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“Three Partners in a Person”

The Genesis and Development of Embryological Theory in Biblical and Rabbinic Judaism

Zusammenfassung:

Dieser Beitrag beleuchtet den Ursprung und die Entwicklung der rabbinischen Tradition, welche die Erschaffung von Embryos als Gemeinschaftsprojekt dreier Beteiligter beschreibt, der beiden Eltern und des Schöpfers, und untersucht deren kulturelle und anthropologische Aspekte. Die Tradition basiert auf einer biblischen Vorstellung, verdankt ihre Weiterentwicklung und ihre endgültige Gestalt aber rabbinischem Denken. Es werden zwei Varianten der Tradition untersucht, eine palästinische und eine babylonische, und Gemeinsamkeiten und Unterschiede herausgearbeitet. Das rabbinische Modell ist durchaus hierarchisch geprägt, allerdings von einer theokratischen Hierarchie: Es beinhaltet die aktive Partizipation des Schöpfers, und anstelle der Minderwertigkeit der weiblichen Komponente finden wir hier ein egalitäres Modell der Embryobildung. Die Geschlechtsunterscheidung der Anteile des Embryos basiert auf einer einfachen Farbsymbolik, nicht auf einem Machtgefälle. Gemäß dem palästinischen Ansatz sind beide Eltern gleichwertige Partner und haben dieselben Rechte in dieser Partnerschaft wie der Schöpfer. Nach der babylonischen Version sind die beiden eigentlich eine Einheit, die zusammen dem höchsten Partner gleichgestellt sind. Angesichts der Ähnlichkeit zwischen den talmudischen embryologischen Spekulationen und ihren Parallelen im Bundahischn und in indischen Quellen, kann ein indo-iranischer Einfluss auf die babylonischen Gelehrten angenommen werden.

In rabbinic literature there is a homiletic tradition describing the embryo creation as a joint project of three partners: the two parents and the Creator. The idea is based on a biblical idea, but developed and received its final form in rabbinic thought. The “three partners” tradition appears in rabbinic literature in two contexts: the discourse about the laws of the son’s obligation to respect his parents, and the discourse about embryo creation. In this

paper¹ I will trace the origins of this tradition and discuss in depth the version that appears in an embryologic context and study its cultural and anthropologic aspects.² This version has two variants – the Palestinian and the Babylonian. I wish to identify the differences between the Palestinian and Babylonian variants of the tradition and expose the cultural influences on the processes of change that occur in the tradition's form in its migration from Palestine to Babylonia, by comparing the sages' conception theory to other ancient embryological theories.

The Biblical Portrait of Conception

Jobs 10:10 runs as follows:

You poured me out like milk,
Congealed me like cheese
You clothed me with skin and flesh
And wove me of bones and sinews³

הֲלֹא כְּחֶלֶב תַּחֲכָמֵנִי
וּכְגַבְגָּה תִּקְפִּיאָנִי
עֹור וּבָשָׂר תַּלְבִּישָׁנִי
וּבְعָצְמוֹת וּגִידִים תַּסְכְּכָנִי:

In these Job verses the embryo creation is described as cheese production, in which milk is poured into a specific vessel and there, after a specific process in which it is fermented, it consolidates and becomes cheese. The creation of skin, flesh, bones and sinews is viewed here as an advanced level of embryo creation. However, even if the metaphor itself is clear it is difficult to discern from it how the author who produced this metaphor understood the actual formation process. It seems that the milk symbolizes the fathers' semen, reaching the womb, symbolizing the churn, and there the conception process happens.⁴ In this way the ancient readers of Job must have understood him as is indicated by Solomon's Wisdom's periphrastic usage of these verses in 7:2:

And in the womb of a mother was I molded into flesh,
In ten months' time, compact with blood
By the seed of a man and the pressure that accompanies⁵

Although there is no mention of fermentation, it is probable that the mother's womb is here attributed the fermentation capability.⁶ Therefore here too the first step of the embryo-creation is the semen reaching the womb from which an embryo is formed, after which a

body is created, step by step: skin, flesh, sinews, and bones – although the order in which this happens is uncertain. There is no division between parts of the human body attributed to the male and others attributed to the female. Actually the father is not mentioned here at all, but only implied by the mention of his semen, which is being poured into the womb. Also, the Creator's participation is most likely intended here when the soft mass receives form and structure and it is God who “clothes it with skin and flesh and wove together of bones and sinews.” The biblical idea of conception implies a tripartite participation, but the clear formulation of it – “There are three partners in a man: The Holy One, blessed be He, his father and his mother” is not stated there, but rather the first appearance of such a model stems from another context.

The Primary Context of the “Three Partners” Model in Rabbinic Tradition

The rabbis too (like the author of the Wisdom of Solomon) took issue with this verse from Job when they developed their embryological theory. They stated explicitly that “there are three partners in a person” and in the following I will discuss in depth this tradition and its development. The primary context of “Three partners” tradition is the law demanding respect for parents, in the tannaitic midrash *Sifra, Aharei Mot-Qedoshim* 1:4-7:⁷

... It is said: “He who curses his father or his mother will surely die” (Exodus 21:17) and it is said “Any person who curses his God will bear his sin” (Leviticus 24:15).
... נאמר מקלל אביו ואמו מות יומת, (שמות כאז) ונאמר איש כי יקלל אלהיו ונשא חטאו (ויקרא כד טו).

Scripture thereby establishes an analogy between cursing father and mother and cursing the Omnipresent
But it is impossible to refer to smiting heaven. And it is reasonable, for all three of them are partners in him.

ה קיש קללות אב ואמ לקללות המקום.

אבל אי אפשר לומר מכה כלפי למעלה וכן בדיון מפני שלשלושם שותפים בו.

This tradition includes a list of midrashic analogies between biblical verses regarding obligatory respect for one's parents and the verses regarding the duty to respect the Lord. The midrashist claims that only for the verse Exodus 21:15, in which the topic is beating

parents, is no analogy drawn from similar verses about human-God relations – since such a verse does not and cannot exist because it is not possible to beat God. The list ends with an appendix, claiming that although this analogy is impossible, beating one's parents is as grave as sinning against God because all three are participants in a child's creation: father, mother and God.

The Anthropological Development of the "Three Partners" Tradition

I will discuss the Palestinian redaction first, in order to gain a better chronological outlook. The tradition's location is within an amoraic discussion in the Palestinian Talmud, tractate *Kila'im* and I compare it with its parallel in the Palestinian Talmud, tractate *Berakhot*:

ירושלמי ברכות ח ה, יב ע"ב⁸

ירושלמי, כלאים ח ד, לא ע"ג⁹

ואילו הן הסימני:

אמ' רבי יהודה: כל שאזניו קטנות, אמו סוס
وابיו חמור. גדולות, אמו חמורה וابיו סוס.

ואלו הן הסימני:

אמר רבי יונה: כל שאזניו קטנות, אמו סוסה
وابיו חמור. גדולות, אמו חמורה וابיו סוס.

רבי מנא מפקד לאילין דנסיהה: אין בעיתון
מיובן מוליוון, תחונן זבנין אילין דאוניהון
דקיקין, שאמו סוסה וابיו חמור.

רבי מנא מפקד לאילין דרבי יודן נשיהה: אין
בעיתון מיובן מולוון, תzon זבנין לו אוניהון
דקיקין, שאמו סוסה וابיו חמור.

הלוון מן האיש, שממנו מוח ועצמות והגידים.
והודם מן האשה, שממנה העו' והבשר והדם.
 והרוח והנפש והנפש מה של הקב"ה, ושלשתן
שותפין בו.

Translation¹⁰

PT *Berakhot* 8:5, 12b

These are the signs¹¹:

Rabbi Yehuda said: Every [mule] whose ears are small – its dam is a mare and its sire – an ass, [and every mule whose ears

PT *Kila'im* 8:4, 31c

These are the signs:

Rabbi Jonah said: Every [mule] whose ears are small – its dam is a mare and its sire – an ass [and every mule whose ears

are] big – its dam is a donkey and its sire – a horse.

Rabbi Mana ordered the patriarch's men: If you wish to buy mules, buy those with small ears, whose dam is a horse and sire is a donkey.

are] big – its dam is an ass and its sire – a horse“.

Rabbi Mana ordered Rabbi Yehuda the patriarch's men: If you wish to buy mules, buy them¹² with small ears, for their dams are mares and their sires – asses.

The white [substance] comes from the man, from whom the brain, bones and tendons are provided, and the red [substance] comes from the woman, from whom the skin, flesh and blood are provided. And the breath, spirit and soul come from the Holy One, Blessed be He. And all three are partners in his creation.

In both fragments from the Palestinian Talmud after the halakhic definition of a mule provided by Rabbi Jonah (Jehuda) we read a story about Rabbi Manna managing the mule purchase for the Patriarch's house and providing an estimation of the merchandise's quality by an examination of the mules' ears. Only in tractate *Kila'im* we find an additional pericope attached to the tradition consisting of the “three partners” tradition which has here an explanatory role: it enables us to understand why Rabbi Manna was able to differentiate between the mule's qualities deriving from a horse and its qualities coming from an ass. Just as the mule receives certain features in its ears from his father and certain features from his mother, human beings too receive bones and tendons from the father and flesh from the mother.¹³ The logic of the “explanation” is difficult – the analogy between a mule and a human is not consistent since it would imply that the ears are an organ consisting of bones and tendons.¹⁴

In the parallel quote in tractate *Berakhot* the “three partners” fragment is absent. Instead there is another addition which continues the Aramaic story about Rabbi Manna in Hebrew. Thus the “three partners” tradition in Palestinian Talmud is an incidental quotation of an autonomic tradition according to which God gives every newborn three gifts and every

parent respectively gives the same amount of gifts. The partnership is presented as being completely equal – every member bestows the same quantity of attributes. The general impression is that the Palestinian Talmud's redactor understood this text as related to a contemporary complex of literary traditions, not attributed to the earlier tannaim.¹⁵

Having shown how the “three partners” tradition was used in Palestinian amoraic literature I will now describe its metamorphosis in the process of adoption by the Babylonian Talmud. I will compare its versions in the Babylonian Talmud, with the parallel tradition from another book, derived from the Babylonian tradition, although written in Palestine – the *She'iltot*,¹⁶ with in *Kohelet Rabbah* – a late Palestinian midrash which was influenced by the Babylonian Talmud.¹⁷

