

THE PREEMBRYO'S SHORT LIFETIME. THE HISTORY OF A WORD

LA VIDA BREVE DEL PREEMBRIÓN. HISTORIA DE UNA PALABRA

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Abstract

This article is a study of the historical aspects that gave rise to the term '*preembryo*'. We look at how the appearance of this term was related with attempts to justify ethical aspects associated with the destruction of embryos in the context of *in vitro* fecundation. The first scientific article found using this term was written by Clifford Grobstein in 1979 and not, as many people think, the Warnock report in 1984, although the term was used decisively in the British parliament between 1984 and 1990, culminating in the parliamentary approval of human embryos for research purposes. In the United States, the term was promoted by the Ethical Committee of the American Fertility Society in 1986. However, the term hardly appears in recent reports. In scientific and bioethical literature there has been a gradual decrease in the frequency with which it is used. It seems that the word '*preembryo*' reflected a new metabiological

concept coined to provide a basis for apparently scientific data in an attempt to avoid ethical aspects related with the destruction of human embryos in the absence of any unconditional respect towards the same. Once this goal had been achieved, the term was gradually abandoned.

Key Words: preembryo, in vitro fertilization, embryo research, ethics committees, personhood, history of science, embryo.

Resumen

Este artículo es un estudio sobre los aspectos históricos que dieron origen al término «preembrión». En él observamos cómo la aparición de este término se relaciona con los intentos de justificar los aspectos éticos relacionados con la destrucción de los embriones en el contexto de la fecundación in vitro. El primer artículo científico que uso este término fue escrito por Clifford Grobstein en 1979 y no, como mucha gente piensa, el informe Warnock en 1984, aunque el término fue utilizado de manera decisiva en el Parlamento británico entre 1984 y 1990, culminando con la aprobación parlamentaria de embriones humanos con fines de investigación. En los Estados Unidos, el término fue promovido por el Comité de Ética de la Sociedad Americana de Fertilidad en 1986. Sin embargo, el término casi no aparece en recientes informes. En la literatura científica y bioética ha habido una disminución gradual en la frecuencia con que se utiliza. Parece que la palabra «preembrión» fue un nuevo concepto acuñado metabiológicamente a partir de una base de datos aparentemente científicos en un intento de evitar los aspectos éticos relacionados con la destrucción de embriones humanos y partiendo de la ausencia de respeto incondicional hacia los mismos. Una vez que este objetivo se logró, el término se ha abandonado poco a poco.

Palabras claves: preembrión, fecundación in vitro, investigación con embriones, comités éticos, estatuto del embrión, historia de la ciencia, embrión.

Introduction

With the birth in 1978 of Louise Brown, the first test tube baby, the Ethics Advisory Board (EAB) in United States, felt the need to look carefully at ethical aspects related with *in vitro* fecundation (IVF) and the possibility of using embryos to improve such techniques. Its report, published on 4th May 1979, indicated that the human

embryo in its first days of existence is only a growing form of human life, with a high degree of natural mortality and lacking individuality, arguing that the appearance of the primitive streak is one of the basic elements of embryo individualisation. The report identified an interval of fourteen days after fecundation during which the human embryo was considered to have no special status, and suggested that most scientific

research was 'ethically' acceptable. The word '*preembryo*' did not appear in any section of the report. Neither did any specialist in human embryology form part of the committee, which was probably the first to propose the fourteen day rule and to suggest that the human embryo deserved respect, but not the same respect that was due to a complete personality. The EAB's recommendations were not approved by any authorities at that time and in 1980 it ceased to exist, meaning that the destiny of IVF would remain in limbo until the moment another EAB was set up to look into the matter again. Subsequently, following various reports and parliamentary debates, recommendations were made or laws were approved in many other countries, which permitted the use or destruction of human preimplantation embryos. It was now that the word *preembryo* was coined with the aim of conceptualising all the arguments that tried to negate the biological individuality of the human preimplantation embryo and the unconditional respect due to it.

During recent years the debate on the biological individuality of the human embryo has become determinant as regards the possible use of embryos to obtain pluripotential stem cells. It is interesting that in this debate the term *preembryo* has not been used. It seems that the word is not associated with anything real and has been abandoned for this reason.

In the present work, therefore, we propose to carry out a historical analysis of the birth and rise of this word in the

Great Britain and the United States, where it was mainly used, before looking at its demise in recent years. In light of the historical facts we describe, we suggest that the word *preembryo* was a linguistic tool to weaken the respect due to the human embryo. After achieving its aims, the word has been abandoned, coinciding with its waning acceptance in a strictly embryological field.

