DOI: 10.55019/plr.2026.1.145-161

Pázmány Law Review
XIII. 2026. • 145–161

THE TYPES AND HISTORICAL DEVELOPMENT OF ASSISTED REPRODUCTIVE TECHNOLOGIES IN THE CONTEXT OF EARLY ETHICAL AND LEGAL REACTIONS

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Abstract

The paper sets forth the explanation of the main types of assisted reproductive technologies and their medical, cultural and historical evolution. First, it deals with artificial insemination and sperm cryopresevation, after that the research explores the development of in vitro fertilisation in connection with egg and embryo donation. The study lays special emphasis on the early ethical and legal attempts to regulate the field of assisted reproduction, considering ethical documents and organizations, legal regulation and case law in the United States, England, Germany and Hungary.
The essay's conclusion is in general, that for most states, there was an early period when assisted reproduction was actually prohibited. After that, in almost all countries, various regulatory bodies and legal regulations have classified assisted reproductive technologies as permissible procedures for the treatment of infertility. Consequently, limitations on the human embryo and the family, which had been established on long traditional development, were gradually dismantled.

Keywords: assisted reproductive technologies, ethical concerns of ART, historical background of ART, sperm donation, surrogacy

1. Introduction

Assisted Reproductive Technologies (ART) is the umbrella term for artificial reproductive techniques to treat infertility. They require the involvement not only of the woman and the man but also of a third party to help make conception possible.

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The explosion of medical progress in recent decades has made it possible to develop and refine methods for intervening in this initial stage of procreation, the process of creating new life.

Infertility as a disease, a reproductive disorder, as defined by the WHO, is the failure to become pregnant after at least 12 months of regular and unprotected sex.[1] The causes of infertility can occur on either the male or the female side. It is estimated that concerning infertile couples in 40–50 % of the cases the woman, 30–40 % the man and 10–20 % both are affected by infertility. The number of infertile people has increased gradually over the last quarter of a century and is now estimated at between 15 % and 20 % of couples.[2] Changes in lifestyle and family planning in societies are trends that contribute to this phenomenon.

Among the methods of treating infertility, only assisted reproductive techniques might be effective when therapeutic or surgical treatment is not an option. However, given that they are often very complex operations involving several steps, each of which must be carried out correctly, they are far from being always successful. Even today, the average success rate of assisted reproduction techniques is still only around 40 %.[3]

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1 Infertility was declared a disease by the World Health Organization (WHO) in 1988. However, it should be noted, that infertility is a normative concept, and its legal definition and minimum duration may vary from country to country. Crystal Liu: Restricting access to infertility services: What is a justified limitation on reproductive freedom? *Minnesota Journal of Law, Science & Technology* 10, 1. (2009), 293. https://doi.org/10.24926/15529541.3556; Eva Maria K. Rütz: *Heterologe Insemination – Die rechtliche Stellung des Samenspenders.* Berlin, Springer, 2008. 5–6.; Fernando Zegers-Hochschild et al.: International Committee for Monitoring Assisted Reproductive Technology (ICMART) and the World Health Organization (WHO) revised glossary of ART terminology. *Fertility and Sterility* 92, 5. (2009), 1520–1524. https://doi.org/10.1016/j.fertnstert.2009.09.009

2 For the latest WHO data see World Health Organizatinon: 1 in 6 people globally affected by infertility. https://www.who.int/news/item/04-04-2023-1-in-6-people-globally-affected-by-infertility. In addition see also Albin Eser – Marcus von Lutterotti – Paul Sporken: *Lexikon Medizin, Ethik, Recht.* Freiburg, Herder, 1989. 348–349.; Theresa M. Erickson – Megan T. Erickson: What happens to embryos when a marriage dissolves? Embryo disposition and divorce. *William Mitchell Law Review* 35, 2. (2009), 469.; Petra Thorn: *Familiengründung mit Samenspende.* Stuttgart, Kohlhammer Verlag, 2008. 19.; Gábor Szendi: A női funkcionális meddőség evolúciós értelmezése [The evolutionary interpretation of female functional infertility]. *Mentálhigiéné és Pszichoszomatika* 1. (2007), 5–6.; Hans-Rudolf Tinneberg: Zum aktuellen Leistungsstand der In-Vitro-Fertilisation. In: Christian Dierks – Albrecht Wienke – Wolfgang Eisenmenger (ed.): *Rechtsfragen der Präimplantationsdiagnostik*. Berlin, New York, Springer, 2007. 1.