¹⁸ בבל' נידה לא ע"א	¹⁹ קהילת רבה ה	²⁰ שאלות, יתרו סג
ת"ר: שלשה שותפיין יש בו באד': הק"ב ואביו ואמו.	תנוי: בזמן שהולד נוצר במעי אמו, ג' שותפיין יש בו: הב"ה ואביו ואמו.	דתנו רבנן: שלשה שותפיין יש בו באדם: הקדוש ברוך הוא, ואביו ואמו.
אביו מזריע לבן, שממנו עצמו' וגידין וצפרני' ומוח שברראש ולובן שביעני'.	אביו מזריע בו לבן, שממנו הלבוני: ²¹ המוח והצפוריים ולובן שביעין והעצמות והגידים.	לובן שהאיש מזריע, נוצרים ממן גדים ועצמות ומוח צפוריים ולובן שביעינים.
אמו מזרעת אדו', שממנו עור ובשר ודם וشعر ושחור שביעני'.	אמו מזרעת אודם, שממנו הדים והעור והבשר וشعر ושחור שביעניים.	אדום שהאשה מזרעת, נוצרים הימנו עור ובשר ודם ושיער ושחור שביעינים.
והקב"ה נותן בו רוח, ונשמה', קלסתר פניו ודע' ובינה והscal, וראייתה העין, ושמי'ע' האוון, ודיבור שפת', והלוּך רגלים. ²²	והקב"ה נותן בו י' דברים ואלו הן: רוח, נשמה, קלסתר פנים, וראית עינים, ושמי'ע אזורים, ודברו שפתים, ונשיות ידים, והלוּך רגליים, וחכמה, ובינה ו דעת, וגבורה.	והקדוש ברוך הוא נותן רוח ונשמה, בינה, דעתה והscal, ומראה עינים ושמי'ע אוון וקלסתר פנים.
וכיוון שהגיעו זמנו להפטר מן העולם, הקב"ה נוטל חלקו, וחלק אביו ואמו מوطלת לפני'. נטلت משלכם? לא נטلت!	וכשבא שעת פטירתו, הב"ה נותל חלקו, ומניה חלק אביו ואמו לפניהם, והן בוכים. כלום תולעת וריםה, ועמלו מונה	ובשעת פטירתו של אדם, נאמן בעל העולם נוטל חלקו ומניה חלק אביו ואמו לפניהם

במקומו, שנאמר: "והרות תשוב אל האללים אשר נתנה" (קהלת יב ז).
 משלכם. לא נטליyi אלא משלי. או' לפניו: רבונו של עולם כל זמן שהיה חלק בתוכך חלקנו היה חלקנו שמור מין רימה ותולעה, ועכשו שנטלה חלק מותך, הן חלקנו נתן ומושלך לרמה ותולעה.
 אמר רבי יהודה הנשיא: משל ר' יהודה הנשיא היה מושלו משל: ...

... כל זמן שנשמה נתונה באדם, אדם, חלקו של אדם משומר. בין שמת, הרי הוא ניתן לרמה ולתולעה, שנ': "אף כי אנוש רמה ובן אדם תולעה" (איוב כה ו).
 כל זמן שהוא שותף עם הקדוש ברוך הוא נוטל חלקו ושם חלק אביו ואמו לפניהם, תולעה ורימה, שנאמר: "מה אנוש כי תזכרנו ובן אדם כי תפקדנו" (תהלים ח ה) וכתו' אחר אומר: "אף כי אנוש רימה ובן אדם תולעה" (איוב כה ו).
 "אף כי אנוש רמה" אלו כנים שבחייו, "ובן אדם תולעה", אלו שמרחישין תחתיו במותו.

Translation

BT Niddah 31a

Our Rabbis taught:

There are three partners in a man: The Holy One, blessed be He, his father and his mother.

Kohelet Rabbah 5:10

It has been taught:

When a child is created in its mother's womb there are three partners participating in its creation: the Holy One, blessed is He, his father and his mother.

She'iltot

Our Rabbis taught:

There are three partners in a man, the Holy One, blessed be He, his father and his mother.

His father seeds the white [substance] out of which the [child's] bones, sinews, nails, the brain in his head and the white in his eye are formed.

His mother seeds the red [substance] out of which his skin, flesh, hair, blood and the black of his eye are formed.

And the Holy One, blessed be He, gives him the spirit, and breath, the features of the face,²³ knowledge, understanding and wisdom, eyesight, the hearing of the ear, the speaking of the lips and the walking of the feet.

When his time to depart from the world comes, the Holy One, blessed be He, takes away his share and leaves the share of his father and his mother with them.

His father seeds in him the white [substance] out of which the [child's] (whites), the marrow, the nails, the white of the eyes, the bones and sinews are formed.

His mother seeds in him the red [substance] out of which his blood, skin, flesh, hair, and the black of his eye are formed.

And the Holy One, blessed be He, gives him ten things: The spirit, breath and the features of the face, eyesight, and the hearing of ears, the speaking of lips, the raising of hands and the walking of feet, wisdom, understanding knowledge, and strength.

When his time to die comes, the Holy One, blessed be He, takes away his share and leaves the share of his father and his mother before them, and they weep. The Holy One, blessed be He, says to them: Why do you weep? Have I taken anything of yours? I have only taken

From the white <substance> that the man seeds the <child's> bones, sinews, nails, the marrow and the white in his eye are formed;

From the red <substance> which woman seeds his skin, flesh, hair, blood and the black of his eye are formed;

And the Holy One, blessed be He, gives him the spirit and the breath, knowledge, understanding and wisdom, an eyesight, a hearing ear and the features of a face.

...As long as he is a partner in the person, his part in the parson is preserved. The Holy One, blessed be He, takes away his share and leaves the shares of his father and his mother with them, worms and maggots. As it is said: “What is man that thou art mindful of him, the son of

what belongs to me! They say before Him: Lord of the Universe, so long as Your portion was mingled with ours, our portion was preserved from maggot and worm; but now that You have taken away Your portion from ours, behold our portion is cast away and given to maggots and worms.

man that thou dost care for him" (Psalm 8:5) And elsewhere it is written: "For a man is a worm and the human is a maggot" (Job 25:6)

R. Judah the Patriarch parable....

R. Judah the Patriarch: parable....

"For a man is a worm"
(Job 25:6) this is the louse upon him during his lifetime. "And the human is a maggot" these are the maggots which swarm under him when he is dead.

The Baraita from tractate Niddah 31a is famous. It starts with a preface, stating that there are three partners in a human's creation, followed by an "anthropological" observation specifying the actual contribution of each partner in the creation.

Although the tradition was introduced with the word(s) ר'תני / תנן, generally attributing a tannaitic origin to the tradition, such a baraita is absent from tannaitic literature,²⁴ and, as shown above, in the Palestinian Talmud the tradition was never attributed to the tannaim. It seems that the ancient "three partners" tradition was taken from its original context discussing respect due to parents viz. respect due to God, and inserted into this secondary

context, within the framework of anthropologic speculation. This later version of the “three partners” tradition²⁵ is different from the tradition of the Palestinian Talmud presented above. The most prominent difference is that in the Palestinian Talmud the three gifts bestowed by the Holy One are matched by three gifts bestowed by each parent, whereas in the Babylonian works and *Koheleth Rabbah* 10 gifts given by the Holy One are matched by 10 gifts provided by both parents, 5 from each one. I will now briefly summarize the main features of this tradition. According to the Babylonian Talmud the Holy One bestows ten features,²⁶ as opposed to five gifts provided by the father and five by the mother, implying that the heavenly partner’s part is double.²⁷ This is different from the Palestinian tradition, where the Holy One’s part in the partnership is equal to that of the other three: each provides three gifts. Here is a schematic description:

BT	Sh'	KR	PT
spirit	spirit	spirit	spirit
breath	breath	breath	breath
image	image	image	soul
knowledge	knowledge	knowledge	
understanding	understanding	understanding	
intelligence	intelligence	wisdom	
		potency	
eyesight	eyesight	eyesight	
hearing of the ear	hearing of the ear	hearing of the ear	
speech of the lips	...	speech of the lips	
		to raising of the hands	
to walking of the feet	...	to walking of the feet	

Beyond the differences in contents between this tradition and the one in the Palestinian Talmud, as demonstrated in this Table, only the Babylonian tradition knows about its tannaitic attribution. For all these reasons, I assume that the *Koheleth Rabbah* tradition is also taken from a Babylonian origin and the differences between it and Babylonian parallels exposes its secondary nature.²⁸

The Meaning of the Anthropological Model

Thus rabbinic approach to embryo creation is characterized by a triplicate model. What is the origin of the anthropological development of the “three partners” tradition in the Babylonian Talmud and what is the difference between it and the parallel development in Palestinian Talmud? For this purpose let us first observe the parts contributed by the parents to the embryo creation.

The father's part is:

PT	brain			bones	sinews
KR	brain	nails	white in eye	bones	sinews
BT	brain	nails	white in eye	bones	sinews
Sh	brain	nails	white in eye	bones	sinews

The mother's part is:

PT	skin	flesh		blood	
KR	skin	flesh	hair	blood	black of his eye
BT	skin	flesh	hair	blood	black of his eye
Sh	skin	flesh	hair	blood	black of his eye

All the traditions mentioned above have a common denominator: the fetus was made by a combination of the father's semen and the mother's blood, and from these basic elements its body parts are composed. According to the Palestinian Talmud, every human partner contributes three things just like the supreme partner who provides three things and it turns out that the three partners in a human are completely equal.

On the other hand, in the Babylonian tradition every human partner provides five things.²⁹ If we consider that the part of the Holy One according to the Babylonian tradition is ten things, it turns out that each human parent is not equal to the supreme partner by himself. Either each human partner is considered half a partner or both of them are considered one unit, equal to the divine. There is no autonomous existence for each parent in the partnership; only together they are complete.

