman pregnant with a boy feels better than the one with a girl. All authors are not of this opinion because the spot may simply be an indication of pregnancy:

*Women who are pregnant have spots on their face*⁴.

Baby's gender

In *Superfetation*⁵, one of the gynecological treatises, this sentence immediately follows the description of the pregnant woman: ill-looking, even with a bad complexion, regardless of the sex of the fetus. The text continues on giving a list of the other early signs of pregnancy, such as disgust for wine, loss of appetite, nausea, salivation.

Predicting from the breasts and the milk

Pregnancy can therefore be manifested initially by a deterioration of health; an altered complexion may fortell a pregnancy as well as a fetus female gender⁶.

But even breasts can give indices about the health and the gender of the unborn:

*When a woman is pregnant with twins, should either breast become thin, she loses one child. If the right breast becomes thin, she loses the male child; if the left, the female*⁷.

In accordance with an old philosophical tradition⁸, the right side is associated to male nature, and the left one to female nature. This aphorism though shows a very particular case: twin pregnancy, opposite-sex twins, death of only one of the twins. Is it an isolated observation elevated to a general rule or an analogical reasoning that leads to a rule? For the general case, exposed in the previous aphorism, does not take into account the right and the left:

*Should the breasts of a woman with child suddenly become thin, she miscarries*⁹.

It is remarkable that, regardless which side is the fetus and what may be its sex, the foetus gives to the mother an extra strenght and increases her vitality.

In *Superfetation*¹⁰, the doctor is supposed once again to observe the size of the breasts. The bigger one indicates on which side is the fe-

tus and it goes with the extra brilliance of the eye on the same side. So, the swollen breast may indicate, depending the authors, the good health of the fetus, its sex, or even its place in the uterus. But what's the point of guessing on which side the foetus is? Is it just a way to see it is not a twin pregnancy? The context can enlighten us. The previous chapter tells that if the pregnant woman eats some earth or coal, it will leave a mark on the baby. This is therefore a prognosis on the appearance of the future child, probably like the second one. So, if you're able to recognize on which side is the baby at the very beginning of the pregnancy, you can predict the sex of the child, according to the associations left/girl and right/boy¹¹.

But in *Barren Women*, both breasts indicate the sex of the child. It depends on their orientation and on the breast milk that flows out:

If the nipples turn upwards, a woman is carrying a male, whereas if they turn downwards, a female. Another: Take some of her milk and knead with flour into a small loaf, baking over a gentle fire. If this is burned solid (κατακαυθῆ), the woman is carrying a male, but if it opens up (διαχανῆ), a female. Another: place the milk on some leaves and heat (όπτᾶν) it up: if it congeals (πήγνυται), the woman is carrying a male, if it melts (διαχυθῆ), a female¹².

The upward orientation of the nipples echoes the extra strenght given by the male fetus in the previous excerpts. The two other ways of predicting the sex of the fetus are not really prognosis, but tests: the signs are not directly observable, and the doctor, to make them appear, uses the heat of the fire¹³. If the pregnant woman is bearing a girl, her milk exposed to heat loses its homogeneity and spreads over the leave; when mixed with flour, it produces a small loaf that swells and cracks when cooked. Conversely, if the pregnant woman is bearing a boy, her milk exposed to heat coagulates, like the semen in the uterus¹⁴; when mixed with flour, the small loaf gets calcined and harder when cooked. The heat of the fire highlights the wet nature of

the 'feminine' milk and the dry nature of the 'masculine' milk. The first is too liquid and can't leave a dry and homogeneous residue, the second is too dry and can't make the loaf swell. It's a question of drying and cooking, which echoes the picture of an oven-uterus and the formation of the fetus as a coction¹⁵.

