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Matrilineality as a Historical and Cultural Context of Ethical Reflection on the Use of In Vitro Fertilization in Israel

Abstract: On one hand Israel is a leader in the field of high-tech industry, but on the other it remains a country focused on traditions. In Vitro Fertilization (IVF) is one of the most common treatments among many possibilities which were created in the field of assisted reproductive technology (ART). Indeed, the number of Jewish women as intensive consumers of IVF has increased in the past few years. Due to the great importance of motherhood and raising families in Jewish tradition, Israel strongly supports health care procedures assisting Jewish adults in becoming parents. There is no doubt that for Jews life is the most precious value in its religious and political meaning, however, they are quite flexible in accommodating modern technologies in order to serve life. The State has historically focused on increasing birthrates and nowadays a woman's biological clock is an important element not only in the context of matrylineal descent and for the answer to the question of Jews identity but it is also intervening as a part of the reproductive industry.

Keywords: *matrilineality; Israel; IVF; new technologies; reproductive technology*

Introduction

Implications of technological achievements are one of the subjects undertaken in attempts to assess the already implemented technologies. To what extent should technology and interference with the order of nature reach?, This, in the context of responsibility, is a question from the future addressed to contemporary living.

The aim of this article is to present matrilineality – tracing belonging and descent through the female line – as a fundamental context, which must be taken into account in ethical reflection on the use of IVF¹ in Israel.

¹ IVF – In Vitro Fertilization

The article discusses selected circumstances and consequences of using new technologies in the area of reproductive policy of Israel. The characteristics of changes that have taken place in this context are an extremely important case study for all countries facing changes due to technological progress. Israel is an unquestionable leader in implementing technological solutions supporting the fertility rate of its inhabitants, as evidenced by over thirty-five years of experience in the use of assisted reproductive techniques. Such a rich history of experience reminds us of the value of the cumulative nature of science that is so important in the area of ethical aspects of the use of new technologies. This article is contributory and interdisciplinary, and the topic discussed certainly requires more elaboration, going beyond the adopted method of texts analysis. It is worthy of note that the importance of new biomedical technologies for the development of modern States goes beyond a single scientific field, and consequences of their introduction are of social, cultural and religious nature.

Since independence, one of the major challenges facing the new state has been to ensure an increase in the number of citizens and settlement of territories under Israel. The Jewish population began to arrive in Palestine at the turn of the 19th and 20th centuries in the course of subsequent *aliyah*².

After the Second World War, large immigration waves (Sosnowski, 2014, p. 80)³ continued to strengthen the demographic growth, doubling the Israeli population in the first 10 years of statehood. The guarantee of accepting immigrants was regulated by two documents: the Declaration of Independence of the State of Israel (14 May 1948) and the Law on the Right of Return (1950). The first document reads: “The State of Israel shall be open to Jewish immigration and to Gathering of Expellees (...)”⁴ However, the documents mentioned above do not provide a precise definition of who is a Jew and how the members of Jewish families who decide to return to Israel will be treated. A formal regulation appeared in this case in 1970 as the second amendment to the Return Law (Sosnowski, 2014, p. 112) and reads as follows: “For the purposes of this Law, “Jew” means a person who was born of a Jewish mother or has become converted to Judaism and who is not a member of another religion” (

² *Aliyah* – it means ascent, it is used in three senses: the emigration of Jews to Israel, a pilgrimage to Jerusalem on holidays: Pesach, Shavuot, Sukkot or a call to publicly read the Torah in the synagogue (Dictionary of Judaic notions);

³ The Zionist colonization can include seven *aliyahs*, in which the approximate population was:

- 1.) 25 thous. people (1881–1900);
- 2.) 40 thous. people (1901–1914);
- 3.) 39 thous. people (1919–1923);
- 4.) 62 thous. people (1924–1939) – re-emigrated during the economic crisis 25 thous. people;
- 5.) 250 thous. people (1932–1939);
- 6.) i 7.) 100 thous. people (1940–1948).

⁴ One of the organizations facilitating settlement and starting living in Palestine is The Jewish National Fund. An organization created in 1901 and to this day operating in various social areas.