Taking into consideration that the Babylonian development of the “three partners” tradition is secondary, the goal of its Palestinian original was the representation of the three partners as completely equal in their partnership. According to the Babylonian tradition, however, there are either three unequal partners or only two equal partners: the Creator and the parents. It appears that the development of the Babylonian tradition was influenced by the late Babylonian redactor’s doctrine, according to which the woman was not considered an independent partner in the creation of the fetus. She is included under her husband’s authority, but the man is not a partner in the fetus creation deal without the woman’s participation. In other words: according to this gender model, the family cell operates as one unit and each part of the family cell is not an independent entity.³⁰

The Embryologic Theory in Rabbinic Literature

Behind the anthropological development of the “three partners” tradition we find specific yet hidden embryological approaches. In amoraic literature many suggestions about the fetus’ formation are found, as well as the parents’ role in its production, even beyond the “three partners” tradition.³¹ As stated, the Babylonian version of “three partners” tradition maintains the formula **איש מזריע לבן/אישה מזורעת אודם** (a man sows the white and a woman the red) and it is evident that the author’s intention is that both mother and father produce semen.³² The expression **אשה כי תזריע וילדה זכר וטמאה ונו'** (If a woman is delivered, and bears a man-child, then she shall be unclean seven days) stems from Leviticus 12:2. If the word **תזריע** is to be understood in its apparent sense, grammatically the causative (and transitive) verb form of the root **זרע**, then the phrase would be translated “When a woman conceives [is made to carry] and gives birth,” without reference to semination of any kind. Therefore the primary meaning of the word **תזריע** is nothing more than a statement that the woman is pregnant. The image is of pregnancy as a process similar to a seed growing in fertile ground.³³

Indeed, this scriptural verse was usually understood as speaking about women conceiving. The Aramaic Targum translated the **זרע** mentioned in this verse as the man’s semen.³⁴ In tannaitic midrash **תזריע** is understood as referring to the undeveloped fetus that remained in the womb in the form of a **זרע**, as opposed to **ילדה** which refers to the well-developed fetus, and the verse’s goal is to say that in both cases the woman is impure (**טמאה**).³⁵ It seems, however, that the expressions **מזריע/مزורעת** in the text of the Babylonian Talmud discussed

here also stems from Leviticus 12:2, and, therefore, the verse was interpreted in it as an indication that both of parents produce something for conception: men produced semen and women produced blood-like female seed, probably for the absorption of the male's seed.³⁶

Two parallel midrashic traditions full of different embryologic details, which I will now present, can help further clarify some of the concepts behind the "three partners" tradition.

בראשית רבה יד³⁷

בֵּית שְׁמֵי וּבֵית הַלֶּל.
בֵּית שְׁמֵי אָוּרִים: לֹא כְּשֶׁ שִׁיצְרָתוֹ בְּעוֹלָם
הַזֶּה יִצְרָתוֹ לְעוֹלָם הַבָּא.
בְּעוֹלָם הַזֶּה מִתְחִיל בְּעֹור וּבְבָשָׂר וּגְמָר בְּגִידִים
וּבְעִצּוֹמֹת, אֲבָל לְעַתִּיד לְבוֹא מִתְחִיל בְּגִידִים
וּבְעִצּוֹמֹת וּגְמָר בְּעֹור וּבְבָשָׂר,
שֶׁכֶךְ הוּא אָוּרֵם בְּמִתְיָה יְחִזְקָאֵל: "רָאִיתִי וְהִנֵּה
עַלְيָהָם גִּידִים וּבָשָׂר עַלְהָה" (יְחִזְקָאֵל לו' ח.).

אמר ר' יונתן: אין למדין ממיתתי יחזקאל. ולמה
היו מיתתי יחזקאל דומין? להו שנכנס למרחץ.
מה שהוא פושט ראשון הוא לובש אחרון.

בֵּית הַלֶּל אָוּרִים: כְּשֶׁ שִׁיצְרָתוֹ בְּעוֹלָם הַזֶּה
כֵּךְ יִצְרָתוֹ לְעוֹלָם הַבָּא.
בְּעוֹלָם הַזֶּה מִתְחִיל בְּעֹור וּבְבָשָׂר וּגְמָר בְּגִידִים
וּבְעִצּוֹמֹת, כֵּךְ אֲפָק לְעַתִּיד לְבוֹא מִתְחִיל בְּעֹור
וּבְבָשָׂר וּגְמָר בְּגִידִים וּבְעִצּוֹמֹת שְׁכִן אַיּוֹב אָוּרֵם:
"הַלָּא כְּחָלֵב תִּתְיכַּנֵּי" (אייוב י').

"התכני" אינו אומר "והקפאתי" אינו אומר,
אלא "תתיכני" ו"תקפיאני".
"עור ובשר הלבשתי" אין כת' כאן אלא
"תלבישני".

וַיָּקֹרֶא רַבָּה יְד ט³⁸

בֵּית שְׁמֵי וּבֵית הַלֶּל.
בֵּית שְׁמֵי אֹו': לֹא כְּשֶׁ שִׁיצְרָתָה הַולֵּד בְּעוֹלָם
הַזֶּה כֵּךְ צְרוֹתָה לְעַתִּיד לְבָוֹא.
בְּעוֹלָם הַזֶּה מִתְחִיל בְּעֹור וּבְבָשָׂר וּגְמָר בְּגִידִים
וּבְעִצּוֹמֹת, אֲבָל לְעַתִּיד לְבוֹא מִתְחִיל בְּעִצּוֹמֹת
וּבְגִידִים וּגְמָר בְּעֹור וּבְבָשָׂר.
שֶׁכֶךְ כת' בְּמִתְיָה יְחִזְקָאֵל: "וַיַּרְאֵתִי וְהִנֵּה עַלְיָהָם
גִּידִים וּבָשָׂר עַלְהָה וַיָּקַרְם עַלְיָהָם עֹור מִלְמָעָלה
וּרוֹחַ אֵין בָּהֶם" (יְחִזְקָאֵל לו' ח.).

אם' ר' חייה בר בא: אין פרישת יחזקאל ראייה.
למה מיתתי יחזקאל דומין? להו שנכנס למרחץ.
זה שפט ראשון לבש אחרון.

בֵּית הַלֶּל אֹו': כְּשֶׁ שִׁצְרָתָה שְׁלָאָדָם בְּעוֹלָם הַזֶּה
כֵּךְ צְרוֹתָה בְּעוֹלָם הַבָּא.
בְּעוֹלָם הַזֶּה מִתְחִיל בְּעֹור וּבְבָשָׂר וּגְמָר בְּגִידִים
וּבְעִצּוֹמֹת, אֲפָק לְעַתִּיד לְבוֹא מִתְחִיל בְּעֹור וּבְבָשָׂר
וּגְמָר בְּגִידִים וּבְעִצּוֹמֹת. שְׁכִן אַיּוֹב א': "זָכַר נָא כִּי
כְּחוּמָר עֲשִׂיתַנִּי גּוֹ וְלַעֲפַר מוֹת תְּשִׁפְתַּנִּי הַלָּא
כְּחָלֵב תִּתְיכַּנֵּי" (אייוב י ט-י).

"הַלָּא כְּחָלֵב תִּתְיכַּנֵּי" אין כת' כאן אלא
"תִּתְיכַּנֵּי" וּכְגִבְנָה הַקְּפָאָתַנִּי" אין כת' כאן
אלא "תקפיאני".
"עור ובשר הלבשתי" אין כת' כאן אלא

"תלבישני" (איוב יא).
 "ובעצמות גידיים סוככתי ני" אין כת' כאן אלא
 "תסוככני" (שם).
 "חיים וחסד עשית עmedi וגוי" (שם יב).

אומ שלאשה לעולם מלא דם ועומד וממנו יצא
 למקור נידתה. וברצונו שלקב"ה הולכת טיפה
 שלבלונית ונופלת לתוכו מיד הولد נוצר.

לקערה שהיא מלאה חלב. עד שלא נתן לתוכה
 מסו, החלב רופף. משיננתן לתוכה מסו הרי
 החלב קופפה ועומד. והוא שאיוב אמר: "הלא
 בחלב תחיבני וגוי עור ובשר וגוי חיים וחסד
 עשית עmedi וגוי" (איוב יב).

לחלב שנtan בקערה. אם נתן לתוכו מסו קופפה
 ועומד. ואם לאו הולך רופף.

Bereshit Rabbah 14

The School of Shammai and the School of Hillel.

The School of Shammai said: Unlike the formation [of the embryo] in this world is to be the formation thereof in the Time to Come. In this world it begins with flesh and skin, and ends with sinews and bones, but in the Time to Come, it is to begin with sinews and bones and end with skin; for thus it says in connection with the dead of Ezekiel: "And I beheld, and, lo, there were sinews upon them, and flesh came up, and skin covered them above" (Ezekiel 37:8)

Said R. Jonathan: We cannot learn from

Vayikra Rabbah 14:9

The School of Shammai and the School of Hillel.

The School of Shammai said: Unlike the formation [of the embryo] in this world is to be the formation thereof in the Time to Come. In this world it begins with flesh and skin, and ends with sinews and bones, but in the Time to Come, it is to begin with sinews and bones and end with skin; for thus is it written of the dead of [the vision of] Ezekiel, as it is said: "And I beheld, and, lo, there were sinews upon them, and the flesh came up, and skin covered them above, etc." (Ezekiel 37:8).

R. Hiyya b. Abba said: The chapter of

the dead of Ezekiel. For what did the dead of [the vision of] Ezekiel resemble? A man who enters a bath: what he takes off first he puts on last.

The School of Hillel said: Just as he is formed in this world, so will he be formed in the Time to Come.

In this world the skin and flesh come first, the sinews and bones last; so in the Time to Come will he begin with the skin and flesh and end with the sinews and bones. For thus says Job: “You will pour me out like milk and congeal me like cheese? You will clothe me with skin and flesh, and weave me of bones and sinews (Job 10:10-11).

He does not say: “You poured me out ... and congeal me,” but rather “You will pour me out ... and will congeal me”. It is not written here, “You have clothed me with skin and flesh,” but rather “You will clothe me, etc.”; it is not written, “And you have woven with bones and sinews” but rather “You will weave me.”

Ezekiel is no proof. For what did the dead of [the vision of] Ezekiel resemble? A man who enters a bath: what he takes off first he puts on last.

The School of Hillel said: Just as man is formed in this world, so will he be formed in the Time to Come:

In this world it begins with skin and flesh and ends with sinews and bones; in the Time to Come will he begin with the flesh and blood, and end with the sinews and bones. For thus says Job: “Consider that you fashioned me like clay ... You will pour me out like milk (Job 10: 9-10).

It does not say: “You have poured me out,” but, “You will pour me out” (ib. 10). It does not say: “You have congealed me,” but, “You will congeal me.” Thou wilt clothe me with skin and flesh (ib. 11). It says, not “You have clothed me,” but rather “You will clothe me.” (ib.). It says, not “You covered me,” but rather “You will cover me.” This then was [the speaker’s meaning when he said]: “You have granted me life and favour” (ib. 12).