3 Catherine A. Clements: What about the children? A call for regulation of assisted reproductive technology. *Indiana Law Journal* 84, 1. (2009), 334.; Jan M. R. Gerris: Single embryo transfer and IVF/ICSI outcome: a balanced appraisal. *Human Reproduction Update* 11, 2. (2005), 105. https://doi.org/10.1093/humupd/dmh049; Michéle Hansen et al.: The risk of major birth defects after intracytoplasmic sperm injection and in vitro fertilization. *The New England Journal of Medicine* 346, 10. (2002), 729. https://doi.org/10.1056/NEJMoa010035; Urska Velikonja: The costs of multiple gestation pregnancies in assisted reproduction. *Harvard Journal of Law & Gender* 32, 2. (2009), 466., 471–472.

2. Main types of assisted reproductive techniques and their history

The longest history of assisted reproductive techniques is undoubtedly artificial insemination (AI), artificial reproduction initially exclusively meant this method.[4] Today, it is perhaps the easiest to perform and the most cost-effective. It involves fertilisation with the male gametes inside the mother's body. If the gametes of the husband or partner are used, it is called homologous (artificial insemination by husband–AIH), if the insemination is done with donated sperm from a donor, it is called heterologous (artificial insemination by donor–AID) artificial insemination. The procedure consists of inserting a male sperm into the fallopian tube during the woman's ovulation period in order to help fertilise the egg. It is used in cases of infertility in men, usually because the sperm are not in sufficient numbers or have a movement or shape disorder. Successful implementation of the homologous type of the method allows the parents to have a child who is genetically entirely their own.
The idea of impregnating a woman without sexual intercourse is not a recent one, dating back to the Jewish history of the second century. According to the Talmud, the institution of *fecundatio sine concubito* was achieved by bathing women in water containing male sperm.[5] From the 14th century onwards,[6] experiments in animal breeding were carried out continuously, and from the 16th century onwards, their application was also tested on humans, although the first definite information on human results dates from 1770, when John Hunter in England successfully introduced the procedure.[7] Since the second half of the 19th century, with expansion of medical knowledge and as processes had been observed more precisely, more successful attempts were reported, in connection with the work of Hunter in England, Girault in France and Sims in the USA in 1866. It is worth mentioning that the first person in Hungary to perform successfully artificial insemination was Endre Bánk in 1952.[8]

The method also raised the issue of frozen storage of sperm for the preservation of own or donor gametes very early on, with attempts dating back to 1776,[9] but the method was only successful from 1949, and the first child conceived from frozen

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4 Gábor Jobbágyi: *Az élet joga.* [The right to life]. Budapest, Szent István Társulat, 2004. 216.

5 Gerhard Ranner: Aspekte der künstliche Insemination. In: Erwin Bernat (ed.): *Lebensbeginn durch Menschenhand. Probleme künstlicher Befruchtungstechnologien aus medizinischer, ethischer und juristischer Sicht.* Graz, Leykam, 1985. 24.

6 Thomas Katzorke: Entstehung und Entwicklung der Spendersamenbehandlung in Deutschland. In: Gisela Bockenheimer-Lucius – Petra Thorn – Christiane Wendehorst (ed.): *Umwege zum eigenen Kind. Ethische und rechtliche Herausforderungen an die Reproduktionsmedizin 30 Jahre nach Louise Brown*. Göttingen, Universitätsverlag, 2008. 90.

7 Joshua Greenfield: Dad was born a thousand years ago? An examination of post-mortem conception and inheritance, with a focus on the rule against perpetuities. *Minnesota Journal of Law, Science & Technology* 8, 1. (2006). 280. https://doi.org/10.24926/15529541.3616

8 Béla Bodnár – Zoltán Bodnár: *Lombikbébi és társai.* [Test-tube baby and others]. Budapest, Kossuth Könyvkiadó, 1988. 29–31.

9 Ibid. 33.

sperm was born in Australia in 1977.[10] Consequently, there was a growing demand for sperm banks.[11] It should be noted that from then on, sperm donation was increasingly recognised both ethically and legally as a means of promoting the freedom to procreate. The first commercially legal sperm banks were established in the 1970s, the first in Minnesota in the United States,[12] and sperm banks have been operating in Hungary since the late 1960s.[13]

However, scientific progress did not stop at the stage of artificial insemination. After a long period of experimentation, in vitro fertilization – commonly referred to as test-tube-baby process – became the number one interest of medicine in the late 1970s. It involves fertilisation with a man's gametes outside the mother's body under laboratory conditions – *in vitro*, in a Petri dish. The embryo thus created is then transferred back into the mother's womb (embryo transfer). It can also be homologous, if the couple or partners use their own gametes, or heterologous, if the female egg or male sperm is from a donor. As with intrauterine insemination, the homologous form of this method allows parents genetically to produce their own child, but the success rate is much lower than the former.