The Law of Return 5710 (1950)* and in a matter of key importance to the subject under consideration: “(a) The rights of a Jew under this Law and the rights of an *oleh* under the Nationality Law, 5712–1952***, as well as the rights of an *oleh* under any other enactment, are also vested in a child and a grandchild of a Jew, the spouse of a Jew, the spouse of a child of a Jew and the spouse of a grandchild of a Jew, except for a person who has been a Jew and has voluntarily changed his religion.” (The Law of Return 5710 (1950)*)

The legal regulations result in a puzzling provision related to the principle of matrilinear inheritance of nationality. It extends the civil rights and privileges of immigrants to many relatives of the Jew (as defined by the law), but this time without matrilineality. In other words, those who inherited Jewish origin from the father’s line are considered to be Jews. Patrilineality had already occurred in the history of Jewish nation, and the matter of matrimonial inheritance is based on the rabbinical law, which will be discussed in the further part of this article (Sosnowski, 2014, p. 113).

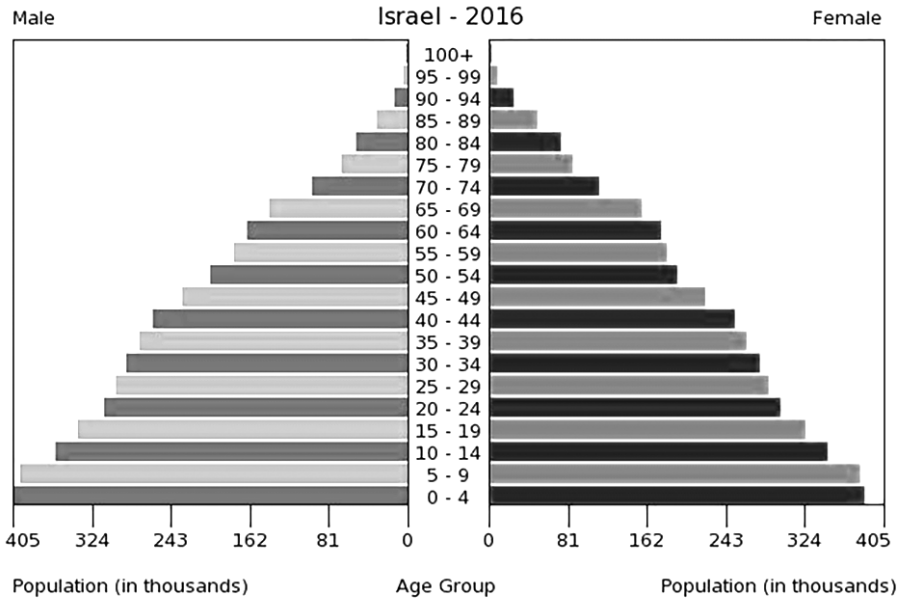
The pace of development of the social infrastructure and the intensification of works to modernize the country were revived by the geopolitical situation and subsequent wars, and life in direct danger became an element of the everyday life of the people of Israel. For this reason, one of the main tasks for the internal policy was to support fertility by using various methods: the wages of public sector employees depended on the number of children they had, a “Heroine Mothers” prize was granted for women who had 10 children and for “blessed with many children” families (in the 1940s and 1950s) (Birenbaum-Carmeli & Dirnfeld, 2008, p. 183). An important statement characterizing the fertility support policy reflects the objective behind the establishment of the Demographics Center: “Carry[ing] out a reproductive Policy intended to create a psychologically favorable climate that will entourage and stimulate natality; an increase in natality in Israel being crucial for the future of the whole Jewish people” (The Law of Return 5710 (1950)*).

It should be remembered that statehood was shaped on the basis of newcomers from places marked with pogroms⁵, which increased the sense of external threat, but also the determination to strengthen the state security. The need to defend borders and organize operations as quickly as possible, required a specific plan for the country’s development and the involvement of as many people as possible in military operations. This was achieved among other methods through implementation of compulsory military service for both sexes, which had its implications in the application of new technologies ensuring that soldiers e.g. deposit their genetic material for procreation purposes. By the 1980s, Israel had dealt with implementation of the country industrialization concept, and in the second half of the 20th century and at the beginning of the 21st century, it clearly emphasized the direction of development of an economy based on new technologies (Bensimon & Errera,

⁵ In addition to the refugees who survived the German concentration camps, the land of Israel was inhabited by refugees from pogroms in Russia, Romania, pre-war Poland and Arab countries.