2. Clifford Grobstein and the first article on the '*preembryo*'¹

The first scientific article (written by Clifford Grobstein) to use the terms '*preembryo*' and '*preembryonic*' was published in 1979. The same article also included the term '*preimplantation embryo*'² and was published a few months after the EAB had concluded its report in March of the same year on the acceptability of IVF. In the midst of the controversy created by the report, Grobstein's article went practically unnoticed. Subsequently, several papers were published by different experts in reply to the EAB report, among them one by Grobstein entitled 'Statement by Clifford Grobstein to the DHEW Ethics Advisory Board, September 15, 1979', in which, despite the fact that it was written only three or four months after his first

1 Grobstein, C. «External Human Fertilization». *Sci Am* 1979 June; 240: 33-43.

2 Before Grobstein spoke of '*preembryos*', the other term he used in his article '*preimplantation embryo*' was in common use. This can be checked by searching for the terms '*preimplantation embryo*' and '*early embryo*' in PubMed for the years 1945 to 1980, even including the word '*human*'.

article in *Scientific American*, the author did not mention the term 'preembryo'. Several years were to pass without the word being used again by any author, including Grobstein. It seems that his original article went unnoticed even by fellow investigators working in the IVF field. Grobstein himself published other articles^{3,4} treating ethical aspects related with the embryo before implantation occurs without reference to the word that he himself had coined. For example, in the first article, Grobstein mentions that the preimplantation status of the embryo was being debated at that time in Great Britain and that in the United States the question of when human life begins was left unresolved in the *Roe vs. Wade* case of 1979. It was as if the term 'preembryo', which he used in 1979, was a new concept for use in a given situation, a suggestive synonym invented on the spur of the moment. Indeed, he did not use it in an article for another seven years. In 1986 Grobstein was a member of the ethical committee of the American Fertility Society (AFS), where he acted as the expert embryologist. Some authors⁵ think that the fact that the AFS report mentioned the term 'preembryo' was due to his presence on the committee, although

in the extensive bibliography adjoining the report no mention was made of any Grobstein's articles. Perhaps the clearest example of Grobstein's use of this term appears in an article⁶ published in 1988. The reason for this seems to have been the controversy this term had aroused in Great Britain, since one of the members of the Warnock Commission affirmed in *Nature*⁷ that this term was not used in the deliberations of the committee. From this moment on, articles appeared with the term 'preembryo'. Grobstein's last contribution in this respect was a late article written for inclusion in the Revised Edition of the *Encyclopedia of Bioethics*⁸, published three years before his death in 1998. The evidence suggests, then, that in 1986 Grobstein was a strong believer of the idea that the embryo in its pre-implantation stage had no moral value. But it is not so clear that we should regard him as an 'activist' in the use of the term 'preembryo'.

However, we have got ahead of ourselves in terms of tracing the use of the term in order to obtain a more complete picture of Grobstein's role. Let us now return to the time of the author's first article in this respect.

3 Grobstein, C. «The Moral Uses of 'Spare' Embryos». *Hastings Cent Rep* 1982 June: 5-6.

4 Grobstein, C. «The Early Development of Human Embryos». *J Med Philos* 1985; 10: 213-236.

5 Irving, D.N. 'New Age' Embryology Text Books: 'Pre-Embryo', 'Pregnancy' and Abortion Counseling: Implications for Fetal Research. *Linacre Q* 1994; 61: 42-62; C.W. Kischer. There is no such thing as a Pre-embryo. [Available at] http://lifeissues.net/writers/kisk/kisk_05noproembryo.html [Accessed 28 Nov 2006].

6 Grobstein, C. «Biological Characteristics of the Preembryo». *Ann N Y Acad Sci* 1988; 541: 346-348.

7 Davies, D. «Embryo Research». *Nature* 1986; 320: 208.

8 Grobstein, C. 1995. «Human Development from Fertilization to Birth». In *Encyclopedia of Bioethics*. R.W. Thomas, ed. New York: McMillan. Vol 2, Fetus I: 847-851.

3. The Warnock report

After the birth of Louise Brown in 1978, the controversy surrounding techniques of medically assisted conception erupted again in Great Britain. In 1982 a committee of experts presided by Mary Warnock was set up in an attempt to settle the possible legalisation of the same. Almost immediately, *Nature*⁹ set about encouraging the Warnock Commission to take a favourable view of using viable human embryos. The corresponding report¹⁰ was published in London in July 1984 and was destined to have a strong influence not only on British legislation but also on future legislation in many countries. The internal arguments concerning whether human embryos should be used at all for scientific studies had almost led to the Commission being suspended, but, finally, and surprisingly in view of the opinions of some of its members, the compromise solution offered by Warnock that embryos should only be used for experimental purposes during the 14 days post-fecundation was accepted. Given the disparity of opinions held by its members, the Commission decided not to tackle the ontological problem of the embryo, nor to provide an explicit answer to the basic question

of when an embryo becomes a person¹¹, limiting itself to how it should be treated with respect.