Both tests imply some characteristics of femininity and masculinity: expansion and wetness are linked to the female gender and retraction and dryness to the male one. These two features are based on empirical observations: women's flesh is softer than men's, and their entire body necessarily less compact; the nature of the woman is characterized by menses, which makes it a wet and hot nature, because of the abundance of blood¹⁶. However the overcooking of the small loaf made with "masculine" milk leads to the marginal theory exposed in *Regimen*, where hot is associated with dry and male nature.

In addition, both tests imply that breast milk is gendered like the foetus. How is it possible? Is it because uterus is said to be connected with breasts¹⁷? Or is it because the entire woman's body takes part in the formation of the foetus? Theoretically, if the baby's gender depends on the place where the semen comes in, the female foetus develops in a wet uterus, whereas the male does in a dry one. If the uterus depends on the state of the body, then all the body is particularly wet or dry. In general, the uterus is an environment which is adapted to the foetus's gender: lochies are more abundant after the birth of a girl than after that of a boy¹⁸.

Whatever the underlying theory may be, many recipes attest that breast milk is gendered: they underline that milk must come from a woman 'feeding a boy', *κουροτρόφος*¹⁹. Such a milk is used as a powerful emollient, but, even when not gendered, breast milk is a powerful cathartic²⁰. Like the complexion and the sides of the body, breast milk has different levels of power. Its association with masculinity echoes its association with vitality.

Predicting from the uterus

When the belly swells up as the pregnancy goes on, it becomes possible to notice some movements of the foetus and see how it is placed in the belly. This enables to determine whether the woman is bearing a girl or a boy:

The male embryo is usually (μᾶλλον) on the right, the female on the left²¹.

Doctors refer then to the left-right distinction and the correlations left/female and right/male that one observes in the Presocratics and can read sometimes in the *Epidemics*²². They can be associated to some medical remarks:

When a lesion that was present has healed completely, the uterus inevitably becomes smoother and harder, and the woman less able to become pregnant. If the lesion involves only the left-handed parts, and the woman becomes pregnant - either still with the ulcer, or after it has already healed - there is a greater chance that she will bring forth a male child. But if the lesion involves the right-handed parts, and she becomes pregnant, you must assume that the offspring is more likely (μᾶλλον) to be female²³.

It sounds like a real Hippocratic pronostic, supposed to tell what happened, what's happening and what will happen. In fact, it can be used only to tell what happened: it helps explain why a couple would have only boys or girls, but does not help predict the baby's gender because there is no way to recognize which side of the womb is damaged²⁴. According to this passage, the womb is the place where generation starts. Then, the child's gender depends on which side of the womb the semen falls in, and probably on how hot is this side. That would be Empedocles' theory²⁵.

But in case of uterine ulcer, the physicians only mention the risk of a total sterility after the disease²⁶. Consequently, some writers seem to be interested most of all in the principle of generation while others pay more attention to gender.

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Predicting and choosing by observing genitals

Observing the genitals of the man constitutes the last way to predict the sex of the baby, as in the following aphorism:

Puberty: if a man's right testicle drops first, he will engender males; if the left, females²⁷.

Testicles take part in the process of generation. There is only one seed, which comes from man and has a male part and a female part. Therefore, controlling man's seed seems possible; for example, Aristotle mentions some mechanical means and attributes them to the Presocratic philosopher Leophanes, a contemporary of Anaxagoras and Leucippes²⁸. It suggests that having only boys or only girls is something normal and logical. Ancient Greeks, seeing couples having babies of opposite sex, were probably much more surprised than we are. That's exactly what suggests the author of *Generation*:

There is therefore nothing anomalous about the fact that the same women and the same men produce both male and female offspring²⁹.