2000, p. 61–65). Innovative solutions in the field of biomedical sciences, especially ART, have gained in importance, because they have helped not only to meet the challenge of demographic replacement, but also to achieve better demographic growth rates.

Table 1. Population Pyramid



Source: CIA (2018). “Population Pyramid” *The World Factbook* 2016.

The historical and cultural conditions of matrilineality

It is impossible to consider the political aspects in isolation from religious influences because of the religious nature of the state – Judaism is the state religion of Israel. This is particularly evident in a demographic aspect, where interpretations of religious terms and pragmatic political goals are intertwined. The pronatalistic practices are dictated mainly by the religious imperative “be fruitful and multiply” (Holy Scripture/Pismo Święte, 1980, p. 25, (1:28)). One of the main motives for supporting fertility is to strengthen the population position among various nations of Palestine. Data below in table 2. clearly show the percentage increase in the number of Jews and decreasing number of Muslims in recent years, which reflect the impressive effectiveness of the measures taken in this area.

For many years, the family and blood relationships have proved to be one of the most lasting social structures in Israel’s turbulent history. Therefore, identifying the importance

Table 2. Births, in absolute numbers, by mother's religion

Year	Jewish	Muslim	Christian	Druze	Others	Total	% Jewish	% Muslim
1996	83,710	30,802	2,678	2,682	1,461	121,333	69.0%	25.4%
2000	91,936	35,740	2,789	2,708	3,217	136,390	67.4%	26.2%
2005	100,657	34,217	2,487	2,533	4,019	143,913	69.9%	23.8%
2006	104,513	34,337	2,500	2,601	4,219	148,170	70.5%	23.2%
2007	107,986	34,572	2,521	2,510	4,090	151,679	71.2%	22.8%
2008	112,803	34,860	2,511	2,534	4,215	156,923	71.9%	22.2%
2009	116,599	35,253	2,514	2,517	4,159	161,042	72.4%	21.9%
2010	120,673	36,221	2,511	2,535	4,315	166,255	72.6%	21.8%
2011	121,520	35,247	2,596	2,469	4,464	166,296	73.1%	21.2%
2012	125,409	36,041	2,610	2,371	4,509	170,940	73.4%	21.1%
2013	126,999	34,927	2,602	2,350	4,566	171,444	74.1%	20.4%
2014	130,576	35,965	2,814	2,366	4,706	176,427	74.0%	20.4%
2015	132,220	36,659	2,669	2,376	4,799	178,723	74.0%	20.5%
2016	134,100	37,592	2,613	2,446	4,654	181,405	73.9%	20.7%
2017	134,529	39,574	2,505	2,350	4,698	183,656	73.3%	21.5%

Source: Central Bureau of Statistics (2018).

of maintaining matrilineality in contemporary Israel seems to be an important area for confronting the past with contemporary ideas resulting among other things from technological progress and policy challenges in this regard. Both Torah and the oral tradition now underline the importance of the mother line in Israel. Matrilineality is a system of blood relationship in which the offspring are included in the mother's social group and inherit from the mother's kinship line. It is present in many variants and types, which are characterized in a given community by strictly defined relationship between a man and a woman, which determines other behaviors – the mother figure has a significant role in it. Selected elements from the social spheres are subject to the influence of matrilineality: position and social affiliation, surname, property, privileges, etc.⁶ Such a characteristic is interesting relationship with the intensively cultivated patriarchalism adopted in the Jewish nation. The interpretation of rabbinical and biblical traditions in the case of "Jewishness" is quite complicated. Referring to religious sources, it should be noted that originally the descendants

⁶ Examples of societies with matrilineal structure are mainly representatives of African, American, South, Celtic and Jewish culture: Naxi, Trobrianders, Pueblo Indians, Hopi, Iroquois or Lhopu. It should be added that matrilinearism is also associated with matriocality, which means living in a wife's home. It is assumed that the occurrence of this type of system is associated with the earlier occurrence of a matriarchal culture in a given society. Currently, based on numerous studies, it has been established that the matrilineal system, compared to patrilinear, occurs much less frequently in a 3: 1 ratio and is considered primordial, often in close relationship with the worship of female gods.

of patriarchs were Jews. In addition, the Bible mentions non-Jewish mothers who gave birth to descendants of the Israeli family. These included Moses' two wives, Joseph's Egyptian wife, Ruth of Moabitk's origin, Isaac's wife, and Jacob's wife (Szwarcman-Czarnota, 2003).