The process of in vitro fertilisation is as follows: because only one or two eggs mature naturally in the woman's body, the ovaries are induced to mature abnormally high numbers of eggs by medication or hormone injections to ensure the procedure is effective and to ensure that more eggs are available for fertilisation. This treatment usually lasts two to three weeks. The prepared oocytes are extracted from the woman's body, with or without anesthesia, the follicular fluid is aspirated, usually by ultrasound (follicular puncture), and fertilised with the prepared sperm in a so-called Petri dish within hours. Successfully fertilised eggs soon begin to divide and within two to five days the developing embryos are ready to be transferred back into the mother's uterine cavity.[14]

At the same time as in vitro fertilisation, the so-called GIFT method (gamete intrafallopian transfer) was developed: as in vitro fertilisation, the prepared oocytes are removed from the mother's body, but they are placed back in the fallopian tube with the sperm, so fertilisation takes place in its natural environment.

This is similar to the so-called ZIFT method (zygote intrafallopian transfer), where the in vitro fertilised egg, the zygote, is transferred into the fallopian tube, so that, unlike in conventional in vitro fertilisation, once fertilisation has taken place, the zygote is returned to the mother's body, not to the uterine cavity but to the fallopian tube.[15]

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[10] Greenfield op. cit. 281.

[11] Naomi Cahn: Accidental incest: Drawing the line – or the curtain? – for reproductive technology. *Harvard Journal of Law & Gender* 32, (2009), 78.; Ranner op. cit. 29.

[12] Debora L. Spar: *The baby business: how money, science, and politics drive the commerce of conception.* Boston, Harvard Business Review Press, 2006. 35.

[13] Bodnár – Bodnár (1988) op. cit. 34.

[14] Gregory Dolin: A defence of embryonic stem cell research. *Indiana Law Journal* 84, 4. (2009), 1212–1213.

[15] Eser – Lutterotti – Sporken op. cit. 561.

In the event that the parent is unable to provide his or her own gametes for the process, or would pass on an abnormality to the offspring, they may choose to use donor gametes. Donor sperm can be used for both intra- and extra-uterine insemination, donor oocytes only for extra-uterine insemination. In this way, although the genetic link to the child will not be complete, at least one of the parents will have a genetic connection. However, if both parents need donor gametes, there will be no genetic link between the parents and the child.

It should also be pointed out that, unlike sperm donation, egg donation is a complex process and requires clinical management by both the recipient and the donor. The menstrual cycles of the donor and the recipient need to be synchronised and the recipient's uterus needs to be prepared to receive the fertilised donor egg, so hormone stimulation treatment is required for both parties. The donor's ovulation is influenced by the method described above, during which the recipient's cycle is also medically controlled by hormone therapy and her uterus is prepared to receive the embryo to be implanted. This is necessary because freezing eggs, unlike sperm, is less successful in practice. For a long time it was not even possible, although the experiments were promising.[16] It is worth mentioning a relatively new technique that allows the freezing of oocytes in the same way as sperm cells, but which involves the retrieval of immature oocytes and the ovulation of the eggs happens under laboratory conditions. This has the advantage of greatly reducing the need for hormonal treatment and eliminating the need to synchronise the cycles of the two women when donating eggs. However, there is currently limited data available on the method of egg freezing and the resulting children.[17]

In vitro fertilisation allows not only gamete donation, but also embryo donation, using embryos left over from in vitro fertilisation with other couples. It is not certain that the first treatment will be successful. Therefore, in order to avoid the need for the mother to undergo a second or subsequent clinical treatment to retrieve the eggs, it is possible to create more embryos than are retrieved at the first treatment and store them frozen until a possible later date. In addition, if the treatment is successful, these embryos can then be a surplus, allowing embryos to be donated to couples who would not be able to provide any gametes at all for the process.

Additionally, this method makes it possible for a homologous or heterologous fertilised egg is not implanted into the uterus of the intended mother, who would be medically unable to carry the pregnancy to term, but into the uterus of another woman who is willing to carry the child to term and hand it over to the intended parents. This

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[16] W. J. Dondorp: Freezing the hands of time: Fertility insurance for healthy women? In: F. Shenfield – C. Sureau (ed.): *Ethical dilemmas in reproduction.* London, Parthenon, 2002. 2–3.; Charis Thompson: *Making parents. The ontological choreography of reproductive technologies.* Cambridge, The MIT Press, 2005. 96.