The scientific argument concerning the 14 day limit was based on the appearance of the primitive streak as a signal of the 'beginning of the individual development of the embryo'.¹² Such an affirmation seems to have been the result of the influence of the committee's embryologist, Dr, McLaren¹³, who sustained that individual human life only began close to the moment that the primitive line appeared. However, it seems that this limit was a totally arbitrary compromise 'to alleviate public anxiety'¹⁴ and to provide scientists with the time they needed to experiment.

The Warnock Report was largely behind

11 As an illustration we refer to four articles Published in *Nature* during these months: «Handling the Human Embryo». *Nature* 1984; 309: 387; «Legal Restraints Proposed for UK». *Nature* 1984; 310: 266; «Confused Comment on Warnock». *Nature* 1984; 312: 389; J.R. Ling. «Human Embryos». *Nature* 1984; 312: 262.

12 Report of the Committee, *op. cit.* note 10, p. 66.

13 Dr, Anne McLaren rapidly replied to Davies' letter: «Embryo Research». *Nature* 1986; 320: 208, In another letter (A. McLaren. «Embryo Research». *Nature* 1986; 320: 570) she writes: 'I missed the first meeting, at which it was decided to apply the term 'embryo' to all stages from fertilization onwards'. And insists: 'the embryo does not exist for the first 2 weeks after fertilization'. This article was followed by another in which the author criticises the letter from Anne McLaren (J.A. Kiernan. «Pre-embryos». *Nature* 1986; 321: 376) in which Kiernan writes: 'Words like 'pre-embryo' may have scientific precision, but they should not be used to foster the delusion that those few cells are anything less than a young feto-placental unit'.

14 «Research on Human Embryos». *Lancet* 1986 Dec; 13: 1375.

9 «Britain's Test Tube Babies». *Nature* 1982; 298: 408.

10 Great Britain. Department of Health and Social Security. Report of the Committee of Inquiry into Human Fertilization and Embryology, Chair Dame Mary Warnock. Report of the Committee of Inquiry into Human Fertilization and Embryology, London: Her Majesty's Stationery Office. 1984.

much of the legislation concerning embryo research. The 14 day limit, already proposed by the EAB in 1979, was subsequently adopted by Great Britain and was taken as reference for the respective reports in other countries, including Australia¹⁵ and Canada.¹⁶ In the USA, on the other hand, following the disappearance of the EAB and absence of any alternative committee to approve such research, federal funding into IVF was blocked, while the private sector was left unregulated.

4. The term 'preembryo' sees the light of day

It was in the United Kingdom that the term 'preembryo' really took hold since it fulfilled a need. The situation was desperate. Everything connected with IVF was about to collapse. In 1984, when the recommendations proposed in the Warnock report began to be debated in the British Parliament,¹⁷ opposition to the same began to grow, which, if it were successful, would mean that all such research would have to be abandoned. A bill was presented to Parliament to prohibit research involving human embryos. Known as 'MP Enoch Powell's

Unborn Children (Protection) Bill',¹⁸ it was passed with a large majority after its second reading in February 1985.¹⁹ There was clearly a possibility that victory was close for those opposed to such experimentation, and it was just at this moment that the redefinition of the term embryo appeared and that the term 'preembryo' arrived on the scene. This was the moment when history changed.

Besides the debates in Parliament, which would continue for six years, there was a parallel scientific debate in journals such as 'Science', 'The Lancet', 'The New England Journal of Medicine' and, especially 'Nature'. The battle lines were clearly drawn between those who were in favour²⁰ of embryo research and those against.²¹ The scientific press offered the possibility of setting out the advantages²²

18 «UK Agonizes on Embryo Research». *Nature* 1985; 313: 424.

19 Clarke, M. «British Commons Vote for Ban». *Nature* 1985; 313: 618. In 1984 most people in both chambers were against the recommendations made in the Warnock Report, while basically the same people voted in favour in 1990.

20 Article in favour: «Embryos Untouched». *Nature* 1985; 313: 612; C.B. Goodhart. «Status of IVF Embryos». *Nature* 1985; 314: 126; T. Cavalier-Smith. «When does Life Begin?» *Nature* 1985; 314: 492; C. Grobstein. «Embryo Research (contd)». *Nature* 1985; 314: 666. (The author is in favour of letting research continue but no mention in text of 'preembryo'.)

21 Article against: Baker, J.R. «Human Embryos». *Nature* 1985; 313: 514; Watson, R. «Embryo Research». *Nature* 1985; 314: 10; Bode, C. «Embryo Research». *Nature* 1985; 314: 574; Bird, R.J. «Embryo Research». *Nature* 1985; 314: 574. The author expresses surprise that 'your anonymous columnist is inviting scientist to *invent* research to do upon embryos'. («An Appeal to Embryologist». *Nature* 1985; 314: 11.)