The sentence concludes a discussion about the children's gender. The author has first noticed that some couples have only boys while others have only girls, but that the men and women of those couples, when changing partners, can give birth to babies of opposite sex. The author thus assumes there must be two seeds, one coming from the man and one from the woman, and that there is a female part and a male part in each of them. So the case of a couple having babies of opposite sex is not paradoxal at all³⁰, whereas the aphorism will allow no else explanation than adultery. Moreover, this aphorism is not either followed by the author of *Superfetation*:

When he wishes to beget a male child, let him have intercourse when his wife's menses are ceasing or have stopped, and he should push very hard until he ejaculates. When he wishes to beget a female child, he should have

*intercourse when his wife's menses are still present and flowing in their greatest amount, and also he should bind up his right testicle as tightly as he can stand. When he wishes to beget a male child, bind up the left testicle*³¹.

If a man wants to avoid the consequences of puberty as defined by the aphorism, he has just to find a way to empower the testicle dropped in second by tying the testicle dropped in first. Men only have a semen, which is female or male, depending on which testicle it comes from³². So a man is able to choose the future baby's sex if he manages to control his own body and if he's informed of the best time for making a girl or a boy: that is, when menses are the most abundant or still running if he wants a girl; when menses are tapering off or completely over if he wants a boy. In general, in the theories assuming there is only one semen, the state of the woman's genitals takes part in determining the gender because the generation depends on the environment of the semen. According to *Superfetation*, if the semen takes place in a wet womb, the foetus will be female, if in a dry womb, it will be male. Besides, if the semen is deeply sent, it doesn't get wet or cold, rapidly arrives in a hot womb and becomes a male foetus. But the best time for making boys defined by *Superfetation* is simply the best time for successful fecondation according to the gynecological treatises. In the same way, the wetness of the womb, if excessive, does not contribute to procreate girls, but makes fecondation fail: the seed coming from the man cannot fix itself in the womb nor congeal in it. When the woman's body is simply framed as a receptacle of man's seed, it can cause the success or the failure of fecondation, or else it determines the foetus' gender.

Determining by following a regimen

If food can affect the whole body, a nutrient can change the uterine environment which determines the foetus' gender:

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Give navelwort you have boiled in water, together with salt and cumin, and have her take this warm. Broad navelwort seems to favor the birth of females, whereas the small, closed variety favors the birth of males³³.

As it is the ultimate recommendation from the doctor at the end of a long therapeutic against infertility, the remedy is certainly an *enkyêtêrion*. That kind of remedy is supposed to help a woman get pregnant and is usually given just before she joins her husband in bed. The pharmacological effect of the Hippocratic plants often changes with their color or appearance. In the same way, the *cotyledon*, according to its form, helps make girls or boys, following the correlations female/dilatation and male/retractation. There are two possible explanations: the plant can work on the entire body by circulating through it with some humours; or it can work on the womb with the blood, because the menstrual blood takes part in the formation of the fœtus as well as it feeds it. The author, though, gives signs of scepticism. The regimen can concern the two parents without taking into account the child's gender³⁴. It is then supposed to fortify the man, who carries the seed, and dry the woman, who will receive it. This opposition between dryness and wetness is still available in the theories assuming there are two seeds, like in *Regimen*:

So, if he wants a boy, he must live according to a regimen inclining to fire. And not only the man must do this, but also the woman³⁵.

Here again it's a matter of heat and wetness, as for the tests with breast milk. Each parent gives a seed which has a male and a female part. The regimen directly follows the theory about generation and helps determine the child's gender by increasing or reducing the heat of the body³⁶. However, the author, even if he's convinced that a regimen can change everything in a human except his behaviour and his voice, makes the situation more complicated by adding conditions: seeds must be produced on the same time, in the right place, on the right day. The chances to succeed are quite limited.

The author of *Generation*, even if he assumes there are two seeds like the author of *Regimen*, thinks choosing the baby's gender might be a hasardous matter. This is the way he explains how the body first becomes male or female:

For in the partnership in which the women produced daughters, the stronger sperm was overwhelmed by the larger quantity of the weaker sperm, and females were produced; while in the partnership in which these same women produced sons, it was the weak which was overwhelmed, and males were produced. Hence the same man does not invariably emit the strong variety of sperm, nor the weak invariably, but sometimes the one and sometimes the other; the same is true in the woman's case³⁷.