One thing that leaves no doubt is that all wives – non-Jewish women shared a common belief in Judaism – the religion of their husbands. One of the best known declarations of loyalty to religion and nation is Ruth's: "Where you go, I will go, where you live, I will live, your nation will be my nation, and your God will be my God" (Holy Scripture (Rt 1:16)). It can therefore be concluded that patrilineality, in the context of inheriting nationality, is not alien to the nation of Israel and that "Jewishness" has passed from generation to generation along the lines of its fathers, creating new families. In this way, the famous families were established: Cohen – guardian of the temple, and Levi – helper of the temple guardian (Freeman & Shurpin, 2018).

The origin was defined by the father's line and was in force in the history of Israel until the Torah was proclaimed. In the book, Deuteronomy 7:4; it is written, "thy daughter thou shalt not give unto his son, nor his daughter shalt thou take unto thy son, for thou shalt deceivest thy son, that he shall not follow me, but rather shall serve other gods, and the fervor of the Lord shall be furthered, and thee shall be swiftly smoothed out" (Holy Scripture (Deuteronomy 7:4)). A more blunt formulation can be found in Priest Ezra: "we will send all our strange-tribal wives away and what is born of them, because this is how to act according to the Law" (Holy Scripture (Book of Ezra 10:3)). It can therefore be concluded that the situation of establishing the line of inheritance of belonging to the Jewish nation was not always subject to the principles of matrilineality. The situation probably changed as a result of fights in antiquity, slaughter and numerous rapes that accompanied it. For the Jewish child the main link with his nation at that time was his mother. The transition to matrilineality system was an element that united the community and conditioned its sustainability, as well as its recognition and identification with the nation.

Matrilineality in the concept of the survival and development of modern Israel

In addition to the religious theme, the closely related maintenance of the matrilineality social system, the "cure" of the Holocaust trauma and long wars with neighboring countries are the main reasons for IVF popularity. Cultural and religious aspects have also been influenced by new technologies and significantly changed the way in which contemporary generations of women are functioning in Israel. It is worth remembering that one of the factors affecting the perception of women's role and position in Israel is the fact of giving birth to children.

The above historical description also reveals a certain concept of a specific model of femininity, sometimes going as far as radical subjection and precise rules that can be found among ultra-Orthodox Jews – shaving their heads after marriage and wearing wigs, avoiding reading books and newspapers, not watching TV, walking several steps behind

their husbands, totally dedicated to their families and dissociated from alternative behavior standards. Jewish families differently determine boundaries in the way they live. Sometimes they are formulated by the Rebbe and the community, another time by independently defining the scope of what is allowed and what is forbidden. Of course, examples related to Orthodox Judaism cannot be the only image of social models. The diversity of religious groups must be borne in mind. However, this example is an important model of accepted and reproduced behavior, which is radically different from contemporary and well-known standards present in European culture.

According to contemporary Jewish feminists, such as Rachel Adler, many behaviors perpetuated by Judaism have resulted in treating women as “being considered in Jewish law and in practice as subordinate members of the Jewish nation” (Frank & Leaman, 2006, p. 916.). Nevertheless, despite extremely different views on the status of women – mothers, Israel should be classified as one of the countries where the mother plays the most important role in the family system, and in a sense, the most symbolic role in social organization determining nationality.

It is noteworthy that among the nations representing the matrilineality system, Jewish society, as one of few, is also one of the most highly developed. Therefore it is possible to give some thought to the future of maternal inheritance of nationality in the light of ongoing changes caused by ART. This is indicated not only by derogations from this rule in the provisions of the Act on the Right of Return and inbred genetic diseases resulting from the maintenance of belonging to a specific cultural circle, but also by the issue of new possibilities of obtaining gametes. Perhaps soon the question of Jewish origin will not be concluded with unequivocal answer.

According to CIA *The World Factbook*, women in Israel give birth to more children than women in other countries with similar levels of development. For example, in 2013, the birth rate of children in Israel was 3.03, in the USA 2.01 and in Western Europe 1.56. The fertility rate of Israeli residents, grouped by religious affiliation, is as follows (Table 3.). There are several reasons for this state of affairs and they have complex conditioning. Certainly, the availability and full social acceptance of the IVF has an impact on the increase in fertility rate.