22 Evans, H.J. & McLaren, A. «Unborn Children (Protection) Bill». *Nature* 1985; 314: 127-128.

15 Report on the Disposition of Embryos Produced by In vitro Fertilization. Melbourne, Australia: The Committee, August 1984.

16 Canada. Ontario Law Reform Commission. Report on Human Artificial Reproduction and Related Matters. Ontario, Canada: The Commission, 1985. 2 vols.

17 Mulkay, M. «Parliamentary Ambivalence in Relation to Embryo Research». *Soc Stud Sci* 1995; 25: 149-63.

of the same and even encouraged researchers to propose research projects.²³ However, very few of these articles made reference to elements of embryo biology.

The professional colleges of gynaecologists and those who worked in IVF entered the fray and helped look for a solution. The Medical Research Council (MRC) suggested the need to redefine the embryo and in March 1985 announced the formation of a new body to regulate IVF and embryo research. In conjunction with the Royal College of Obstetricians and Gynaecologists (RCOG), the MRC set up the Voluntary Licensing Authority (VLA)²⁴ in order to oversee research and clinical practice until the government passed the relevant laws related with Warnock's recommendations. In April 1985, Sir Andrew Huxley proposed a radical redefinition of the embryo in the pages of the popular scientific journal 'New Scientist'.²⁵ Huxley did not mention the term '*preembryo*' coined by Grobstein in 1979 and we do not know if he was aware of it or not. However, he did offer a radically new definition of the human embryo, distinguishing between 'embryo', the 'embryo proper' and the 'definitive embryo', distinctions that had not been made previously. The inevitable question is, of course, why in 1985 and why this particular redefinition?

This new definition coincided

exactly with day 14, the time limit established in 1984 by the Warnock Report for investigation with human embryos. The new explanation of pre-implantation embryo perfectly reflected this demarcation and opened up the way for the use of the new term '*preembryo*'. And yet the Warnock Report made no mention of the need to redefine the word embryo in order to clarify scientific facts. Indeed, the MRC at the time seemed to be perfectly satisfied with the traditional definition. In its official response to the Warnock Report, this body affirmed that the word embryo had not been defined in the report and that 'the Council would welcome confirmation of their understanding that this refers to a viable conceptus developed from a fertilised egg...'.²⁶

With things as they were, in one of the first meetings of the VLA²⁷ only two months after it had been formed, the term '*preembryo*' was used in reference to guidelines²⁸ for clinical and research applications. However, the word did not draw much reaction.²⁹ The actual

26 Medical Research Council: Report of Inquiry into Human Fertilisation and Embryology, Medical Research Council Response, London 1985: pp. 5.

27 Spallone, P. 'How the Pre-embryo got its Spots', article presented at the meeting 'Gametes and Genealogy', Potsdam, 4-6 July 1999. 'My information concerning the source of the word comes from a private conversation with the embryologist Anne McLaren, on 15 February 1987, in Oxford'.

28 Voluntary Licensing Authority for Human In vitro Fertilisation and Embryology, 'Guidelines for both Clinical and Research Applications of Human In vitro Fertilisation', London 1985.

29 Turney, J. 1985. «Embryo Guidelines Set Out». *Times Higher Education Supplement* 14 Jun.

23 «An Appeal to Embryologist». *Nature* 1985; 314: 11.

24 Clarke, M. «Voluntary Authority set up». *Nature* 1985; 314: 397.

25 Sir Huxley, A. «Research and the Embryo». *New Sci* 1985: 2.

paragraph where the word was first used reads: 'During their discussion the Voluntary Licensing Authority considered it was important to define the term 'pre-embryo' used in these Guidelines [...] to the collection of dividing cells up to the determination of the primitive streak we propose to give the name 'pre-embryo' '.³⁰ Soon after, the word appeared in *Nature* and *The Lancet*.³¹ A few months later an explanatory note written by Dr. Penelope Leach³² appeared in the first VLA report. However, the most active promoter of the new word was Anne McLaren, so much so that many still think that she coined the term.

However, the term was not accepted by doctors and scientists in Great Britain. For example the following appeared in *Nature*³³ in 1987: 'this usage is a cop-out, a way of pretending that the public conflict about IVF any other innovations in human embryology can be made to go away by means of an appropriate nomenclature'.

Meanwhile, editors and authors in the scientific press maintained the pressure in favour of facilitating research

with embryos because of the benefits that could be derived. Scientists began to use the term more frequently to influence public opinion. For example, in the meeting promoted by CIBA³⁴ in November 1985, the word 'preembryo' was used freely by those who claimed it was useful for clarifying the discussions taking place. However, rather than clarifying matters³⁵ the term seemed to make things more obscure,³⁶ especially as regards the 14 day rule. It gave the impression to those not familiar with the story or with science in general that embryos did not exist before day 14 post-fertilisation. The arguments in favour rest on the belief that new scientific knowledge was available, helping to clarify what was presented as old and out-of-date ideas about the embryo. But it was precisely the 'preembryo' that had no history, as several authors recognise. This new invention was actually obscuring centuries old knowledge based of what

34 McLaren, A. 1986. «Prelude to Embryogenesis». In: *Human Embryo Research: yes or no?* G. Book & M. O'Connor, eds. The CIBA Foundation. London: Tavostok, 1986: 5-23; Research on Human Embryos. *Lancet* 1986 Dec 13: 1375.