The child's gender depends on a struggle between the male and the female parts of each seed: if the weaker wins, it'll be a girl, if the stronger wins, then it is a boy. The victory is a matter of abundance and consistence of the mixture, or of its ability to coagulate. The explanation doesn't give any opportunity to choose the sex of the child, because the mixture depends on too many circumstances that should be controlled. The quality of the sperm does not change according to the day or the season, but changes even in the same intercourse, because the ejaculation occurs in two or three times. Therefore, one can explain why there are twins of opposite sex. But in what sense is a seed stronger? In what sense weaker? Have the seeds been empirically observed³⁸?

Observing the seeds

For the author of *Generation* and *Nature of the Child*, the male foetus is supposed to move earlier (at three months) than the female (at four months) and the difference is explained as followed:

The reason why a male embryo starts to move earlier is its greater strenght; moreover, the male is compacted (πῆγνυται) earlier, since the seed from which it comes is stronger (ισχυροτέρης) and thicker (παχυτέρης)³⁹.

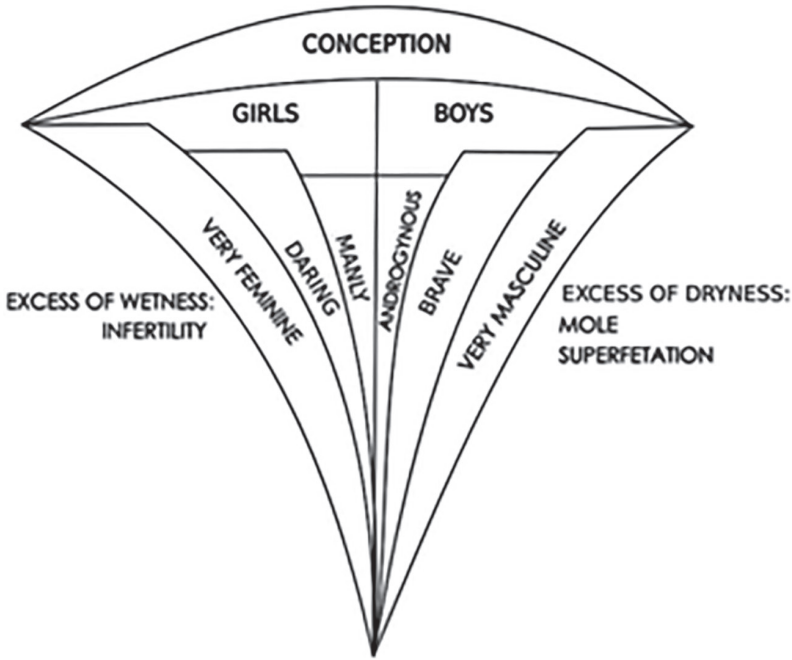
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The seed (γονή) is 'the seed from both'⁴⁰, that is to say, a mixture. Strength is related to thickness, and both qualities characterize the male nature. One can therefore suggest that a thick seed is more likely to give a male. And the observation is certainly available for woman:

When women have finished evacuating menstrual blood, they are especially likely to conceive if they feel desire; and their seed is strong (ζώννυται) if they have intercourse when they should. The man seed is also speedily mixed in, and if it predominates, the infant resembles to him⁴¹.

Has the author noticed the female secretion provoked by sexual excitation⁴²? Or has he noticed the cervical mucus provoked by ovulation period? He noticed anyway a change in the genital secretion of the woman and seized the opportunity to give a clue for sex determination: the thicker the seed is, the stronger it is. The female thick seed should melt more easily with the male seed and the mixture should give a boy. Does the author uncsciously think that a man's seed is always thicker than a woman's seed because of its male nature?