Table 3. Fertility rate, by year and religion

Year	Jews	Muslims	Christians	Druze	Others	Total
2000	2.66	4.74	2.55	3.07		2.95
2001	2.59	4.71	2.46	3.02		2.89
2002	2.64	4.58	2.29	2.77		2.89
2003	2.73	4.50	2.31	2.85		2.95
2004	2.71	4.36	2.13	2.66	1.47	2.90
2005	2.69	4.03	2.14	2.64	1.55	2.88
2006	2.75	3.97	2.14	2.64	1.55	2.88

Year	Jews	Muslims	Christians	Druze	Others	Total
2007	2.80	3.90	2.13	2.49	1.49	2.90
2008	2.88	3.84	2.11	2.49	1.57	2.96
2009	2.90	3.73	2.15	2.49	1.56	2.96
2010	2.97	3.75	2.14	2.48	1.64	3.03
2011	2.98	3.51	2.19	2.33	1.75	3.00
2012	3.04	3.54	2.17	2.26	1.68	3.05
2013	3.05	3.35	2.13	2.21	1.68	3.03
2014	3.11	3.35	2.27	2.20	1.72	3.08
2015	3.13	3.32	2.12	2.19	1.72	3.09
2016	3.16	3.29	2.01	2.21	1.64	3.11

Source: Central Bureau of Statistics (2018).

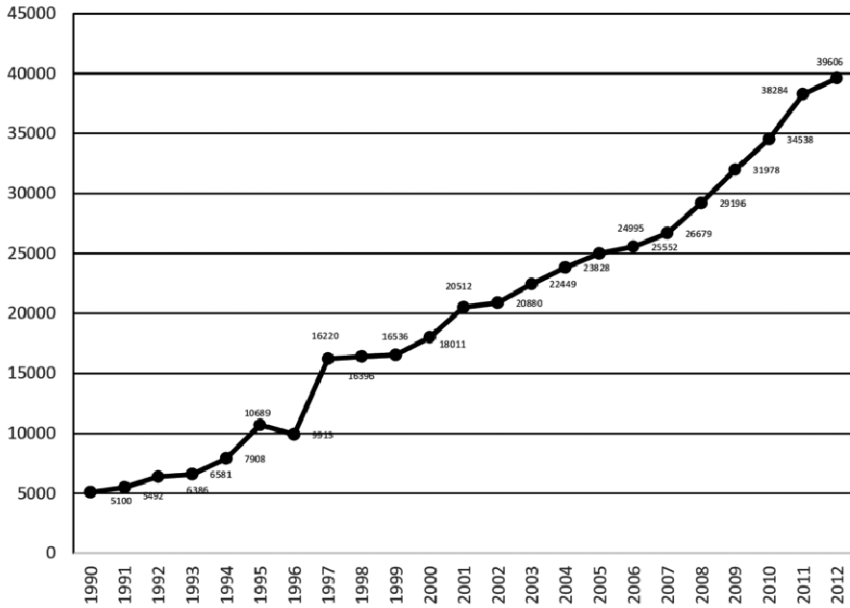
In Israel, the first child from the use of IVF was born in 1982⁷. Since then, there has been a significant increase in the use of ART, which promotion in Israel is comparable to only a few countries. Access to all forms of support for fertility covered by a number of legal regulations and funding schemes is a significant simplification. It is worth mentioning that methods approved by the legal system include: ICSI (intracytoplasmic sperm injection), surrogacy, gamete donation, procedures related to freezing gametes and their storage (Birenbaum-Carmeli, 2016, p. 17). The availability of *in vitro* procedure is part of the basic health services (State of Israel, Ministry of Health 2018) and becomes an increasingly common method of combating infertility. Israel is a country where the number of clinics offering the possibility of *in vitro* fertilization is constantly growing. According to the data currently available, there are 25 clinics in Israel where IVF is offered. The same applies to the number of cycles that are carried out in Israel during the year (Table 4.).

Developing new technology industries have led to a discussion on the rights offered by the State which supports *in vitro* procedure according to the National Health Insurance Law (State of Israel, Ministry of Health). The potential threat to women's health and lives from repeated hormone therapy in preparation for embryo implementation is discussed intensively and is one of the many problems associated with the use of new technologies. Israel is one of the countries which provide full IVF refund until the birth of two living descendants. In view of the enormous social pressure associated with having children, there is a need to intensify supervision of this process. Among many issues related to the IVF, three will be indicated: egg donation, surrogacy, Biological Will Bank.