A woman’s womb is full of blood, some of which goes out by way of her menstrual flow, and by the favour of the Holy One, blessed be He, a drop of white

matter goes and falls into it and
immediately the fetus begins to form.

Imagine a bowl full of milk. Before ferment is put into it the milk is loose [liquid], but when ferment is put into it, the milk congeals and sets. Thus Job said: “You will pour me out like milk... skin and flesh ... You have granted me life and favour (*ibid.* 12).

It may be compared to milk in a basin; if one puts ferment into it, it congeals and becomes consistent, if not, it continues to be loose.

The text consists of a basic stratum of a tanaitic debate with added comments of an amoraic discussion. The compilation in *Vayikra Rabbah* is placed within a well-edited paragraph which deals with the different aspects of gestation and is produced by the redactor in order to harmonize the *petihta* (proem) which has a rhetoric task: it promises a newborn male to parents who are pedantic in their observance of *niddah* prohibitions. In *Bereshit Rabbah* the text is integrated into the midrashic discussion on Genesis 12:19. The original context of the compilation was probably eschatological; it is mainly concerned with the nature of the body tissues' formation at the time of the resurrection of the dead. The two tannaic schools agree on the assumption that there must be a certain analogy between the formation of a new body in the eschatological resurrection of the dead and the common process of the embryo formation. The embryo formation process, according to tannaic opinion, begins with the creation of the soft body parts and continues with the creation of the solid parts. The logic of this hypothesis is evident.

The School of Shammai assumes that, in the Time to Come, the process will change and begin with the solid parts, continuing with the soft ones. This it concludes from the “dead of Ezekiel” who are resurrected in Ezekiel 37:1-12. On the other hand, the School of Hillel assume that the body formation in the resurrection will be the same as the common process of embryo creation at this time – from the soft parts to the solid parts. This is based on the abovementioned Jobs 10:10 verse interpretation.³⁹ The midrash took from the Job verses the model of embryo creation as similar to cheese production, in which an agent will assist milk to consolidate and become cheese. Here the process of body formation is represented

in a diachronic mode, step by step: skin, flesh, sinews, and finally bones – this is how the school of Hillel understands the verse in Job.

An additional *derashah* on the verse in Job and on the following verse is added to the tanaitic stratum. The *derashah*'s method is based on the usage of the future tense in this verse, interpreted as an indication that this refers to the body formation in eschatological times. Several suggestions regarding the embryological process are made apropos.

However, there seems to be a difference between the picture described in Job, when read literally, and the midrashic picture. According to the midrashic approach semen does not enter the empty space of the womb. The womb is like a vessel full of blood, symbolized by milk, into which semen enters, transforming the “milk” (i.e. the blood) into “cheese,” (i.e. the fetus). Blood is thus the basis for the body of the fetus. Thus, according to the sages' approach the male semen is like ferment and the blood is the material from which the fetus will be created. The embryologic process is imagined as cheese production, an ancient metaphor for growth taken from Job 10:11-12.⁴⁰ In this model there is no difference between the contribution of the father and that of the mother in the embryo creation. A woman's semen existence is not mentioned at all, but it seems that the woman has an active role in the embryo creation. Indeed if the male semen is compared to ferment in cheese production, then there must be a material which is being fermented, like the bowl of milk to which ferment is added. The women's womb, according to what we described above, is always full of blood – the raw material for the development of the fetus, but the embryo-formation process begins only when the semen enters the womb.

But a few questions remain: what is the function of the uterine blood after the beginning of the embryo's development? Its growth would surely fill the womb entirely, so where would the uterine blood go? The sages were occupied by these questions and here is the solution offered by Rabbi Meir:

Vayikra Rabbah 14:3

R. Meir said: All the nine months that a woman does not see blood, she really should have seen; but what does the Holy One, blessed be He, do? He directs it [the blood] upward to her breasts and turns it

וַיָּקֹרֶא רְבָה יְדֵי גִּילָּה⁴¹

א' ר' מאיר: כל תשעה חדשים שאין האשה
רואה דם בדיון הוא שתהא רואה.
מה הקב"ה עושה?
מסלקו למעלה מדדייה ועושה אותו חלב, כדי
שיצא הולך והוא לא מזון לאכל.

into milk, so that when the child is born
he will have food

It seems that according to the sage's postulation the uterine blood, which constantly fills the womb before gestation, is removed from the womb to the women's breast, creating room for the developing fetus and preparing food for the future newborn.⁴²

Another discussion about the role of the father's semen in embryo development is preserved in rabbinic literature. However, it does not mention the mother's part at all.

Vayikra Rabbah 14:6

⁴³ וַיָּקֹרֶא רְבָה יְדֵי,

"My way [in marital relations] and my lying down have you sifted, and are acquainted with all my ways" (Psalm 139:3).

R. Johanan and R. Shimon b. Lakish. R. Johanan said: The Holy One, blessed be He, forms man only from the drop of white matter.

How did R. Yohanan reach this conclusion? from the verse: "Have you sifted," as a man who sifts, placing the straw apart and the stubble apart, until he brings the corn to a state of purity.

R. Shimon b. Lakish said: Moreover, He does not allow any drop of the fluid to go to waste. He sifts a part of the drop to form the brains, part thereof to form the bones, part thereof to form the sinews.

"ארחי ורביעי זורית וכל דרכי הסכנתה" (תהלים קלט, ג.).

ר' יוחנן ור' שמעון בן לكيיש.
ר' יוחנן אמר: אין הקב"ה צריך את האדם אלא מטיפה של לבבות שבו.

מה מקיים ר' יוחנן? "зорית",adam shzora v'natan taben b'pni utsomo v'kash b'pni utsomo, כדי שיימיד את הדגן על בוריו.

ר' שמעון בן לקייש אמר: אין מאבד את הטיפה, אלא זורה מטיפה למוח ומטיפה לעצמות ומטיפה לגידים.

According to Rabbi Yohanan, only a chosen part of the father's semen is the material from which the fetus body is built and the unused semen is discarded as straw and stubble.

According to Resh Lakish all of the father's semen is necessary for the embryo

development and it is used throughout the process of growth. He maintains that the brains, bones and sinews are built from semen. It is noticeable that these are the same three parts in the human being which are produced from the father's seed according to the "three partners" tradition as it is preserved in TP *Kila 'im*, mentioned above. We may conclude that the basic concept of the Palestinian sages was that these three parts of the fetus were produced from the father's seed. Although the part of women in *Vayikra Rabbah* is not mentioned, we cannot say that she has no part in the fetus development, as it appears that all the remaining parts of the human being derive from the materials a mother supplies. The flesh and the blood of the fetus, according to this reconstruction are produced from the mother's blood.

In light of these embryological speculations, let us now observe another tradition found in BT *Niddah* next to the one about the "three partners" discussed above:

BT *Niddah* 31a

בבלי נידה לא ע"ב

R. Isaac citing R. Ammi say: If the woman emits her semen first she bears a male child; if the man emits his semen first she bears a female child; for it is said: "If a woman conceives and bear a man-child." (Leviticus 13:2).

Our Rabbis taught: At first it used to be said that if the woman conceives first, she will bear a male, and if the man emits his semen first she will bear a female, but the sages did not explain the reason, until R. Zadok came and explained it: "These are the sons of Leah, whom she bore unto Jacob in Paddan-Aram, with his daughter Dinah" (Genesis 46:15). Scripture thus ascribes the males to the females and the females to the males.

אמר רבי יצחק, אמר רבי אמי:
אשה מזרעת תחיליה – يولדה זכר,
איש מזריע תחיליה – يولדה נקבה, שנאמר
"אשה כי תזריע يولדה זכר" (ויקרא יב ב).

תנו רבנן: בראשונה היו אומרים: "אשה כי
תזריע" (שם) ⁴⁴.
אשה מזרעת תחיליה – يولדה זכר.
איש מזריע תחיליה – يولדה נקבה.
ולא פירשו חכמים את הדבר, עד שבא רבי
צדוק ופירשו:
"אללה בני לאה אשר ילדה ליעקב בפדן אדם
ואת דינה בתו" (בראשית מו טו).
תלה הזכרים בנקבות, ונקבות בזכרים

"And the sons of Ulam were mighty men of valour, archers; and had many sons, and sons' sons" (1 Chronicles 8:40). Now is it within the power of man to increase the number of "sons and sons' sons"? But the fact is that because they contained themselves during intercourse in order that their wives should emit their semen first so that their children be males, Scripture attributes to them the same merit as if they had themselves caused the increase of the number of their sons and sons' sons.

"ויהיו בני אולם אנשים גבורי חיל, דורותי קשת ומרבים בנימ ובני בנימ" (דברי הימים א' ח מ.). וכי בידו של אדם להרבות בנימ ובני בנימ? אלא מתוך שמשהין עצמן בבטן, כדי שיזריעו נשותיהם תחלה, שייהיו בניהם זכרים – מעלה עליון הכתוב כאילו הם מרבים בנימ ובני בנימ.

This pericope consists of pieces of an amoraic midrash on the aforementioned verse from Leviticus and in it we find a tradition attributed to the tannaim (according to the formula **תנן**, opening it) also based on the same verse from Leviticus. The Leviticus verse was used to explain the fetus' sex determinacy. According to Rabbi Isaac and according to the tradition attributed to the tannaim it is possible to learn from the verse that if the woman emits semen first, which, according to their understanding of the word, she emits semen, the fetus' sex would be male and if the father emits his semen first, the fetus' sex will be female. In the subtext we notice the idea that the male and the female both produce semen, and from the mixture of the two kinds of semen the embryo's body is created. In these Babylonian sources we find for the first time a "dual-seed theory" clearly stated, a theory which was widespread in ancient times.⁴⁵ The "three partners" tradition from TB *Niddah*, which appears on the same page, is based on this theory, as it is expressed by the words **אדום שהאשה מזרעת** ..., literally: "the red material emitted by the woman." There, as in a previous source, the word **מזרעת** is understood as semen emission and the understanding is that a woman's seed is red as blood and its nature is similar. And so, judging from the Palestinian sources, we discovered in the tannaic traditions a model of conception according to which the soft parts of the fetus's body developed before the hard parts, but without any suggestion as to their source. The tannaim adopted the model of cheese production from the biblical book of Job and developed it further. In their applications of it, the semen's role is to ferment and congeal the "cheese," and the material, which is influenced by the

“ferment,” is the blood constantly located in the womb, from which the milk in the nursing mother’s breast will also be produced.