In all those excerpts, coagulation is a principle of generation, which can take among 3 to 7 days⁴³. The less wet the fluid is, the thickest it is, and the most likely to solidify⁴⁴. This principle offers a wide range of possible genders from which the author of *Regimen* takes full advantage. Depending on the mixture composition and the origin of the winner part, there are three types of masculine nature and three types of feminine nature⁴⁵. And in case of excess of dryness (in the womb, in the woman's body and in the mixture) the fecundation turns to a failure: superfetation occurs with the decay of the first embryo. There is no more gender since conception has failed, like it could happen in mole and abortion. A mole is a concretion that grows in the womb and which results from a very thick man's semen mixed with menses residue⁴⁶. Gradations of coagulation can be represented by a kind of fan:



The theory of *Generation* is less sophisticated but can be superimposed in the middle of the scheme, like the theories underlying some pronostics and tests, because the power of coagulation is often related to male nature and the power of dilution to female nature. That is how work the tests with breast milk, the advice on the right time to make boys or girls and the advices for regimen.

In the background of the theories of the right/left sides and of the seeds mixture, the Hippocratic physicians paid a lot of attention to genitals secretions and observed them carefully. As an evidence, the adjective γονοειδης, “which looks like sperm” is used to describe the appearance of urine⁴⁷. The sperm gives a strong reference, probably because the substance described is white and sticky, which recalls the passages where the man’s seed is supposed to stick within the uterus⁴⁸.

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As another evidence, there are allusions to the uncontrolled production of sperm⁴⁹, to its retention⁵⁰ and to its changes⁵¹, like in this passage from the *Epidemics*:

Those whose noses are moist by nature and whose semen is moister (ύγροστέγη) and more copious (πλείων): they are healthy. But those with the opposite condition tend to illness⁵².

Abundance has already been pictured as something valuable in *Generation*, but fluidity, or wetness, has not. It's still probably a question of degree and a matter of context: the text is not dealing with embryology nor fertility.

Indirectly, Aristotle provides us the last testimony on the observation of the seed in the *Collection*. Just before relating an Hippocratic mean of testing woman's fertility⁵³, Aristotle gives a test of sperm quality:

On this account, the water-test is quite a fair one for infertility in the male semen, because the thin, cold semen quickly diffuses itself on the surface, whereas the fertile semen sinks to the bottom; for it is true that a substance which has been concocted is hot, yet that which has been set and compacted (συνεστηκός) and possesses thickness (πάχος) has certainly undergone concoction⁵⁴.

The infertile sperm disintegrates and spreads as did the breast milk of a woman waiting for a girl, with the same verb, διαχέω. The fertile sperm is homogeneous and dense. Therefore, it has the features expected in Hippocratic treatises for the formation of a boy. Coagulation and vital force are eventually similar.

Conclusion

The theories about generation, expressed or implied, draw some limited spaces in the body and periods of time for the apparition of the embryo. The sex of the child is determined at the very first moment of

conception and occurs in the uterus. If there is only one seed, the correlation right/strength or right/heat gives an explanation to the foetus' gender, whenever seeds are produced or received. The coagulation is operative because the dryness of the uterus, changing with the circumstances, is a condition for successful fecondation or for making a boy. If there are two seeds, the fecondation essentially depends on the struggle between what is dry and what is wet, and the foetus gender depends on how far the coagulation goes. The second theory offers much more theoretical possibilities than the first, but each theory gives some clues for child's sex predictions and determination, as if understanding the process of generation should give the means to control it. Chance is, however, never completely ousted from the party.

These theories are fed with the collective imagination on the picturing of masculine and feminine nature and the Presocratics philosophy. But they cannot be cut from the pragmatic observations that Hippocratic physicians necessarily made, looking forward to understanding how the human body works. They focused not only on the differences between the bodies of men and women (breast, belly, sex, hair, flesh), but on the secretions related to generation: their consistency and their abundance. These observations were reinforced by the dry/wet opposition, respectively distinctive of male and female nature in the medical literature (mainly due to the existence of menses). The Hippocratic writers then went on explaining the most surprising phenomena of the generation, and especially the child's sexual inheritance.