[17] J. Brad Reich – Dawn Swink: You can't put the genie back in the bottle: Potential rights and obligations of egg donors in the cyberprocreation era. *Albany Journal of Law, Science & Technology* 20, 1. (2010), 13–15.

is known as surrogacy (commercial or altruistic surrogate motherhood). In the case of surrogacy, therefore, an additional actor is involved in the technique.[18]

As with artificial insemination, in vitro fertilisation was initially led by animal experiments, with data from as early as 1878. The Viennese embryologist Schenk tried to fertilise animal eggs outside the womb, which he claimed to have succeeded in doing, but the veracity of these early results is highly disputed. The conclusions and experience gained from animal experiments prompted researchers to broaden their horizons by studying humans. In the 1930s, the American George Pincus was the first to investigate the process of animal and later human ovulation, and the first to coin the term *in vitro* and report the first successful animal in vitro fertilisation birth.[19] It should be noted here that around this time, in 1932, Aldous Huxley's Brave New World was published, in which, although intended as a dystopian work, he describes in vitro fertilisation in many ways similar to what we know today.[20]

The first in vitro fertilisation using human gametes was carried out in 1948 by John Rock and Miriam Menken in Boston – unsuccessfully, in terms of results. Rock did this controversially given the circumstances at the time, by collecting eight hundred eggs from women who had undergone surgery at the clinic for other reasons. Soon afterwards, in the 1950s, Landrum Brewer Shettles began to investigate the possibility of treating infertility by in vitro fertilization. Moreover, in the early 1960s he kept a fertilised egg alive for six days and then transferred it to a woman's womb, where Shettles claimed the embryo developed, but the clinic director had the embryo removed at 10 weeks, claiming that he could not authorise unethical human experimentation.[21] In the early 1960s, the Italian Daniele Petrucci managed to keep an embryo alive in vitro for 29 days, which he destroyed on suspicion of malformation, but the huge outcry over the experiments and the protests of the Vatican might have played a part.[22] Around the same time, in 1959, Min Chueh Chang in the United States clearly demonstrated the success of in vitro fertilisation with animals.[23]

The scientific breakthrough came in 1978, when the first child conceived by in vitro fertilisation, Louise Brown, was born in the UK. Her birth was preceded by 15 years

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[18] It is important to note, that the types of assisted reproductive techniques are closed, and the relevant legislation in each country usually lists them in a taxonomy. In Hungary, Decree 30/1998 (VI. 24) NM lists the possible methods. For more details on earlier concepts see Béla Bodnár – Zoltán Bodnár: Lehet-e az anya személye kérdéses? [Can the identity of the mother be questionable?] *Magyar Jog* 12, (1985), 1088–1100.; Béla Bodnár – Zoltán Bodnár: A személyállományra vonatkozó perek lehetőségei az in vitro fertilisatio és embrió transfer eseteiben. [The possibilities of lawsuits concerning civil status in cases of in vitro fertilization and embryo transfer]. *Magyar Jog* 4, (1986), 323–333.

[19] W. Feichtinger – P. Kemeter: Über die In-vitro-Fertilisierung beim Menschen. In: Erwin Bernat (ed.): *Lebensbeginn durch Menschenhand.* Graz, Leykam, 1985. 60.; Alastair G. Sutcliff: *IVF children: The first generation: Assisted reproduction and child development*. London, CRC Press, 2002. 2.

[20] Jean Cohen et. al.: The early days of IVF outside the UK. *Human Reproduction Update* 11, 5. (2005), 445. https://doi.org/10.1093/humupd/dmi016; John Harris: *On cloning.* London, Routledge, 2004. 6. https://doi.org/10.4324/9780203440636

[21] Sutcliff op. cit. 3.

[22] Bodnár – Bodnár (1985) op. cit. 1093.

[23] Sutcliff op. cit. 3.

of laboratory work and experimentation by Patrick Steptoe and Robert Edwards.[24] According to Steptoe, a gynecologist, all the research was funded by relatively lucrative abortion income.[25] Steptoe and Edwards reported initial successes as early as 1969, but their experiments were blocked by the government, and the ban was only lifted in 1971.[26] In 1970, they introduced laparoscopy as an early method of egg retrieval. In 1976, they managed to achieve a pregnancy, but it was an ectopic pregnancy and had to be terminated. In the same year, Alexander Lopata of Australia also managed to induce a pregnancy, which also failed to result in a birth.[27]

However, Louise Brown's success was followed by several new successful births. The second test-tube-baby, like the one in England, was born in 1978 in Calcutta, India. The breakthrough came in 1980 in Australia under Lopata, in 1981 in the United States, in 1982 in the Czech Republic and in many other countries, and from then on the number of test-tube-babies increased rapidly. In the first five years alone, 58 research groups were set up and nearly 600 births took place,[28] and it is now estimated that around 12 million children have been born worldwide through in vitro fertilisation.[29]

In 1983, the first such pregnancy was achieved in England through embryo donation, although no child was born, but it was possible in the United States in 1984 from donated eggs, and in 1985 embryo donation in England also bore fruit.[30] In the 1980s, research into the possibility of freezing embryos began, and in 1984, thanks to the work of the medical team of Alan Trounson and Linda Mohr, a newborn baby was delivered in Australia after spending two months frozen as an embryo. Soon after, Steptoe and Edwards also had the first such birth in England.[31]

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[24] Robert Edwards was awarded the Nobel Prize in 2010 for his work in in vitro fertilisation.