The idea that the different parts of the fetus body are created from materials produced by each parent first appears in the amoraic traditions. Different roles for the father’s sperm and the mother’s blood in the fetus’ development are mentioned in the “three partners” tradition in PT *Kila’im*, but there is nothing in it about the distribution of the roles between the two seeds. Only in the Babylonian Talmud we discover the features of the so-called dual-seed theory.

The Three Partners Tradition in Light of Embryologic Theories of Antiquity

I will now present an overview of Hellenistic conception theories in order to understand one possible source for the rabbis’ embryologic understanding:

The “field theory” is a relatively ancient one completely eliminating women’s role in reproduction. It declares that the mother only nurtures the new planted seed that grows. The different approaches of this kind of theory can be summarized in this way: 1. the male causes generation and the female provides only nourishment, or 2. the male provides all the most important elements and the female provides only trivial material needs.⁴⁶ However, since this theory lacked an explanation as to how resemblance to the mother might occur, a new one appeared, known as the “dual-seed theory.” According to this theory, the mother and the father each produce a kind of sperm, and therefore the offspring might resemble each accordingly.⁴⁷ The greatest advocates of the dual-seed theory were Hippocrates⁴⁸ and Galen.⁴⁹ The chief opponent of this theory was Aristotle. According to his cheese-production-like theory the male and the female differed in functions – though not as radically as they did in the furrowed field theory.⁵⁰ He maintained that the semen takes its origin from all parts of the male body, and the female does not produce any semen, but something inferior which he calls *katamenia*.⁵¹ Menstrual blood is the material from which the seminal fluid, in giving it form, will cause the complete embryo to be produced.⁵² Aristotle’s theory is epigenetic, contrary to the pangenesis theory of the dual-seed. He was interested in showing that the male is necessary for reproduction and in providing an inheritance theory to account for the acquisition of physical traits and for sex determination.⁵³ Galen was a dual-seed theorist who assigned most roles that Aristotle

attached to the *katamenia* to the female sperm. He resolved the difficulty between the earlier dual-seed theorists and the single-seed ones by claiming that the female seed is weaker than the male's.⁵⁴

All the theories described above are very instructive and the similarities and differences between them and the beliefs of the rabbinic sages are noticeable. The Palestinian sages' conception idea resembles the field theory; the Babylonian sages' idea of conception resembles the dual seeds theory. Yet, despite the similarities, we cannot say that the Palestinian sages were influenced in their cheese production model by Aristotle , and that the Babylonian Sages by the dual seeds theory of Hippocrates.⁵⁵ The cheese production model already existed in its nuclear form in the biblical book of Job, although its formation and development occurred in a different cultural space and absorbed various influences from surrounding cultures.

The Hellenistic influence on the development of the Palestinian conception theory seems possible, because the Palestinian Talmud developed in a powerful Hellenistic environment.⁵⁶ However, in the case of Babylonian Talmud, I wish to reject the possibility of identifying any Hippocratic influences,⁵⁷ and to suggest for it another source of the cultural interactions. I claim that the Babylonian embryologic model was formed under the influence of Iranian quasi-scientific conception theories, similar to those represented in Bundahishn 15.⁵⁸ This is a relatively late Zoroastrian work, which includes many traditions derived from ancient Iranian wisdom.⁵⁹ In what follows a few passages about embryo formation, according to the Bundahishn, will be compared with their parallels in talmudic literature.⁶⁰

Bundahishn 15:8

Pas hān ī tōhm ī narān ud xōn ī mādagān
śīr frušag homānāg, *pīlag* bandēd, ud ḍ
kadagīhā dahān āmēzēd. Then this seed of males and blood of
females, like milk and/or beestings, bind
as a cocoon, mixing in the orifice of these
canals.

We can see here that the cheese production image was familiar not only to Job's author, Hellenistic authors, and rabbis but also to Iranian sages. The word cheese is not mentioned

here but the picture of milk congealing resembles the image of cheese production. The Bundahishn and the Talmud both assume that both of the parents emit semen.

4. ka ābustagīh zamān mad ēstēd hamē, ka tōhm ī mard nērōgōmandtar - pus; ka hān ī zan nērōgōmandtar - duxt ham-bawēd, ka har dō tōhm rāst - dōgānag ud segānag az-iš bawēd.

5. agar tōhm ī narān pēš āyēd – pīh bawēd, ō mādag abzāyēd, ud az-iš frabīh bawēd; agar tōhm ī mādag pēš bē āyēd, xōn bawēd ud mad az-iš nizārīhēd.

6. tōhm ī mādagān sard ud xwēd ud tazišn az pāhlag, gōnag suxr ud zard; tōhm ī narān garm ud xušk tazišn az mazg ī sar, ud gōnag spēd ud xašēn.

7. hamē {{TD1}} tōhm ī mādagān pēš bē āyēd andar kadagīhā frāz gardēd, tōhm ī narān azabar bē ēstēd, ud hān kadagīhā purr bē kunēd; har cē az-iš pardazēd, abāz ō xōn bawēd, ud pad ragān ī mādagān andar šawēd; pad hangām ī zāyišn šīr abāz pestān āyēd *az zāyišn, pad-iš frazand parwarēd, ciyōn hamāg šīr az tōhm ī nar<i>ān bawēd.

When the time of pregnancy comes, and when the seed of the man is stronger – a son is conceived, and when the (seed) of the woman is stronger – a daughter is conceived; when both (seeds) are equal – twins and triplets come from it

When the seed of the male comes forth, it becomes fat and strengthens the female, and she becomes stout thereby; when the female seed comes forth it becomes blood and females becomes feeble thereby.

The seed of the females is cold and moist and it flows from the loins, its color is red and yellow; the seed of the males is hot and dry and it flows from the brain, its color is white and dark-blue.

The seed of females constantly comes forth and goes about canals, and the seed of males settles over it and fills these canals; everything which is in excess of it, becomes blood again and enters the veins of the females; at the time of birth (it) returns as milk to the breasts, as the result of giving birth, and (she) nourishes the child thereby, for milk is always formed from the seed of females.⁶¹

It is noticeable that the Babylonian Talmud embryologic theory is nearer to Bundahishn than to the Hippocratic writings.⁶² The Talmud does not identify the woman's seed with vaginal excretion, and according to talmudic thinking the female material participating in

the child's body building is blood-like. The Bundahishn embryologic theory is more detailed and elaborated than the talmudic concept. I would like to suggest that the Bundahishnian physiology can also help us understand the talmudic theory of sex determination. According to the Bundahishn the essence of the sexual union and conception is an interaction between the seeds of parents; a kind of struggle ensues – each of the seeds must "overpower" the other, resulting in the gender identity of the child as the prize in this competition.⁶³ Bundahishn does not quite conform with the talmudic statement that if the woman emitted her seed first, a male child will be born and if the man emitted his seed first, the newborn will be female, but from the details of its explanation of the embryological process we learn that when the male seed comes first it (or a majority of it) turns into fat, a helpful material for women's health. If the female seed takes precedence, than the majority of it becomes blood, which is not helpful for the woman's body.⁶⁴ That is to say, none of the seed which comes first is utilized completely, but rather it becomes tissue of the female body. Therefore the sex of the child is not determined by the seed, whose potential was already exploited for building the female body tissues, but rather by the seed which comes second, that is to say if the women emitted first the newborn will be male. The comparative study of the continuance of the Bundahishn fragment is very illustrative as well. According to the final sentence the women's seed is constantly present in the space of the womb and its role is that of a "ferry" for transporting the male seed. One may assume that this statement is inconsistent with Bundahishn 15:5, where we find two possibilities: the female seed could precede the male seed's entrance, or male seed could precede the female seed. From Bundahishn 15:7 it seems that the female seed is constantly present in the womb and during sexual union and conception, additional quantities are added to it. Thus, if the women emitted her seed first the amount of blood in her body increases. Since only a part of the increased amounts of seed can be used as a ferry for the male seed and for the building of the fetus body, the remaining part of the female seed becomes blood, which then becomes breast milk after birth. Therefore the idea that blood is turned into milk is shared inexplicably between Zoroastrian sages and the Palestinian tannaim. The features of the "dual seed" theory in Babylonian Talmud could also be explained as influences from the Old Iranian embryologic theory as mentioned in Bundahishn.

The idea that an embryo's body is composed of elements donated separately by men and women can also be found in Bundahishn.

9. hān ī ušturān GMLA⁶⁵ 40 rōz hān ī
mardomān ud asp-sardagān ud gāwān ud
abārīg az ēn ēwēn 30 rōz ud hān ī
gōspandān 15 rōz ud hān ī sagān 10 rōz
ud hān ī rōbāh 7 rōz, hān ī rasūg 5 rōz,
hān ī muškān 6 rōz pad šusārīh ēstēd; ud
pas 3 rōz pad gumēzagīh ēstēd, šusār xon;
pas bawēd ciyōn ka gašt⁶⁶ ēw andar
waxšēd ud cašm, gōš, wēnīg [TD2] ud
dehān az-iš rōyēd, ud dast ud pāy ud
abārīg handām [TD2].

10. ud hamē astag [TD2] ud mōy [TD2]
az pidarān, xōn ud gōšt az mādarān.

9. The seed of camels remains in the form
of liquid semen for 40 days, that of
human beings, equines and oxen for 30
days, that of small cattle for 15 days, that
of dogs for ten days, that of the fox for
seven days, that of the weasel for five
days, that of the rats for six days, and
then for three days it stays in a mixed
state, semen and blood; then it becomes
like a fetus⁶⁷ when it is growing, and
eyes, ears, nose {{TD2}} and mouth
grow therefrom, and arms and legs and
other limbs {{TD2}}.