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1. These two embryological treatises are monographs while all the gynaecological treatises are catalogs (see HANSON A. E., *Conception, Gestation, and the Origin of Female Nature in the Corpus Hippocraticum*. Helios 1992; 19: 33).
2. This paper opens new perspectives and completes two studies on generation. (HANSON A. E., *Paidopoïia: Metaphors for Conception, Abortion, and Gestation in the Hippocratic Corpus*. In: VAN DER EIJK PH. J., HORSTMANSHOFF H. F., SCHRIJVERS P. H. (eds.), *Ancient Medicine in its Socio-Cultural Context*. Papers Read at the Congress Held at Leiden University 13-15 April 1992, I, Amsterdam, Rodopi. Clio Medica 1995; 27: 291-307;) linked some Hippocratic theories to some sorts of treatments KING H., *Hippocrates' woman. Reading the female body in ancient Greece*. London, Routledge, 1998, pp. 8-9) based sex determination of the infant on three items: correlation between right/male and left/female, menses (according to *Superf.* 31), and semen (according to the theories of *Generation* and *Regimen D*). For the differences between Hippocratic thoughts and nowadays knowledge about conception and generation, see LONGO A., *La détermination du sexe chez les hippocratiques*. In: LÓPEZ FÉREZ J. A. (éd.), *Tratados hipocraticos: estudios acerca de su contenido, forma e influencia*. Actas del VIIe colloque international hippocratique (Madrid, 24-29 de septembre de 1990), Madrid, Uned 1992, p. 125-127.

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3. *Barren Women* (= *BW*) 4.1 (= Li. 216), Li. 8.416.18-20; POTTER P. (translation by), *Loeb Classical Library X*. 2012. Compare with *Aphorisms V*, 42, Li. 6.546.
4. *BW* 3.2 (= Li. 215) Li. 8.416.11-12). So *Barren Women*, which is composed of different texts, gives two opposite ideas.
5. *Superfetation* 16, Li. 8.484 = *BW* 3.1 (= Li. 215), Li. 8.416.8-11.
6. See also Soranos, *Diseases of Women I* 45.
7. *Aphorisms V*, 38, Li. 6.544; JONES W. H. D. (translation by), *Loeb Classical Library IV*. 1953.
8. For example, it was already supported by Parmenides and Anaxagoras (see GEORGE S., *Human Conception and Fœtal Growth: a Study in the Development of Greek Thought from the Presocratics through Aristotle*. Philadelphia, University of Pennsylvania, 1982, pp. 69-87).
9. *Aphor.* V, 37, Li. 6.544.
10. *Superf.* 19, Li. 8.486.
11. Compare with *Epidemics VI*, 15 (Li. 5.136): the right breast, the right eye and the male gender of the fœtus are clearly associated.
12. *BW* 4.2-4, Li. 216, 8.416.20-24. Translation by A. Hanson, slightly modified (see below).
13. The verb ὀπτᾶν differs from ἔψειν, “to boil” (see TACHINI I., *La cottura nella terapeutica del Corpus hippocraticum. Analisi semantica e lessicale*. In: GAROFALO I., LAMI A., MANETTI D. ET ROSELLI A. (ed.), *Aspetti della terapia nel Corpus Hippocraticum*. Actes du IX^e Colloque international hippocratique. Florence, 1999, p. 367). There is no need to translate ἐπὶ (φύλλουσι) by “roll up” as did HANSON A. E., (ref. 1, p. 302) and Potter P. milk is poured on some leaves and put in an oven or over a gentle fire.
14. The term is the same, πήγνυμι, in *BW* 10.2, Li. 222, 8.428.19-21.
15. See HANSON A. E., *The gradualist view of fetal development*. In: BRISSON L., CONGOURDEAU M. H., SOLERE J. L. (eds), *L'embryon. Formation et animation*. Paris, Vrin, 2008, pp. 95-108. For instance, in *Nature of the Child* (Li. 6.498.2-3), the bones of the fœtus become solid when heated.
16. According to *Diseases of Women* (= *DW*) I 1 (Li. 8.12.21-22) and *Nat. Child* (θερμαινομένη, Li. 7.486.4) uterus is a warm place, because the semen (male and female mixed semen) thickens in it when heating, as does the blood around the fœtus (*ibid.* c. 14, Li. 7.492). According to Democritus and Parmenides (see KING H., *Midwifery, Obstetrics and the Rise of Gynaecology. The uses of a sixteenthcentury compendium*. Ashgate, Aldershot, 2008, p. 55-56), the woman's body is hot, but not according to Aristotle (*Geberation of*