35 McLaren, A. Pre-embryos? *Nature* 1987: 328: '... it involves less than 1 per cent of the tissue derived from the fertilized egg. The remaining 99 per cent has gone to form the placenta and other nutritive and protective structures. To refer to the previous mammalian stages as embryos is therefore no more (maybe less) appropriate than to refer to them as placenta'.

36 McEvon, A.J. «Embryo Definitions». *Nature* 1988; 336: 198. '... the term was synthesized in the United Kingdom precisely to avoid possible legal restrictions in that jurisdiction on research on human embryos at their earliest stages of development. This lawyer's stratagem cannot constitute a scientific definition'.

30 Voluntary Licensing Authority, *op. cit.* note 28.

31 Clarke, M. «Embryo Protection Bill Resurfaces». *Nature* 1985; 315: 534. «Voluntary Licensing Authority for Human In vitro Fertilisation». *Lancet* 1985 June 15: 1405.

32 Leach, P. 'Human In vitro Fertilisation: An Explanatory Note' Prepared by Dr, Penelope Leach, in The First Report of the Voluntary Licensing Authority for Human In vitro Fertilisation and Embryology, London: The Medical Research Council, 1986, Annex, 3: 39-40.

33 «IVF Remains in Legal Limbo». *Nature* 1987; 327: 87.

the embryo is.³⁷ In short, it was no coincidence that this word took root at the precise moment that technical advances needed it. What happened next was an attempt to make the term more acceptable. In *Nature*, David Davies wrote: 'If research on embryos were an uncontentious matter, and if scientists were generally of the opinion that the new terminology helped their understanding, nobody would have many qualms at the name change. But those who are introducing 'pre-embryo' into the vocabulary know full well the research is indeed contentious and that fundamental issues have yet to be resolved. They complain, with justification, when embryos are described as 'unborn children' in hostile parliamentary bills, but they are themselves manipulating words to polarise an ethical discussion'.³⁸

5. The situation in North America

Meanwhile, in the United States, as in other countries, the AFS, set up an ethical committee to determine whether any ethical problem existed concerning what they themselves were doing in human embryo research for IVF. Serving as embryologist on the committee was Clifford Grobstein, who in 1979 had published the now forgotten paper using

37 O'Rahilly, R. «Human Embryo». *Nature* 1987; 329: 385. (Carnegie Laboratories of Embryology) he writes: 'At the Carnegie Collection, in human embryology, the term embryo is used for the 'human offspring in first eight weeks'. Hence prenatal life is subdivided into merely two periods: embryonic and fetal'.

38 Davies, *op. cit.* note 7.

the term 'preembryo' for the first time. On the same committee was the theologian Richard McCormick, who had been a member of the EAB in 1979 and who saw no problem with embryo research up to the fourteenth day, and other members, whose subsequent influence on bioethics would be considerable. Six of the eleven committee members were also members of the AFS.

When the moment came to present their report in 1986, the committee members were already aware of the decisions of the Warnock Report in Great Britain (1984), the Waller Report in Australia (1984), The Ontario Law of Canada (1985) and of the ACOG,³⁹ which had been published only three months before. A reading of the Warnock Report and of the AFS Committee Report⁴⁰ reveals many parallelisms. However, Warnock, being an official commission, had the responsibility of recommending legislation, while this Committee concerned itself only with recommending unofficial guidelines. Howard Jones, a member of the committee and a leading light in IVF would mention years later in two articles just why the committee had used the word 'preembryo'.⁴¹ He provides

39 American College of Obstetricians and Gynecologists. Committee on Ethics. Ethical Issues in Human In vitro Fertilization and Embryo Placement. Committee Statement. July 1986.

40 AMERICAN FERTILITY SOCIETY. Ethics Committee of the 1986. «Ethical Considerations of the New Reproductive Technologies». *Fertil Steril* 1986 Sept; 46, n° 3, suppl: 1s-94s.