10. And the bones and hairs are always
from the fathers and the blood and flesh
from the mothers.

The mixture of the two seeds initializes the embryo's formation: first, the sensorial parts of the human body appear, and then, the hands feet and other limbs. The author explains that the entire skeleton and hair are from the father's seed and that the flesh and the blood are from the mother's blood. Eyes, ears, nose and mouth are not made from the mother's blood, but from the blood produced from the male's unutilized seed. What is the principle that lies at the core of the differentiation? The red blood of the women naturally must be the source of the newborn's flesh, which has the same color. In the same way the semen is the source of the newborn's skeleton, of all its limbs and sensorial organs as well as its hair. As mentioned above, the "three partners" tradition also differentiates between the fathers and mothers components in the fetus according to their color. From the white male seed come the marrow/brain, bones and sinews (according to the Palestinian version), the white part of the eye and nails (as added by the Babylonian version). From the red female material come

all the parts which have shades of red – flesh, skin, blood. The Babylonian version adds hair and the black part of the eye. Their color is not red, but black is nearer to red than to white, and obviously, after attributing the white part of the eye to the father, the author is compelled to attribute the black part to the mother. Thus, major similarities can be discerned in the comparison between the Bundahishn and the Babylonian “three partners” tradition, as well as a few small differences. Both, the BT and the Bundahishn, agree on the female’s contribution in the deal: blood and flesh, and on the male’s contribution – bones and sinews. As opposed to the Bundahishn, in BT men and women are equally represented in the newborn’s eye structure, a site where the rabbis succeeded in creating a harmonious equilibrium between male and female. In Bundahishn the hair is determined by the male, whereas in the BT it is determined by the female. It is likely that the Babylonian tradition does not completely adopt the Iranian “science” and that the embryologic speculation of Iranian origin was both accepted and challenged in a creative way. We probably do not know all the theories of embryological speculation that existed in Iranian culture, and it is likely that, in addition to the Bundahishn’s version, there were other ideas put forward. The Iranian culture of the period discussed has survived in a very fragmentary condition, and was transmitted by latter-day redactors, who probably represented only one intellectual branch. In this context another parallel seems important.

In light of the fact that the idea that the embryologic process is based on a combination of blood and semen, where the semen causes the blood to congeal, was widespread in the Ancient Orient, especially in Indo-Iranian cultural *milieus*, similarly the relatively ancient Indian work *Garbha Upanishad* (2b.c) describes the development of the embryo as a process beginning with the congealment of blood and semen and finalized after three months when the limb regions appear. A detailed presentation of this tradition can be found in *Susruta-samhita* (1 c).⁶⁸ According to this source the solid parts of the embryo are produced from male materials and the soft parts from female materials.⁶⁹ There is a specific correlation between the Indian source, the Babylonian Talmud, and the Bundahishn – the male’s seed according to the Bundahishn is solid and dry and therefore the solid parts of body derive from it, whereas from the liquid female seed come the soft parts of the human body. I do not claim that there is any direct influence from Indian sources on the Babylonian Talmud. I only wanted to demonstrate the possible relationship between India and Ancient Iran – both cultures have a common origin, and sometimes the Indian culture, which is preserved in a more complete form than that of ancient Iran, can provide us with a

clue to the roots of Iranian culture. The “three-partner” tradition, which originated in a Palestinian milieu, was molded in BT, influenced by an Indo-Iranian notion, and must now be studied in light of these Ancient Orient ideas. The division of the body parts into male and female, according to their color (whites – father, reds – mother), is probably based on a basic universal analogical thinking of human beings, widespread in the cultures discussed above.⁷⁰ The analogical model concerning male and female parts in the embryo was adapted by the Jewish sages into a rhetorical construction about divine participation with the human parents in the embryo’s creation. The “three partners” model first appeared in the halakhic context of respect for parents, was then adopted to an anthropological context and transformed in it. There were two autonomous developments of the tradition with different anthropological applications – Palestinian and Babylonian. The structure of the Palestinian tradition was adopted by the Babylonian tradition, its author remained loyal to the number of partners, but his interpretation of the relationship between them changed. Actually, according to the Babylonian author, there are only two partners in the creation of a person: God and the parents together, and therefore the partnership is not equal. The Palestinian tradition, as opposed to the Babylonian one, shows us a real partnership – the parents are equal in their role one to the other and to God.

The Embryologic Theory and the Footprints of Gender Politics

We have studied two metamorphoses of the “three partners” tradition. Significant differences were discovered between the Palestinian approach and the Babylonian one, which was later also accepted by the late Palestinian midrash. Studying the embryologic background of the tradition we defined the Babylonian approach as similar to the dual seed embryologic theory: the embryo formation begins with the mixture of the male and the female seed, the latter having a bloody nature, and emitted at the time of sexual union. There are no clear features of the dual-seed theory in the Palestinian sources. According to both of Palestinian and Babylonian approaches the embryo formation is based on the mixture of semen and blood, but only the Babylonian sages hypothesized that there is also a female seed. Studying embryological speculations we recognize in them the footprints of gender politics.

It is customary to hypothesize that behind embryological speculations there exist gender politics.⁷¹ Theories of Hellenistic thinkers were explained according to the approach that

women are apparently humans who did not develop well. The process of embryo formation was interrupted, and they did not achieve the male stage of formation. Therefore their role in sexual union is as a tool for receiving male power. The common model of gender politics in Hellenistic culture does not assign the women an isomorphic role to that of the man in the embryological process.⁷² In search for links between gender politics and embryologic speculations in rabbinic literature it is possible to reach the following conclusions: The rabbinic model, which developed in the cultural environment of the Ancient Orient, is hierarchic as well, but it is a theocratic hierarchy: it includes the active participation of the Creator, and instead of the women's inferiority component in its hierarchic scheme, we find apparently an egalitarian model in the process of the embryo formation. The gender differentiation of the parts in the embryo is based on the simple symbolism of color and not on the gradients of power.⁷³ The body is a kind of mirror in which social concerns or cultural models may be reflected.⁷⁴ This produced the situation in which the Supreme Partner's participation is sacred and the two parents are partners in a deal, but their partnership was interpreted differently in the different rabbinic cultures. According to the Palestinian approach, each parent is an equal partner and they have the same rights in this partnership as the Creator. According to the Babylonian approach they are both practically one unit and neither one of them is important if he is not a part of the family, together they become equal to the Supreme partner. In light of the similarity between the Talmudic embryologic speculation and its parallels in Bundahishn and Indian sources, the possibility of the Indo-Iranian influences on the Babylonian sages is reasonable. According to Zoroastrian conception theory, the female is necessary for the embryo-creation and she has an active part in it, but hierarchically it is secondary to the male role. The theological support for this theory is found in Bundachishn 14a:1⁷⁵ where it is explained that woman was chosen for the role of helper to the man born from her, because "another vessel from which to produce man" could not be found in the entire universe. Therefore Ahura Mazda was forced to create a creature as lustful and as sweet as a woman. The link between sex, food, women and evil is immanent in the dualistic thought of the Zoroastrians – the male aspect is identified with the good and the female is mostly identified with evil.⁷⁶ It is very interesting, therefore, that rabbinic thought while forming embryologic models, does not create equally strong hierarchical gender structures between male and female as in the other cultures of Late Antiquity.

¹ A first version of this paper appeared in my study of the Babylonian nature of the three-partners tradition in midrash Kohelet Rabbah, in my PhD, see Reuven Kiperwasser, *Midrashim on Kohelet – their Formation and Redaction*, Ramat Gan, 2005, pp. 169-183, but this study has been continually elaborated upon later. A paper was presented before my colleagues in a seminar in MaTan and I am grateful for their questions and comments. The paper's draft was read by Yaakov Elman, Geoffrey Herman, Tal Ilan, Samuel Kottek, Ronit Nikolsky, Dov Schwartz, Shaul Shaked, Dan Shapira and Cana Werman – I am thankful to all for their comments. This paper was accepted to the *Irano-Judaica 6: Studies Relating to Jewish Contacts with Persian Culture Throughout the Ages*, but, because the delay in the publishing the volume, and with a permission of the editor, prof. S. Shaked, I proposed it to the *Lectio difficilior*.

² Embryological theories of talmudic sages have been discussed in Julius Preuss, *Biblical and Talmudic Medicine* (Trans. from German by E. Rosner), New York-London, 1977, pp. 387-391, and see also Samuel Kottek, "Embryology in Talmudic and Midrashic Literature," *Journal of the History of Biology* 14 (1981) 15-330, Ephraim Elimelech Urbach, *The Sages – Their Concepts and Beliefs* (Translated from Hebrew by I. Abrahams), Jerusalem, 1975, pp. 218-223, Victor Aptowitzer, "The Embryo in Criminal Law," *Sinai* 11 (1942), pp. 9-32 (Hebrew), David M. Feldman, *Birth Control in Jewish Law: Marital Relations, Contraception, and Abortion as set forth in the Classic of Jewish Law*, New York, 1968, pp. 132-143, Edward Reichman, "The Rabbinic Conception of Conception: An Exercise in Fertility," *Tradition* 31 (1996), pp. 33-63. For cultural aspects of the rabbinic approaches see Joshua Levinson, "Cultural Androgyny in Rabbinic Literature," in *From Athens to Jerusalem: Medicine in Hellenized Jewish Lore and in Early Christian Literature*, eds. Samuel Kottek and Manfred Horstmannshoff, Rotterdam, 2000, pp. 119-140.

³ According to the JPS Hebrew-English Tanakh, Philadelphia 1999, p. 1672.

⁴ See Marvin H. Pope, *Job*, The Anchor Bible, New York, 1965, p. 78; J. E. Hartley, *The Book of Job*, Grand Rapids, Michigan, 1988, pp. 186-187.

⁵ See Joseph Reider, *The Book of Wisdom*, New York, 1957. Original Greek text available in Joseph Ziegler, *Sapientia Salomonis*, Göttingen, 1962, p. 116.

⁶ See Pnina Galpaz-Feller, "Pregnancy and Birth in the Bible and Ancient Egypt (A Comparative Study)," *Biblische Notizen* 102 (2000), pp. 42-53. About the realia behind cheese production in talmudic times see Samuel Krauss, *Talmudische Archeologie* 2, Hildesheim, ²1966, p. 135.