[25] Brian Clowes: *The Facts of Life. An Authoritative Guide to Life & Family Issues*. Front Royal, Human Life Intl., 1997. 224.

[26] Bodnár – Bodnár (1988) op. cit. 49.

[27] Peter Hans Hofschneider: Embryonenforschung und Gentechnologie. In: Uwe Opolka (ed.): *Respekt vor dem werdenden Leben*. München, Max-. Planck-Gesellschaft, 1989. 30.

[28] Michael Pap: *Extrakorporale Befruchtung und Embriotransfer aus Arztrechtlicher Sicht: insbesondere: der Schutz des werdenden Lebens "in vitro"*. Frankfurt am Main, Peter Lang Verlag, 1987. 46–47.; Lyria Bennett Moses: Understanding legal responses to technological change of in vitro fertilization. *Minnesota Journal of Law, Science & Technology* 6, 2. (2005), 509–510.; Ingrid Schneider: Embryonen zwischen Virtualisierung und Materialisierung – Kontroll und Gestaltungswünsche an die technisierte Reproduktion. *Technikfolgenabschätzung. Theorie und Praxis* 11, 2. (2002), 45. https://doi.org/10.14512/tatup.11.2.45

[29] Focus on Reproduction: 'At least 12 million babies' since the first IVF birth in 1978. https://www.focusonreproduction.eu/article/ESHRE-News-COP23_adamson

[30] Peter Lutjen et al.: The establishment and maintenance of pregnancy using in vitro fertilization and embryo donation in a patient with primary ovarian failure. *Nature* 307, (1984), 174. https://doi.org/10.1038/307174a0; W. Feichtinger et al.: Pregnancy after total ovariectomy achieved by ovum donation. *The Lancet* 326, (1985), 722–23. https://doi.org/10.1016/S0140-6736(85)92956-3

[31] Pap op. cit. 74.

Interestingly, the first record of surrogacy dates back to the Old Testament, although there the fertilisation of a surrogate mother was natural rather than artificial.[32] In the history of assisted reproduction, the first reliable data on surrogacy come from the United States, where the first surrogacy relationships, by artificial insemination, were established in the mid to late 1970s.[33]

The first child conceived in Hungary using the GIFT method was born in 1988.[34] The first baby was born in Hungary in 1992 through egg donation, the interesting circumstances being that a woman volunteering was artificially inseminated with the husband's gametes, the embryo was retrieved and transferred back into the wife's womb.[35]

The various methods mentioned above existed in a legal vacuum at the time of their development and even afterwards in most countries, including Hungary. Their legal status was in many cases unclear. New methods were introduced and successfully applied, but it was ambiguous whether they were experiments, treatments or services.[36] With a few exceptions, ethical statements were published only in the 1980s, based on the findings of various committees, and the first legislation was only passed in Australia in 1984.[37] The first pioneering legislation in Europe – the Swedish *Lag om insemination* – also dates from 1984.[38] In many cases, despite the regulation, heated debates have arisen, preparatory work has not sufficiently clarified the status and protection of the embryo in IVF, or the rules on new testing technologies closely linked to in vitro fertilisation.

3. Ethical and legal reactions – A general overview

Centuries of medical research have made it possible for parents, whose natural ability to procreate for some health reason was hindered, to have a child. Nothing would seem more natural than to accept these remedies without reservation. In reality, however, we are faced with very complex and often contradictory issues, and representatives of the natural and social sciences have put forward a wide variety of arguments in opposition to or in favour of assisted reproduction.

Since Louis Brown's birth in the summer of 1978, a wide-ranging debate has unfolded on the ethical and legal aspects of egg and embryo donation, surrogacy, egg

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32 Think of the story of Abraham and Sarah, or Jacob and Rachel. See the book of Genesis 16.1–4.; 30.3–8.; 30.9–30.

33 Willibald Posch: Das Recht der künstlichen Humanreproduktion im Wandel. In: Erwin Bernat (ed.): *Lebensbeginn durch Menschenhand.* Graz, Leykam, 1985. 203.; Carol Sanger: Developing markets in baby-making: In the matter of Baby M. *Harvard Journal of Law & Gender* 30, 1. (2007), 83.

34 Bodnár – Bodnár (1988) op. cit. 54.

35 Kálmán Széll: *Egészségügyi Etika.* [Healthcare ethics]. Pécs, POTE EFK, 1995. 174.

36 Iván László Arnold: Az emberi lényeg, a mesterséges utódnemzés és a jog. [The human essence, artificial procreation, and the law]. *Társadalmi Szemle* 12, (1996), 45.