- abimals*. 4, 1, 765b), nor to Galen, for whom woman's temperament is wet and cold. This last theory is found only in one treatise of the *Hippocratic Collection*: *Regimen* 34, Li. 6.512). But any body is heating when stocking too much blood and cooling when releasing blood (see HANSON A. E., ref.1, p. 54).
17. For instance, see *Epidemics VI*, 5, 11, Li. 5.318.14-15. About the formation of the breast milk, see *Nat. Child* 21 (Li. 7.510512). About its many transformaitons, see BODIOU L., *Les singulières conversions du lait maternel à l'époque dassique.Approche medicale et biologique*. Pallas 2011; 85: 141-152.
 18. According to *Generation* 18 (Li. 7.500) lochies run four months after the birth of a girl, but only three after that of a boy.
 19. About the meaning of this word, see PIRENNE-DELFORGE V., *Qui est la Kourotrophos à Athènes?* In: DASEN V. (ed), *Naissance et petite enfance dans l'Antiquité*. Actes du colloque de Fribourg, 28 novembre-1er décembre 2001. Fribourg, Göttingen, Éditions St-Paul- Ruprecht Verlag (collection Orbis Biblicus et Orientalis), 2003, pp. 171-185 (esp. pp. 172-175).
 20. It is used for softening an induration (*DW II*, Li. 7.336.8 ; 340.1) or provoking a purgation (*DW I*, Li. 7.206.19). By purging, it can help for conception (*ibid.* 166.3).
 21. *Aphor.* V. 48, Li. 4.550.
 22. See also *Epidemics VI*, 2, 25, Li. 5.290.7-12. This association will go on a long time, unless untill 1800 (FISCHER J. L., *Le choix du sexe, le choix d'une histoire*. In DASEN V. (ed.), *L'embryon humain à travers l'histoire*. Gollion, Infolio, 2007, p. 239-255, p. 252).
 23. *Prorrhetic II* 24, Li. 9.56.17—58.2; translation by POTTER P., (*Loeb VIII*, 1995).
 24. The chapter about uterine lesions (*DW I*, Li. 8.88.3-11) does not either indicate how to recognize wich side is damaged.
 25. See BOLLACK J., *Empédocle. I. Introduction à l'ancienne physique*. Paris, Vrin, 1965, p. 220-221.
 26. For instance, see *DW I* 67, Li. 8.140,19.20 et *BW* 1.6 (= Li. 213) Li. 8.408.21—410.1.
 27. *Epidemics VI*, 4, 21, Manetti/Roselli 98, 2-3 (= Li. 5.312.10-11).
 28. See Aristotle, *Generation of animals*, 765a and GEORGE S., ref. 8, p. 88-89.
 29. *Generation* 7, Giorgianni 158, 4-6 (= Li. 7.480.3-5) ; translation by POTTER P., (*Loeb X*, 2012).