41 Jones, H.W. Jr. & Schrader, C. «And just What is a Preembryo?» *Fertil Steril* 1989 Aug; 52: 189-191; Jones, H.W. Jr. «The Status of Regulation of Assisted Reproductive Technology in the United

two explanations: the first was a collection of biological aspects concerning the 'preembryo', and the second was that other ethics committees, without any special reference to biological details, followed the lead of the EAB in its report of 1979, which had designated an interval of 14 days after fertilization as having a special moral status. But none of the documents mentioned by the AFS had used the term 'preembryo'. Jones continued: 'This turned out to be a very fortunate choice because in June 1985 the VLA of Great Britain was also selecting a name – the same term - for this same developmental interval or embryological stage'. Was this choice mere chance? Whatever the case, Jones confessed 'that in neither of these reports was the biological background of this critical phase of development set forth in great detail'. They did the same as other committees had done before them but used a new word. Going against the recommendations of others would clearly have been too confrontational. What's more, mentioning a period longer than 14 days would have meant tackling the thorny problem of the embryo's status to justify any new recommendations. Certainly, some members of the committee wanted to do this, but there was no desire to take on society as whole and things were left as they were. The data mentioned in the 1986 report were repeated in another report⁴² in 1990, even using the same

States». *J Assist Reprod Genet* 1993; Vol. 10, nº 5: 331-336: 333.

42 AMERICAN FERTILITY SOCIETY, «Ethical Consideration of the New Reproductive Technology». *Fertil Steril* 1990 June; 53, nº 6, suppl: 1s-104s.

words. The same author in his second article expressed his disappointment that the Human Fertilisation Embryology Authority (HFEA) had subsequently dropped the word 'preembryo'.⁴³

In 1994 Richard McCormick⁴⁴ also explained the scientific reasons for adopting the term and answered the criticisms that the term was receiving in the scientific press. He cites the histopathologist Jarmulowicz, who, at the end of 1989, asserted that the term was adopted by the AFS and the VLA in Britain 'as an exercise of linguistic engineering to make human embryo research more palatable to the general public'.⁴⁵ McCormick said that he could not speak for the VLA but wanted to clarify that this was not the motive of the AFS since he was present at the decisive meeting. Not being a specialist in biology matters or in embryology, he admits that he based his views on the data that Grobstein had provided as a member of the same committee. Whatever the case may be, McCormick, in another article,⁴⁶ explained that he disagreed with several of the AFS Committee's conclusions. In his opinion, the committee failed to resolve the problem of 'preembryo' status. The committee spoke as though

43 Jones, H.W. Jr. «The Status of Regulation of Assisted Reproductive Technology in the United States». *J Assist Reprod Genet* 1993; Vol. 10, nº 5: 331-336: 333.

44 McCormick, R.A. «Who or What is the Preembryo?». *Kennedy Inst Ethics J* 1991; 1: 1-15.

45 Jarmulowicz, M. «Embryo Research». *BMJ* 1989 16 Dec: 299.

46 McCormick, R.A. «Ethics of Reproductive Technology: AFS Recommendations, Dissent». *Health Prog* 1987 March: 33-37.

it had given local programmes clear ethical guidelines for these decisions to safeguard this 'special respect' that the committee said was due to the 'preembryo'. But it had not. Thus it gave the impression of having solved a problem when it had only evaded it. In McCormick's own words: 'I find the judgement of ethical acceptability in several instances to be the report's weakest aspect'.⁴⁷

6. The situation in the United Kingdom

In Great Britain the law on using embryos for research remained blocked in Parliament and confrontations concerning the 'preembryo' began to heat up at three levels: in Parliament, in the street and in the scientific press. Between 1985 and 1989 the term 'preembryo' and the supposedly scientific arguments explaining its existence were promoted by scientists who favoured its use for research,⁴⁸ although many articles also came out against such use.⁴⁹ Three basic elements underscored the arguments taking place at this time.⁵⁰ First, the long delay between the publication of the

Warnock Report in 1984 and the start of government sponsored legislation in 1989 gave the pro-research lobby time to organize itself. It had already demonstrated its ethical concern by setting up the VLA. It also succeeded in changing public perceptions of the nature and moral status of the embryo, and its introduction of the term 'preembryo' seemed to give scientific credibility to Warnock's proposal to permit research during the first 14 days after fertilization. This is clear from the interpretation given to the term embryo in parliamentary sessions.⁵¹ There was great insistence that the embryo to be used in research was not a human individual but a mass of undifferentiated cells from which a human individual might subsequently develop, meaning that research should be permitted during the first fourteen days. The appearance of the primitive line at 14 days could be considered the cut-off point for research. The word 'preembryo' became common currency in such debates. Second, the insistence on the enormous benefits related with infertility and genetic illnesses that could derive from such research.⁵² And third, the claim that any fears were based on ignorance arising from religious prejudices, which contrasted with rational thought based on scientific data. In 1990 the pro-research groups won the parliamentary battle with

47 Ibid: 34.

48 McLaren, A. «Research on the Human Conceptus and its Regulation in Britain, today». *J R Soc Med* 1990; 83: 209-213.

49 Lezza, A.M.S. «Embryos Sacrosant». *Nature* 1988; 331: 108; «Department of Cell Biology», Max-Planck. «Moratorium Call». *Nature* 1988; 334: 559; Kelly, «J. Pre-embryos». *Lancet* 1990 Jan 13: 116; Cole, A.P. 'et al'. «Human Embryo Research». *Lancet* 1990 April 28: 1040; Haffner, C.A. «Embryo Research». *Lancet* 1990 May 26; Ewbank, J.J. «Embryo Research». *Nature* 1990; 343: 303.