37 Judit Sándor: A humán reprodukciós orvosi eljárások jogi szabályozásáról. [On the legal regulation of assisted medical procreation]. *Acta Humana* 7, 25. (1996), 31.

38 Posch op. cit. 242.

freezing and the ethical and legal aspects of genetic engineering reaching beyond the scope of natural sciences. The in vitro fertilisation procedure itself was not only important from a purely medical point of view, but it was also very soon faced with the fact that it created family types that could no longer be integrated into the traditional framework and that would not have existed without the success of the procedure.[39] It also had to be realised that in vitro fertilisation, which involves the creation of embryos outside the mother's body, requires a much more complex, sensitive and complex legal and ethical approach than artificial insemination, as it interferes even more with the natural process of procreation. This has led to problems such as the initial uncertainties about the effectiveness of the procedure, the potential for manipulation and abuse of the embryo, the fate of surplus embryos, sex selection of the unborn child, and the post-mortem use of gametes from the deceased partner. Referring to the unpredictability of the consequences, an editorial in Nature in 1978 compared the possibilities offered by assisted reproduction to nuclear experiments.[40]

From a social science point of view, significant events began to unfold as early as the end of the 19th century. The first to examine the ethical aspects of artificial insemination was the French society *Do Vitam*, founded in 1880, which, after exploring the aspects of artificial insemination, took a position that declared the procedure immoral and unnatural. In 1884, on the other hand, the Paris Society of Forensic Medicine considered it permissible as a last resort, with the husband's consent, to allow couples to have children. At the same time, in the absence of legislation the Bordeaux tribunal convicted the French gynecologist Lajarte.[41] In 1905, for the first time in German jurisprudence, the Cologne Supreme Court also rejected the method.[42] From a legal and ethical point of view, the technical possibility of sperm donation was therefore far from unproblematic at the outset, since until then, unbreakable taboos and traditions had stood in the way of legal recognition of the medical procedure. This perspective almost immediately led to the breakdown of the traditional structure of the family and a new perspective on parenthood. In many countries, artificial insemination was long considered adultery, regardless of whether the medical procedure involved the use of the husband's own gametes or gametes from a donor.[43]

The ethical controversy surrounding assisted reproduction is demonstrated by the fact that in Germany, a 1962 reform proposal to the penal code, citing constitutional considerations, sought to criminalise heterologous insemination as evidence of the brief

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39 Sozos J. Fasouliotis – Joseph G. Schenker: Social aspects in assisted reproduction. *Human Reproduction Update* 5, 1. (1999), 26. https://doi.org/10.1093/humupd/5.1.26

40 János László: Határkő a meddőség elleni küzdelem történetében. [A milestone in the history of the fight against infertility]. *Magyar Tudomány* 86, 1. (1979), 24.

41 Katzorke op. cit. 91–92.

42 Bodnár – Bodnár (1988) op. cit. 58.

43 Noa Ben-Asher: The curing law: On the evolution of baby-making markets. *Cardozo Law Review* 30, 5. (2009), 1895.; Julia Schlüter: Schutzkonzepte für menschliche Keimbahnzellen in der Fortpflanzungsmedizin. Berlin, LIT Verlag, 2008. 161.

natural law renaissance that followed the Second World War.[44] However, the reform proposal was quickly rejected and the German Medical Congress in 1970 also deemed acceptable the heterologous, donor form of artificial insemination.[45] In Germany, the most significant was the work of the committee set up in 1985 by the ministers responsible for justice and research, chaired by the former constitutional judge Ernst Benda, whose resolutions set out the wishes of a strict, restrictive legal regime. The resolutions of the German Doctors' Day in 1985 and the German Lawyers' Day in 1986 also considered certain types of assisted reproduction to be permissible only within a strictly defined legal framework.[46] At the end of this process, the German Embryo Protection Act *(Embryonenschutzgesetz)* came into force in 1991. Its regulatory concept still retains much of the influence of ethical considerations. The law was the strictest in this area, as it provided legal protection for embryos from the moment of conception and excluded and penalised the donation of eggs and embryos, which exists in other countries, from the scope of assisted reproduction.[47] Today egg donation is permissible under some circumstances.

In the United States in the early 1960s, artificial insemination was considered adultery, as in other countries, whether or not the husband consented, and the child born was considered illegitimate in all cases.[48] The change in this concept in the United States was brought about by case law. The turning point came with the case of People v. Sorensen (1968) in California. It gave rise to the notion that adultery requires two persons acting in unity of will; this neither applies to the doctor because she may be a woman, nor to the donor because he is not present at the time of insemination, so to classify the procedure as adultery is obviously absurd.[49] First, in 1968, the State of Georgia passed a law stating that a child born as a result of a procedure carried out with the husband's consent is the legitimate child of the husband and wife.[50] In 1979, the first document on ethical issues was published here, and in 1984 the American Fertility Society took a stand, followed by a series of declarations at both federal and state level. A curiosity is the 1979 Illinois law that extended the scope of an 1877 statute on the abuse of minors to in vitro fertilisation practitioners.[51] Beyond that, however, US law – both federal and state – today reflects a very heterogeneous picture regarding the use of assisted reproductive technology.