Baby's gender

30. In *Generation*, astonishment (θαύμα) indicates a paradoxe (see LONIE I. M., *The Hippocratic treatises "On Generation", "On the Nature of the Child", "Diseases IV"*. Berlin, Boston, De Gruyter, 1981, p. 137).
31. *Superf.* 31, Lienau 90 (= Li. 7.500); translation by POTTER P., (*Loeb IX*, 2010). Compare with the passage quoted on note 28.
32. Compare with the case of the oenuques, who cannot procreate because their testicles are not connected with the rest of the body (*Generation 2*, Li. 7 472.6, τῶν ὀρχίων ἢ ὀδός).
33. *BW 20.22* (= Li. 230), Li. 8.444.20-22.
34. See *Superf.* 26, Li.8.490.
35. *Regimen 27*, Joly 21, 12-15 (= Li. 6.500.5-8); translation by JONES W. H. D., (*Loeb IV*, 1931).
36. Consequently, it is possible to include regimen among exogene factors, as did FÖLLINGER S., *Differenz und Gleichheit: das Geschlechtsverhältnis in der Sicht griechischer Philosophen des 4. bis 1. Jahrhunderts v. Chr.* Stuttgart, Fr. Steiner, 1996. p. 43). The coagulation of the semen may depend on the seasons (τοῦ γόνου σύμμηξις, *Airs, waters, places*, Li. 2.72.,20 ; 84.1) and spring is supposed to be the best one (*Superf.* 30) Li.8.498.
37. *Generation 7*, Giorgianni 156, 25—158,4 (= Li.7.478.24—480.3).
38. The question has already been asked by DEAN JONES L. A., *Women's bodies in classical Greek science*. Oxford, Clarendon Press, 1994, p. 155.
39. *Nat. Child 21*, Giorgianni 196,25—198,3 (= Li. 7.510.23-24); translation by P. POTTER (*Loeb X*, 2012).
40. Compare with ἡ γονὴ ἀπ' ἀμφοῖν, *Nat. Child*, Li. 7.486).
41. *DWI 24*, Grensemann 114, 12-15 (Li. 8.62.19—64.1; transl. Hanson).
42. The author of *Gener* (Li. 8.474.16) notices that during sexual intercourse, a secretion is emitted by the woman's body. He thinks it is produced by her entire body.
43. See *DWI 12*, Li. 8.48.19.
44. It is expressed by ἀθροίζειν or παχύνειν (*Nat. Child*, Li. 7.486.3), πηγύναι, and its derivative σύμμηξις (*Airs Waters Places*, Li. 2.72.20, 84.2, 84.20).
45. Like the author of *Regimen*, Empedocles thinks there are two semen, which are heated in the uterus. But he concludes to only two possibilities for each semen, because he takes into account only two criteria: the similarity of gender and the similarity of features. See: BOLLACK J., *Empédocle. III. Les origines, commentaires. I et 2*. Paris, Vrin, 1969, p. 560-561.
46. Li. 8.360.18, ἀπὸ πάχεος γονῆς ἐνεχομένης.

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47. *Epidemics II*, Li. 5.114.3-4.
48. See BOURBON F., *Hippocrate. Nature de la femme*. Paris, Les Belles Lettres, 2008, p. LXVIII.
49. *Regimen*, Li. 6.560.2 et *Internal Affections*, Li. 7.274.,8.
50. *Epidemics VI*, Li. 5.296.10.
51. *Gener 2*, Li. 7.472.13 ὀλίγον δὲ καὶ ἀσθενὲς καὶ ἄγονον.
52. *Epidemics VI*, Manetti/Roselli 134, 5-6 (= Li. 5.328.4) ; cf. *Aphor.* VI, 2, Li. 4.562.11.
53. Compare Aristotle *Generation of animals* 747b with *Nature of Women* 96.2, Bourbon 82 (= Li. 7.414).
54. Aristotle, *Generation of animals* 747b; translation by PECK A. L. (*Loeb* XIII, 1942).

Correspondence should be addressed to:

Eiffel3134@gmail.com

Florence.bourbon@espe-paris.fr