50 Habgod, J. «Debating Embryo Research». *Soc Stud Sci* 1997; vol. 27: 537-542.

51 Mulkay, M. «The Triumph of the Pre-embryo: Interpretations of the Human Embryo in Parliamentary Debate over Embryo Research». *Soc Stud Sci* 1994; Vol. 24: 611-39.

52 Mulkay, M. «Changing Minds about Embryo Research». *Public Underst Sci* 1994; Vol. 3: 195-213.

the help of the word 'preembryo' just as it was to fall out of usage in the HFEA. It is clear that many Members of Parliament who four years earlier had been opposed to embryo research had been won over by the new word and the arguments behind it. The word had served its purpose.⁵³

7. The word 'preembryo' is dropped. The report of the NIH on human embryo research panel (HERP)⁵⁴

In the United States, despite the report published by the ethical committee of the AFS, the government continued to look the other way. For this reason, the AFS and ACOG organised the National Advisory Board on Ethics in Reproduction (NABER)⁵⁵ in 1992 in order to do what the VLA had done in Great Britain.

In June 1993, President Clinton revoked the moratorium on the use of federal funds for embryo research through the NIH Revitalization Act,⁵⁶ which suppressed the need for the EAB to approve IVF related research.⁵⁷ Such research could now receive federal funds. The establishment of a commission was approved to provide guidelines about what could be financed in the field of

pre-implantation embryo research. The NIH therefore set up the Human Embryo Research Panel. Among the bodies organising the meeting were the AFS, the ACOG and the NABER.

The president of the commission stated publicly that only those who were in favour of human embryo research should serve on the NIH commission and that only those 'public voices' considered in favour should be taken seriously. For this reason and for the premises⁵⁸ given to its members, many authors consider that the committee reached its most important conclusions before its first meeting was held: that is, that research using human embryos was not only ethically acceptable but also a worthy cause. None of the committee's members put forward the idea that the life of a human individual and full protection should begin at conception.⁵⁹

It was obvious that no 'pro-lifer' who might oppose embryo research was wanted on the committee,⁶⁰ although, for the first time at least there was a relatively high number of scientists, including biologists and doctors, if not embryologists, on the committee. Five months before the HERP published its

53 Ibid.; Mulkay, M. ed. 1997. *The Embryo Research Debate: Science and the Politics of Reproduction*. Cambridge: Cambridge University Press.

54 National Institutes of Health (NIH), 'Report of the Human Embryo Research Panel (HERP)'. 2 vols. Bethesda, MD: NIH, 1994.

55 Jones Jr., *op. cit.* note 41 and 43, p. 333.

56 NIH Revitalization Act (1993), P.L. No. 103-43, codified at U.S.C. sec 289a et seq.

57 Palca, J.A. «A Word to the Wise». *Hastings Cent Rep* 1994 March-April: 5.

58 Khushf, G. «Embryo Research: The Ethical Geography of the Debate». *J Med Philos* 1997; 22: 495-519.

59 Green, R.M. «The Human Embryo Research Panel: Lessons for Public Ethics». *Camb Q Healthc Ethics* 1995; 4: 502-515; D. Callahan. «The Puzzle of Profound Respect». *Hastings Cent Rep* 1995 January-February: 39-40.

60 Khushf, *op. cit.* note 58; G. Khushf. «Owning up to our Agendas: On the Role and Limits of Science in Debates about Embryos and Brain Death». *J Law Med* 2006: 58-76.

report, the ethical committee of ACOG⁶¹ had already used the term 'preembryo'. In fact, the same term formed part of the report they published. In September 1994, almost on the first page, the HERP report stated that during discussions on the pre-implantation embryo there had been a considerable amount of confusion concerning the terminology used to describe the embryo during this phase of its development ('preembryo', 'pre-implantation embryo', 'conceptus' and 'fetus'.) Throughout this report the term 'pre-implantation embryo' refers to an ovum fertilized *in vitro* that has never been transferred back to a uterus or has not yet implanted itself in a uterus. In an article published three years after the HERP report, Carol Tauer, one of the ethics vice-presidents of the Commission, wrote: 'A potentially sticky matter of terminology was quickly resolved. While some of us, particularly the ethicists, had become accustomed to use of the term preembryo to designate the conceptus during the first 14 days, the scientists on our panel who worked with nonhuman animals stated that the term was never used in cell biology and animal embryology. They regarded it as a scientifically imprecise term, and recommended that we use scientifically consistent and accurate language. Thus, we decided to designate the IVF embryo before transfer or without transfer to a host woman as 'the preimplantation embryo ex utero,'

61 ACOG Committee Opinion: Committee on Ethics. «Preembryo Research: History, Scientific Background, and Ethical Considerations». *Int J Gynaecol Obstet* 1994 April; 45: 291-301.

or simply the preimplantation embryo'.⁶² In this way, although the HERP gave the go-ahead to permit new research similar to that already granted in other countries and maintained the recommendations made by previous committees in the United States, such as the 14 day rule, the term 'preembryo' was not accepted.