⁷ See Weiss edition p. 4. "Qedoshim" is the accepted name of this part of the book, but the truth is that "Qedoshim" is not an independent part, but only a segment of "Ahare Mot," see Shlomo Naeh, "The Structure and Division of Torat Kohanim (A): Scrolls," *Tarbiz* 66 (1997), p. 493. Textual parallels are found in the Palestinian Talmud *Peah* 1:1, 15:3, Academia edition p. 80, (this fragment has a parallel in PT *Qiddushin* 1:7,

71b, p. 1157). BT *Qiddushin* 30b, *Midrash Aseret ha-Dibrot, parasha thlitaah* (this midrash does not exist in its complete form, but has survived in a few Genizah fragments and in the form of citations in *Pesiqta Rabbati*. On these midrash fragments' identification in *Pesiqta Rabbati*, see in Binyamin Elizur, *Pesiqta Rabbati, Introductory Chapters*, Jerusalem, 2000, p. 45 (Hebrew). For the text under discussion see *Pesiqta Rabbati – A Synoptic Edition of Pesiqta Rabbati Based upon All Extant Manuscripts and the Editio Princeps*, by Rivka Ulmer, Atlanta, 1997, pp. 597-599. On this edition see Chaim Milikowsky, "Further on Editing Rabbinic Texts," *JQR* 90 (1999), pp. 148-149. The "three partners" tradition appears also in *Mekhilta de-Rabbi Shimon bar Yohai*, Epstein-Melamed edition, p. 152, but it seems that it was not found in the original text of the *Mekhilta*, but is rather an addition from *Midrash Ha-Gadol*. See Ezra Zion Melamed, *Halakhic Midrashim of the Tannaim in the Babylonian Talmud*, Jerusalem, 1982, p. 122 (Hebrew). The English Translation is according to Jacob Neusner, *Sifra – an Analytical Translation*, Atlanta, Georgia, 1988, vol. 3, p. 88.

⁸ See Academia edition p. 62.

⁹ See Academia edition p. 171.

¹⁰ The English translation of the text from *Kila'im* is available in *The Talmud of the Land of Israel*, Translated by I.J. Mandelbaum, vol. 4, Chicago-London, 1990, pp. 248-249. Unfortunately the translator of *Berakhot* in this edition skipped over the text discussed above. My translation is based on Mandelbaum's translation with little changes.

¹¹ There is an elliptic statement here meaning "these are the signs that distinguish one kind of mule from another."

¹² The version here is יְלֵוּ, but it seems to be a mistake, the version in *Berakhot* is probably original.

¹³ Perhaps the meaning intended here is that we can observe different functions of genetic determinacy: the mule receives its ears from his sire, but human beings receive from fathers something else ... but this is a difficult explanation.

¹⁴ Perhaps somebody thought that there is some kind of bone in the ear. At least some of the traditional Mishnah commentators extrapolated from Mishnah *Oholot* 1:6 that the ears have bones, see Reuven Kiperwasser, "The 248 Limbs – A Study of Mishna Oholot 1:8," *Journal of the Torah and Scholarship*, 8 (1999), pp. 29-64 (Hebrew).

¹⁵ There exists a common phenomenon that the Babylonian Talmud identifies some traditions as baraitot, but the Palestinian Talmud does not represent the parallel tradition as tannaitic. See Jacob N. Epstein, *Introduction to the Mishnaic Text*, Jerusalem, 2002, pp. 775-776 (Hebrew) and recently Yaacov Sussman, "'Torah she-be'al peh' peshutah kemashma'ah, kokho shel qoso shel yud'" *Mehqarei Talmud III*, 1, (eds. Y. Sussman and D. Rosenthal), Magnes Press, Jerusalem, 2005, 209-384, p. 273 n. 47 (Hebrew).

¹⁶ An 8th century compilation attributed to Rav Ahai of Shabha. The *Sheiltot* version in the published editions is corrupt and must be corrected according to the mss. Unfortunate the apparatus criticus of the Mirsky edition is not so helpful (about the problems of the Mirsky edition see Robert Brody, *The Textual History of the She'iltot*, New York-Jerusalem, 1991, pp. 192-193) but we can learn from it that the text was very flexible. This study cannot do justice to all the textual versions of the discussed text, but we can probably rely on the version of Vahizhir: "הקב"ה נותן בו רוח ונשמה וקלסתור פנים וראית העין ושמיית האוזן ודיבור והילך רגליים ודעה ובינה" (see Freiman, edition pp. 190). Vahizhir, according the Brody's opinion (pp. 111-116), is evidence for the ancient version of the *Sheiltot* which has not survived in the manuscripts. Therefore the original version of *Sheiltot*, just as the version of BT *Niddah* 31a, mentioned ten things given by the Creator as opposed to 5 from the mother and 5 from the father.

¹⁷ About Babylonian traditions in *Kohelet Rabbah*, see Reuven Kiperwasser, Early and Late in Kohelet Rabbah: A Study in Redaction-Criticism, *Iggud – Selected Essays in Jewish Studies* 3 (2008), pp. 291-312. (Hebrew).

¹⁸ The version is according the Ms Munich 95.

¹⁹ A textual history of midrash *Kohelet Rabbah* is presented in my PhD, see above, n. 1, p. 134-157, the text can be found there in the synopsis, pp. 35-37. The text above is based on Ms Biblioteca Apostolica ebr. 291.

²⁰ *She'iltot* on *Parashat Yitro*, 56 according to the first edition (Venice, 1545) and 73 in the Mirsky edition, p. 174. There are a few differences between the two versions, but they are not important for our purpose. About the *She'iltot* textual versions see R. Brody, (above, n. 16), p. 37.

²¹ There is no adequate translation for this word, and it seems as an unnecessary addition to the five objects bestowed by the God. It is probably the product of a copyist error which somehow repeated the word לובן from the above.

²² According to the Vatican Ms 111: [הקב"ה נותן בו רוח חין ו>נ<שמה וקלסתור פנים וראית העין ושמיית האוזן: ודבר שפתים והילך רגליים והקב"ה מטיל בו רוח ונשמה וחכמה ובני]. The other two manuscripts of *Niddah* (both from the Vatican) have a lacuna here. It seems that the relatively late Munich manuscript has a better version of the text.

²³ In the original קלסתור פנים – this common expression is difficult to explain etymologically, see Samuel Krauss, *Griechische und Lateinische Lehnwörter im Talmud, Midrasch und Targum*, Berlin, 1898, p. 548.

²⁴ As noted by the scholars, see Michael Higger, *Ozar Ha-Baraitot* 5, New York, 1942-1943, p. 57 n. 8; vol. 6, p. 448.

²⁵ Preserved in two Babylonian works, and in one Palestinian composition influenced by the Babylonian traditions, see below and in n. 17.

²⁶ The printed version here is corrupted, when checked against the version of Vatican Ms 111. Scribes changed the original order of things, and therefore it seems illogical. It seems that original order was kept in the She'iltot: first parts of the soul (רוח, נשמה, חכמה, בינה, דעתה והשכל), and then the “psychosomatic” qualities (מראה עינים, שמיעת אוזן, קלסתר פנים). Evidence for the existence of another version can be found in secondary witnesses, such as Tosafot Baba Qama 25a d.h. “kal va homer le-shekhinah and Tosfot to Zebahim 79b d.h. “Omer Rabbenu Tam.”

²⁷ The late parallels of the tradition, probably influenced by the Babylonian Talmud, existed in medieval literature see Michael Higger, “The Formation of the Child,” in *Occident and Orient, M. Gaster Anniversary Volume*, ed. Bruno Schindler and Arthur Marmorstein, London, 1936, pp. 253-260. See also *Ozar ha-Midrashim*, Eisenstadt ed. p. 244. Another parallel is found in one version of late *Midrash Aseret ha-Dibrot*, see Eisenstadt, p. 456, but it is probably not a part of the original work, and was added in the process of transmission, because it is absent in Anat Shapira’s diplomatic edition, see *Midrash Aseret Ha-Dibrot, Text, Sources and Interpretation*, Jerusalem, 2005, pp. 66-7 (Hebrew).

²⁸ *Koheleth Rabbah*’s redactor added to the list two elements נשיית דִּימָם and גבורה and replaced with שכל and חכמה. These changes are a product of his own creative initiative, but, unfortunately, he does not notice that his summation does not add up to ten. In *Kohelet Rabbah* and the *She’iltot* after the “three-partners” tradition a parable appears which is related midrastically to the verse from Job mentioned above. *Kohelet Rabbah*’s redactor, unlike the *She’iltot* redactor, continues to interpret the rest of the Job verse and he understands the remaining words of the verse as referring to the louse on a humans head. We may assume, therefore, that *Koheleth Rabbah*’s redactor knew this *derashah* on Job’s verse, as it appears in it in a more original and complete version than the one in the *She’iltot*. There is no evidence that *Koheleth Rabbah* took the parable from the *She’iltot*, although a dissenting opinion can be that *Koheleth Rabbah* is more ancient and the *She’iltot*’s redactor used in his work *Kohelet Rabbah* or an unknown source which preceded both. This aspect of a comparative analysis of these two works is interesting for the determination of their *terminus post quem*, but because there is only one parallel between the two, and the nature of the aggadic fragments in the *She’iltot* is problematic a conclusion is not possible. It is possible that the *She’iltot*’s author, who lived in the 8th century, knew *Koheleth Rabbah*, as our tradition appears in it in a fuller more original form. Thus, it seems that the tradition’s metamorphosis was as follows: the Babylonian Baraita was incorporated by someone into a midrashic passage based on the Job verses. This midrashic arrangement was introduced into the *She’iltot*. *Koheleth Rabbah*’s redactor knew the source known to the *She’iltot*’s redactor, but he borrowed from this source more than the *She’iltot*’s redactor did. The connection between the parts of the paragraph and its context in *Kohelet Rabbah* was discussed in my PhD, see p. 169. For parallel midrashic traditions on this

verse, see *Avot de Rabbi Nathan* version A 1:19, Schechter edition p. 70. The tradition is mentioned by the Tosafist, but it is uncertain which source he had in front of him, see BT *Shabbat* 12b.

²⁹ Probably we can see here, as Prof. Elman noted to me, a numerological typology, well known from Manichean sources, both from Persian and Syriac origin. The number five play a significant role in their mythic anthropology. There exist five attributes of mind or thought, five beings evoked by the living spirit, five light-elements and etc. See Francis Crawford. Burkitt, *The Religion of the Manichees*, London, 1925, pp. 29-33.

³⁰ The gender model apparent here will be discussed below.

³¹ I could not find in the Bible any suggestion that a woman's body produced any kind of material required for the embryo's creation. About the embryological approaches in Bible and Talmudic literature see Preuss (above, n. 2) pp. 387-92; Marten Stol, *Birth in Babylonia and the Bible: Its Mediterranean Setting*, Groningen, 2000, pp. 4-5. The lack of evidence regarding female semen in the Bible environment is described there. Likewise I could not find this kind of speculation in tannaitic literature. See also Feldman (above, n. 2). p. 135.

³² The expressions מזרייע לבן/mezre'ut adam derive from the midrashic tradition on Leviticus and are found also in *Avot de Rabbi Natan*, additions to the version A, ch. 7, Schechter edition, p. 160, but probably there it was only added to this late work in the process of its transmission, influenced by the Babylonian Talmud.