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44 Armin Stolz: Grundrechtsaspekte künstlicher Befruchtungsmethoden. In: Erwin Bernat (ed.): *Lebensbeginn durch Menschenhand*. Graz, Leykam, 1985. 110.

45 Bodnár – Bodnár (1988) op. cit. 59.

46 Gábor Jobbágyi: *Orvosi jog. Hippokratésztől a klónozásig.* [Medical law: From Hippocrates to cloning]. Budapest, Szent István Társulat, 2008.; Hinner Schütze: *Embryonale Humanstammzellen. Eine rechtsvergleichende Untersuchung der deutschen, französischen, britischen und US-amerikanischen Rechtslage.* Berlin, Springer, 2007. 298.

47 Gesetz zum Schutz von Embryonen (Embryonenschutzgesetz – EschG) 1991.

48 Ben-Asher op. cit. 1889–1890.; Posch op. cit. 212.

49 Ben-Asher op. cit. 1893–1895.

50 Bodnár – Bodnár (1988) op. cit. 112.

51 Pap op. cit. 100–101.

In England, at a conference in 1946, only doctors approved, but two years later, lawyers and theologians were no longer opposed to the homologous form of artificial insemination.[52] First, in 1960, a body was set up to review artificial insemination and published the Feversham report, named after its chairman.[53] In 1982, the Warnock Committee, named after its chair, Mary Warnock, was set up, consisting of a large number of doctors and lawyers, and was the most historically significant, publishing its position after two years of preparatory work.[54] Based on its proposals, a very comprehensive piece of legislation, the Human Fertilisation and Embryology Act (1990), was passed in England in 1990.[55] Whereas in Germany, for example, there are criminal restrictions, the English legislation has from the outset sought to regulate rather than to prohibit, its provisions and ethos favouring scientific research rather than embryo protection.[56]

In addition, international organisations have also expressed their views on assisted reproduction. The fact that the Council of Europe issued directives to its Member States in the year Louise Brown was born and the European Parliament also addressed the issue is a pioneering step in this area.[57] Most of these documents draw attention to the need to protect the embryo, for example by calling for a ban on the creation of embryos for research purposes.[58] In 1985, the European Society of Human Reproduction and Embryology held its first general assembly, and it continues to monitor assisted reproduction practices in European countries. In 1997, the Council of Europe adopted the Oviedo Convention, which aims to protect life and human dignity in the field of biomedicine.[59]

In Hungary, there was no committee or body like the foreign ones to consider the ethical aspects of the issue, although the Scientific Council for Health had been in existence since the 1950s. Assisted reproductive techniques were not yet mentioned in the 1972 Act II on Health Care, but were regulated by the Minister of Health in a lower-level law, the narrow and incomplete Decree 12/1981 (IX. 29) of the Ministry of Health. Only the Act CLIV of 1997 on Health Care and Decree 30/1998 NM regulated

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52 Bodnár – Bodnár (1988) op. cit. 59.

53 Posch op. cit. 205.

54 Report of the Committee of Inquiry into Human Fertilisation and Embryology 1984.; Royal College of Obstetrics and Gynecology: Report on in-vitro Fertilisation and Embryo-Replacement 1983.

55 Human Fertilisation and Embryology Act 1990 (c. 37).

56 See in detail e.g. Sándor op. cit. 31. Oberfrank Ferenc: A biomedicinális etika és az emberi jogok: európai helyzetkép [Biomedical ethics and human rights: A European overview]. *Acta Humana* 7, 25. (1996) 8.

57 Holger Hassmann: *Embryonenschutz im Spannungsfeld internationaler Menschenrechte, staatlicher Grundrechte und nationaler Regelungsmodelle zur Embryonenforschung.* Berlin, Springer, 2003. 6. https://doi.org/10.1007/978-3-642-55491-9; Jobbágyi (2004) op. cit. 222–223.

58 Jobbágyi (2007) op. cit. 142.

59 Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (ETS No. 164). Signed in Oviedo, April 4, 1997. Additional Protocol to the Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine, on the Prohibition of Cloning Human Beings (ETS No. 168) Signed in Paris, January 12, 1998.

the possibility of using assisted reproductive procedures in detail.[60] In Hungary, the activities of the Scientific Health Council, including the Human Reproduction Committee, which acts as a proposing, advisory and decision-making body to the Minister responsible for health and also participates in the licensing procedure of the institutions carrying out the interventions, should also be mentioned from the years following the change of regime.