Until 2010, only women who were involved in the preparations for IVF procedure could become egg donors. Other donors, whether for altruistic or commercial reasons, could not legally offer eggs. Not being able to obtain "domestic" eggs, women started looking for donors abroad. In this context, the issue of matrilineality arises, because being Jewish is defined

⁷ The first human child, as a result of IVF, was born in 1978.

Table 4. Number of IVF cycles per year in Israel (D. Birenbaum-Carmeli, 2016, p. 17)



Source: Birenbaum-Carmeli, 2016, p.17.

by the Jewish mother, hence the eggs from a woman who is not Jewish enter the sphere of religious and political considerations. Depending on the views of individual Rabbis, for one the uterus and for another the egg is a guarantee of the child's belonging to the nation.

In this context, another issue related to recipient preferences should be noted. For example, eggs from Palestinian donors are treated with reluctance and rare to be accepted, while eggs from Romania and Eastern Europe are popular (Birenbaum-Carmeli, 2016, p. 19). The same applies to sperm donors. Preferentiality excludes or even depreciates the representatives of individual nations, which is a new unprecedented phenomenon caused by IVF technology.

Another issue worthy of note is the growing demand for surrogacy, which in Israel is a legal, state-controlled service. Until the 1990s, it was illegal; later as a result of a won precedent case concerning a woman who, as a result of disease, had her uterus removed and surrogacy was her only chance of motherhood, Israel changed the law and was the first country in the world to establish the Embryo Carrying Agreement Law (Birenbaum-Carmeli, 2016, p. 20) and embraced surrogacy with public health insurance. The State support was addressed to heterosexual couples, while for single persons and homosexual couples the cross-border surrogacy is not refunded. In the face of such legal solutions, the question of

who is a Jew returns once again. According to some Rabbis, after birth a child should be converted to Judaism if the mother is not Jewish.

The third and final example of ethical challenges and dilemmas caused by the implementation of technological innovations is the possibility of giving birth to the offspring of deceased parent.

Such an opportunity was created, among others, by the Biological Will Bank, where e.g. Israeli soldiers who put their health at risk during military operations can deposit and protect their genetic material. By legalizing the surrogacy, it is possible to use the deposited material and bring a child into the world in extreme circumstances after the death of parent. Israel is the first country where the collection of genetic material from a deceased person up to 72 hours after death is allowed. In 2013, the first baby was born in Israel years after his father's death.

There are three important threads in the IVF policy discussion. The first is the religious and national dimension, the second is the status of a woman as the most involved entity in the *in vitro* procedure, and the third is the medical thread about the safety of using this method and effects of adopted solutions in the context of long-term impact on the following generations.

The above presented issues associated with IVF are particularly relevant from an ethical point of view as they constitute precedents in many areas of social activity and can help to shape the best practices in similar cases in other countries that are systematically modified and those that are awaiting regulation.

Conclusion

To sum up this article, it is worth making a few synthesized comments. The history of Israel, both nation and State, is turbulent and difficult. Speaking about its history, geographical location and neighbors, it is necessary to particularly emphasize the unprecedented willingness of this nation to survive and the contemporary determination to build social structures with the involvement of the latest technological advances. In this context, it seems appropriate to raise a wider discussion in the future on the impact of using new solutions in the area of ART.

From an ethical perspective, Israel is a country which is pioneering in the dissemination of new technological solutions, providing an opportunity to observe and analyse the causes and effects of phenomena related to the implementation of innovative solutions. The recognizable aspect of such activities is all the more valuable as regards activities undertaken in a country having the status and leading position in implementation of new technologies. The solutions that have already been applied are going into the future in a form of further long-term effects of the decisions made today. Finally it is worth noting that the first person born from *in vitro* is now 40 years old, which makes us aware of the scale of challenges involved in caring for the future of millions of people. In conclusion to undertaken analyses,

it is necessary to state that reported proposal of considering the matrilineality issue in ethical reflection on the use of new reproductive technologies in Israel is justified. In the light of the issues discussed in this article, it is possible to formulate the thesis that matrilineality – as almost dialectic position with regard to patrilineality – constitutes a basic historical and cultural condition for the directions of these technologies development. It is to be hoped that the addressed subject will be further explored for the benefit of all concerned.

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