³³ See Jacob Milgrom, *Leviticus 1-6*, The Anchor Bible, New York London Toronto Sydney Auckland, 1991, pp. 743-4 and see Feldman (above, n. 2), p. 135.

³⁴ So according to the Onkelos, Pseudo-Jonathan and Neophytic Targumim.

³⁵ *Sifra Tazria* 1 and see also BT *Niddah* 27b and 40a and BT *Keritot* 7b.

³⁶ See Pieter Willem van der Horst, "Sarah's Seminal Emission: Hebrews 11:11 in the Light of Ancient Embryology," *Hellenism-Judaism-Christianity: Essays on their Interaction*, Kampen 1994. The author attempts to explain a difficult expression from Hebrews 11:11 as evidence for the view that women had their own seminal emission. He claims that that idea was not limited to Greek scholarly circles, but was well known in early Judaism. However, we have not evidence for the existence of woman's seed before BT, and, if van der Horst is right in his translation of Hebrews 11:11, the author of the epistle was obviously influenced by Hellenistic culture, see op. cit. p. 218.

³⁷ See the Theodor-Albeck edition p. 129.

³⁸ See the Margulies edition pp. 314-17. There are several more textual differences between the mss versions, which the editor did not mention in his apparatus criticus, but for our study they are not so important.

³⁹ See above under the heading "The Biblical Portrait of Conception". It is interesting to note that Job became the main source for midrashic-embriologic constructions by the rabbis, not only here, but in other midrashic

passages as well, see for example *Vayikra Rabbah* 14:2-4. It can be very illuminating to discuss which pattern of the metaphoric theology of this very special biblical book was mobilized for embryologic speculations, but it must be done in another place (and see LeoG. Perdue, *Wisdom in Revolt: Metaphorical Theology in the Book of Job*, Sheffield 1991).

⁴⁰ See Kottek, (above, n. 2), p. 301.

⁴¹ According to the Margulies edition.

⁴² We need not assume that, according to Rabbi Meir, blood has not part in fetus body formation, but is useful only in the breast milk production.

⁴³ Ed. Margulies p. 209 and see there in the editor's notes.

⁴⁴ The printed edition is corrupted here see also Ezra Zion Melamed, *Halachic Midrashim of the Tannaim in the Babylonian Talmud*, Jerusalem, 1982, p. 237.

⁴⁵ For a discussion of the sages' approach to menstrual blood and so called *dam himud* see Tirzah Zechura Meacham, *Mishna Niddah with Introduction: A Critical Edition with Notes and Variants, Commentary, Redaction and Chapters in legal History and Realia*, PhD. Dissertation, Hebrew University, Jerusalem, 1989, pp. 154-188, Idem, "Dam Himud – Blood of Desire," *Korot* 11 (1995) 82-89 and also Shai Secunda, "Talmudic Text and Iranian Context: On the Development of Two Talmudic Narratives," *AJS Review* 33 (2009) pp. 45–69, esp. pp. 48-50.

⁴⁶ See Michael Boylan, "The Galenic and Hippocratic Challenges to Aristotle's Conception Theory," *Journal of the History of Biology* 17 (1984), p. 83-5.

⁴⁷ See Boylan, (above, n. 46), p. 86-7.

⁴⁸ Discussed here are the so-called Hippocratic works, only attributed to the Hippocrates, whose probable author was Polybius. The *locus classicus* for our study is περὶ πατιδίου φύσιος (De Natura Pueri). In the process of transmission two Hippocratic works were compiled together and are now traditionally printed as one work περὶ διαινῆς (28-30). For the text with an English translation see W.H.S Jones edition, vol. IV, Cambridge-London, 1931, pp. 267-71.

⁴⁹ See De Semine 2:1 and Boylan *ibid.*

⁵⁰ See Aristotle, *De Generatione animalium* 716a, 727 b (17-18) . For the Greek original with English translation see vol. XIII, *Generation of Animals*, English (A.L. Peck, Cambridge-London, 1932).

⁵¹ In this I disagree with Feldman, see Feldman, (above, no. 3), p. 133.

⁵² See *De Generatione Animalium*, 1. 20. 739a–b, see also Joseph Needham, *A History of Embryology*, Cambridge, 1959, pp. 38-43.

⁵³ See Boylan, (above, n. 46), p. 92.

⁵⁴ See Boylan, (above, n. 46), p. 101.

⁵⁵ See Kottek, (above, n. 2), p.315 and see also Levinson, (above, n. 2). pp. 121-2.

⁵⁶ For a brief summary of scholars' opinions on this issue see in Peter Schäfer's Introduction to the volume, *The Talmud Yerushalmi and Graeco-Roman Culture I*, Tübingen, 1998, pp. 1-23.

⁵⁷ As is noted by Elisheva Baumgarten, *Mothers and Children: Jewish Family Life in Medieval Europe*, Jerusalem, 2005, p. 68, n. 134. Her explanation is based on what she heard(!) from D. Weiss-Halivni, but which he obviously never put down in writing.

⁵⁸ There is a rich bibliography about relationships between the culture of Ancient Iran and Judaism. See for example E. Stave, *Einfluss des Parsismus auf das Judentum*, 1898. For comparative studies based on the talmudic material see Alexander Kohut, *Über die jüdische Angelologie und Dämonologie in Ihrer Abhängigkeit von Parsismus*, Leipzig 1866; Alexander Kohut, "Parsic and Jewish Legends of the First Man," *JQR* o.s., 3 (1891), pp. 231-50. The skeptic approach expressed by J. Neusner, *Judaism and Zoroastrianism at the Dusk of Late Antiquity*, Atlanta 1993, prevailed for a long time, but recently a new interest in Iranian culture and its influence on the culture of the Babylonian rabbis has been invoked by Yaakov Elman, "Acculturation to Elite Persian Norms and Modes of Thought in the Babylonian Jewish Community of Late Antiquity," *Neti'ot Le-David*, Jerusalem 2004, pp. 31-56; Yaakov Elman, "'Up to the Ears' in Horses Necks (B.M. 108a): On Sasanian Agricultural Policy and Private 'Eminent Domain,'" *JSIJ* 3 (2005). See also Geoffrey Herman, "Ahasuerus, the Former Stable-Master of Belshazzar, and the Wicked Alexander of Macedon: Two Parallels between the Babylonian Talmud and Persian Sources," *AJS Review* 29 (2005) pp. 283-97.

⁵⁹ There are two redactions of the Bundahishn – the long and ancient one called Great, or Iranian Bundahishn (translation: Iranian or Great Bundahishn, by, B. T. Anklesaria, Bombay, 1956) and the short one, which is relatively late, named The Indian Bundahishn. Bundahishn includes many ancient Iranian traditions, but its final redaction is later than the Babylonian Talmud. It depends on the so called Ninth Century Books, see Harald Walter Bailey, *Zoroastrian Problems in the Ninth-Century Books* (Ratanbai Katrak Lectures), Oxford, 1943 (Reprint 1971). In my study I used the traditions from the Great Bundahishn. Unfortunately the interesting paper about Iranian embryologic theories by Bruce Lincoln, "Embryological Speculation and Gender Politics in a Pahlavi Text," *History of Religions* 27 (1988), pp. 355-365 based itself on the Indian Bundahishn.

⁶⁰ See also Yehoshua Heschel Schorr in *He-haluz* 7 (1865), pp. 1-88, 8 (1869) 1-120 (Hebrew) and there the author, among many hypothetic parallels between the talmudic aggadah and Iranian traditions, also mentioned the similarity between the two embryological speculations.

⁶¹ It is recognizable that the subject here is the female seed, so it is difficult to understand why the textual version is narān – male [seed], and therefore Dan Shapira's correction nar<i>ān, meaning female [seed] is justified.

⁶² A major similarity between Zoroastrian rules of purity and rabbinic *halakhah* exists, see Jamsheed K. Choksy, *Purity and Pollution in Zoroastrianism*, Austin, 1989, pp. 94-101 and in a forthcoming study of Shai Secunda.

⁶³ Bundahishn 15:4, see also Lincoln (above, n. 59), p. 357.

⁶⁴ Bundahishn 15:5.

⁶⁵ HMRA according to Anclesaria.

⁶⁶ This is a difficult word and probably the intention here is gašn/gošn which means pregnancy, fertilization, or maybe also kašt whose meaning is a sown field.

⁶⁷ See previous note.

⁶⁸ See Susruta-Samhita, edited and translated by Priya Vrat Sharma. Varanasi, Chaukhamba Visvabharati, 2001, Vol II part II. Sarirasthana (Section on human body): 3. (On the descent of the embryo). See also Rajgopal L, Hoskeri GN, Bhuiyan PS, Shyamkishore K., "History of anatomy in India," *Journal of Postgraduate Medicine* 48 (2002), pp. 243-5.

⁶⁹ See Needham (above, n. 52) p. 25.

⁷⁰ As proof of the universality of the idea, we may refer to the aborigines in New Guinea who share a belief that the skeleton of the fetus is from the father and his flesh from mother. See Needham (above, n. 52) p. 78.

⁷¹ About the place of gender research in Jewish studies see Tal Ilan, "Jewish Women's Studies," in *The Oxford Handbook of Jewish Studies* (Oxford 2002), pp. 770-96 (especially p. 780) and see also Daniel Boyarin, "Gender," in *Critical Terms for Religious Studies*, ed. M. C. Taylor, Chicago, 1998, pp. 117-35. About the differences between Palestinian and Babylonian Sages in their attitude to gender see D. Boyarin, *Carnal Israel: Reading Sex in Talmudic Culture*, Berkeley, 1993, pp. 46-57.

⁷² See Boylan, (above, n. 46), p. 109; Johannes Morsink, "Was Aristotle Sexist?," *Journal of the History of Biology* 12 (1979) pp. 83-122, and see also Levinson (above n. 2).

⁷³ See Edmund Leach, *Culture and Communication: The Logic by which Symbols are Connected*, Cambridge, 1976, p. 40.

⁷⁴ See Mary Douglas, *Implicit Meanings: Essays in Anthropology*, London, 1975, p. 83 , see also Levinson (above, n. 2), 137-8.

⁷⁵ See Jamsheed K. Choksy, *Evil, Good, and Gender – Facets of the Feminine in Zoroastrian Religious History*, New York, 2002, pp.38-39.

⁷⁶ See ibid pp. 49-50.

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