From among the historic churches, the Catholic Church became involved in ethical issues relatively early on. It was the most consistently opposed to new reproductive techniques. The first to reject heterologous insemination was the Holy See in 1897, but its homologous form was still considered permissible by Pope Pius XI. Pius XII, however, in a speech in 1949, categorically prohibited both types, citing the natural, personal, one-body union nature of the conjugal act.[61] In 1987, the Congregation for the Doctrine of the Faith issued the document Donum Vitae, followed in 1995 by Pope John Paul II's encyclical Evangelium Vitae. On this basis, heterologous insemination is morally impermissible, contrary to the unity of marriage, the dignity of the spouses and the parental vocation. It is also affirmed that homologous in vitro conception is neither an expression nor the fruit of a specific act of union between spouses. Homologous artificial insemination is permitted only if the technical assistance does not replace the conjugal act but merely facilitates its natural purpose. Experiments with the embryo are forbidden by the document, since, according to Church teaching, it is a human being from conception, and the possibilities of manipulation are contrary to the respect due to all human beings. Accordingly, however, certain interventions are permissible if they are aimed at healing the embryo or improving his health.[62]

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60 Gábor Jobbágyi: A művi megtermékenyítés jogi és erkölcsi kérdőjelei [Legal and moral dilemmas of artificial procreation]. *Iustum, Aequum, Salutare* 2, 1–2. (2006), 149.

61 Kurt Weinke: Gedanken zu künstlichen Befruchtungstechniken aus philosophisch-ethischer Sicht In: Erwin Bernat (ed.): *Lebensbeginn durch Menschenhand*. Graz, Leykam, 1985. 77–78.

62 Congregation for the Doctrine of the Faith, Donum Vitae. Instruction on Respect for Human Life in Its Origin and on the Dignity of Procreation (The Holy See 1987); Ioannes Paulus Pp. II, Evangelium Vitae To the Bishops, Priests and Deacons, Men and Women religious lay Faithful and all People of Good Will on the Value and Inviolability of Human Life (The Holy See 1995). A comprehensive picture provides from a life protection perspective Juan de Dios Vial Correa – Elio Sgreccia (ed.): *Identity and Status of the Human Embryo: Proceedings of the Third Assembly of the Pontifical Academy for Life*. Vatican City, Libreria Editrice Vaticana, 1998. In addition to the teaching of the Catholic Church, it is worth mentioning that the Reformed and Evangelical Churches, while critical, do not completely reject certain methods of reproduction, but are unanimous in the defence of embryos. See in detail e.g. Ulrich Eibach: Experimente mit menschlichen Embryonen? – Die Sicht der evangelischen Kirchen und Theologie. In: Uwe Opolka (ed.): *Respekt vor dem werdenden Leben*. München, Max-Planck-Gesellschaft, 1989. 157–174. Jewish theology is not united on the issue. The Talmud accepts conception without intercourse ("fecundatio sine concubito"), and the conservative position allows embryo experimentation because it considers the fetus to be human only from the fortieth day after conception, while the orthodox position considers it human from the moment of gestation. Conservative and orthodox views have in common that an embryo created outside the womb has no humanity. The idea of "procreate and multiply" is the basis for a more progressive view of the possibilities of assisted reproduction. Childbearing is seen as a cultural imperative, advocating the birth of children, even through in vitro fertilisation. Given the Old Testament stories of Sarah or Rachel, who used surrogacy to overcome their infertility, it is not

4. Summary

In summary, in general, for most states there was an early and relatively short period when assisted reproduction – but in reality only artificial insemination – was actually prohibited in this initial phase. The stigmatisation that took place during this period illustrates the moral rejection of the procedure, which was a kind of evil against the spouse and the family for a number of reasons, mainly traditional. On the one hand, it dismantled the traditional social structure of the family, which was the relationship between a man and a woman, from which everyone else had been excluded until then. On the other hand, the procedure was seen as an open attack on paternal inheritance in the patriarchal view of the time. Thirdly, it was feared that the increasing number of anonymous donor inseminations would not prevent the occurrence of incestuous relationships and marriages in the future.[63]

After that, in almost all countries, various bodies and legal regulations have classified assisted reproductive interventions as permissible procedures for the treatment of infertility and procreation, sometimes with more and sometimes with fewer restrictions. Conventions on the human embryo, marriage and the family, which had been established based on long traditional development, were gradually dismantled. With the shift in case law and legislative practice, the issue, previously strictly confined to the bedroom, increasingly began to be placed in a medical and health context. The 1970s saw the beginning of a gradual liberalisation of this area, which continues to the present day, and the legal situation today is radically different from that of half a century ago.

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63 Ben-Asher op. cit. 1890–1891.

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