8. The word 'preembryo' does not appear in more recent reports

In November 1998, President Clinton asked the National Bioethics Advisory Commission (NBAC) for a report into matters related with research into human embryonic stem cells. The report,⁶³ published in 1992, spoke first of scientific and medical considerations and then of ethical and political concerns. This was followed by its conclusions and recommendations. In this report, the committee mentions the HERP Commission of 1994 which had recommended permitting the isolation of pluripotent stem cells because of possible benefits that could be obtained. The ethical committees of Great Britain and Canada were also mentioned for their pronouncements on the same. As regards the terms to be used in the report, the committee defined 'zygote' as the organism that develops during

62 Tauer, C.A. «Embryo Research and Public Policy: a Philosopher's Appraisal». *J Med Philos* 1997; 22: 423-439: 425.

63 National Bioethics Advisory Commission: 'Ethical Issues in Human Stem Cell Research: Report and Recommendations of the National Bioethics Advisory Commission', NBAC, Rockville, MD, 1999.

the first week following fertilisation. The organism is an 'embryo' from the second to eighth week of development. Then it is a 'fetus'. The term '*preembryo*' does not appear.

Some mention is made of the '*preembryo*' in a few recent documents but, more often than not, it does not appear. The first we shall mention are European, several are Australian and the last is from the United States.

The European Society for Human Reproduction & Embryology (ESHRE),⁶⁴ states: 'we have decided to use the generic term 'embryo' which refers to the stages from fertilization to the formation of the embryonic disc. This is preferable to the term 'pre-embryo', as this terminology has sometimes been understood as representing a wish to lessen the symbolic value of this entity'. No mention is made of 14 days or '*preembryo*' in the Oviedo Convention⁶⁵ of in 1997.

In Australia, the 'Human Reproductive Technology Act' of 1991 does not provide a definition of '*preembryo*' or 'pre-implantation embryo'. The Government of Australia passed the 'Infertility Treatment Act' in 1995, in which neither of the terms is used. In 2002 the Australian Parliament passed the 'Research Involving Human Embryos Act, N^o 145 (2002)' without mentioning the word '*preembryo*'.

The last document we shall mention

64 ESHRE Task Force on Ethics and Law, «The Moral Status of the Pre-implantation Embryo», *Hum Reprod.* 2001, vol. 16, n^o 5: pp. 1046-1048: 1047.

65 CONVENIO DE OVIEDO, Artículo 18: «Experimentación con Embriones in vitro», Convenio de Oviedo, en [on-line publication] <http://www.bioeticas.net/leg/001.htm> [Accessed: 4 Apr 2007].

is from 2006 and was published by the ACOG,⁶⁶ the same body that had promoted the use of the term '*preembryo*' for many years. In it, the term 'embryo' is used for the immediate product of fertilisation.

9. The term '*preembryo*' falls by the wayside

For several years the term '*preembryo*' seemed to inspire the ethical committees of fertility societies and professional bodies representing gynaecologists and obstetricians in the United States, Great Britain and Australia, leaving its mark on the related scientific and bioethical literature. However, national and international forums and societies that have had the opportunity to express an opinion on *in vitro* fecundation, research involving embryos, the creation of the same for research purposes, or more recent matters, such as human cloning and the use of embryonic stem cells, have, with very few exceptions, dropped the word '*preembryo*' from their vocabulary. The same applies to the scientific press. However, the attack on the biological individuality of the embryo continues, using more or less the same arguments as before, but with no apparent need now for the word '*preembryo*' to reinforce the battle line.

66 American College of Obstetricians and Gynecologists (ACOG) n^o 347: «Using Preimplantation Embryos for Research», [Pub. On-line] http://www.acog.org/from_home/publications/ethics/co347.pdf [Accessed: 4 Feb 2007].

Even in the countries that most influenced the diffusion of the word (USA and Great Britain) it has not lasted. In the United States, the report of the ethical committee of the AFS in 1986 used the word, but by the next time the committee gathered, in 1994, at national level (HERP), the word had fallen by the wayside and the term pre-implantation embryo was preferred. The word had lasted a mere eight years. In Great Britain, its life history included its use in some guidelines of the VLA in 1985, after which it disappeared almost faster than it had appeared. The story of this word resembles the brief lifetime of a shooting star, which, after a brief moment of splendour, disappears and is not seen again.

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