

CONCEIVING “PREGNANCY”

U.S. MEDICAL DICTIONARIES AND THEIR DEFINITIONS OF “CONCEPTION” AND “PREGNANCY”

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“When I use a word,” Humpty Dumpty said, in rather a scornful tone,
“it means just what I choose it to mean – neither more nor less.”

“The question is,” said Alice, “whether you *can* make words mean so
many different things.”

“The question is,” said Humpty Dumpty, “which is to be master –
that’s all.”

~ *Through the Looking Glass*
by Lewis Carroll

Given the hyper-politicized nature of the times we live in, it is not surprising that determining when human life begins has become the focus of an intense political struggle. It is a struggle of great importance because many people believe that human life begins at fertilization and that pregnancy follows from that developmental starting point. Many who hold this position work in the medical professions, and they object to using technologies that would destroy such nascent life and abort pregnancies. In effect, these individuals are conscientious objectors to the use of certain birth control technologies.

The validity of their objections rests on the plausibility of the objectors’ claims about the beginning of human life, conception, and pregnancy. Given our current state of scientific and medical knowledge, can such claims be held with credibility? That is, can one credibly claim that pregnancy begins at conception which is traditionally defined as occurring at fertilization? It is the purpose of this paper to provide some clarity on this subject by surveying the American medical profession’s reference dictionaries to ascertain the range of opinion that exists regarding these questions. The paper will demonstrate that these conscientious objectors’ scientific analysis is not only reasonable but that it reflects the predominant worldview presented by the dictionaries and the historical usage they represent.



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I. Background

Since the 1960s battle lines have been drawn over the definitions of “conception” and “pregnancy.” In English, analysis of the medical dictionaries over the course of a century reveals that conception is identified as the point at which pregnancy begins. Consequently, whether conception occurs at “fertilization” – when the male and female gametes fuse in the Fallopian Tubes creating a zygote – or about a week later upon uterine “implantation” has enormous moral and policy implications.

Acceptance of an implantation-based definition of “conception” (and “pregnancy”) would allow for the use of medical technologies that might destroy a living, developing embryo in the seven days that follow fertilization but precede implantation. Some believe that birth-control pills may have this effect. The FDA-approved package insert (label) for the morning-after-pill or emergency contraceptive, Plan B® (Levonorgestrel), states:

Plan B® is believed to act as an emergency contraceptive principally by preventing ovulation or fertilization (by altering tubal transport of sperm and/or ova). In addition, *it may inhibit implantation (by altering the endometrium)*. It is not effective once the process of implantation has begun.¹

Intra-uterine devices (“IUDs”), in general, are believed to have multiple means of action including the blocking of implantation.²

Since the 1960s, organizations like the Guttmacher Institute, the research arm of Planned Parenthood,³ and the pro-abortion American College of Obstetricians and Gynecologists (ACOG) have pushed hard to gain acceptance of the implantation-based definition of “conception” in the scientific, public health, and political communities.⁴ In 1965 ACOG stated in its first *Terminology Bulletin* that “CONCEPTION is the implantation of a fertilized ovum.”⁵ Forty years later, Rachel Benson Gold flatly asserts in a 2005 article for the *Guttmacher Report on Public Policy*, that, with respect to the definition of pregnancy “.... the medical community has long been clear: Pregnancy is established when a fertilized egg has been implanted in the wall of a woman’s uterus.”⁶ Given the political leaning of governmental agencies, academic institutions, and the scientific publishing industry it would not be surprising if Ms. Gold were correct.

However, important redoubts of scientific integrity remain, and Gold’s claim is actually not correct. As the research below will demonstrate, *there is certainly no medical-scientific consensus in favor of implantation-based definitions of “conception” or “pregnancy.”* This is an important fact because individual pharmacists, physicians, and health-providing organizations have become concerned that their prescribing or

dispensing certain drugs or devices might abort a pre-implantation pregnancy – by preventing uterine implantation of the developing embryo. Furthermore, this research indicates that the medical dictionaries provide considerable support for the proposition that a fertilization-based approach to defining “conception” and “pregnancy” finds substantial support in the medical-scientific community. In fact, the fertilization-based perspective is predominant in the medical dictionaries.

II. Medical Dictionaries as Purveyors of Scientific-Medical Consensus

After becoming aware of the debate over how best to define “conception” and “pregnancy,” I thought about ways to determine whether a scientific-medical consensus existed for these terms. Having access to the Library of Congress and other important federal government health libraries, I decided to simply track down as many *medical* dictionaries as possible, record their definitions, and analyze them.⁷ With the assistance of dedicated research assistants, we were able to accumulate a nearly complete inventory of American medical dictionary definitions of these terms.

The Four Major Medical Dictionaries

Medical dictionaries provide important information to practitioners of the healing arts so they can conduct their medical work. Additionally, these same dictionaries provide us with a snapshot of the common wisdom of the medical-scientific community at particular points in time. By tracking definitions over an extended period of time one is able to see how scientific research and analysis have or have not changed the conceptual building blocks of medical discourse.

One reassuring feature of the medical dictionaries is that they are not overtly political as are Guttmacher and ACOG publications.⁸ In the opening pages of the dictionaries one finds the names and credentials of the editors and contributing authors. None of the medical dictionaries are associated with *any* pro-life organization or professional body. Rather, the editorial panels appear to contain a cross-section of opinion across the medical fields. The editors are distinguished members of the medical-scientific community.

Four major medical dictionaries are used in the United States: *Dorland's*, *Stedman's*, *Taber's*, and *Mosby's*. *Dorland's* and *Stedman's* were begun in the early years of the 20th Century – both prior to World War I. *Taber's* hails from the Depression-World War II era, and *Mosby's*, the most recently created, was first published in the early 1980s. The remainder of this paper presents the findings of in-depth research designed to examine any patterns in the definitions of “conception” and

“pregnancy” relevant to the current policy debates and assertions of rights of conscience.

III. Definitions of “Conception” and “Pregnancy”

This medical dictionary survey demonstrates that there is *no* consensus supporting *either* the position that conception begins at implantation *or* that pregnancy begins at implantation. The survey results are summarized below in this section, but the raw data is contained in the two appendices to this paper. Appendix A presents the four dictionaries’ definitions of “conception” in tabular form, and Appendix B does the same for “pregnancy.”

A.

Dorland’s on Conception. *Dorland’s Illustrated Medical Dictionary* is the oldest of the major American medical dictionaries. The first edition was published in 1900. From 1900 to 1974 (25th ed.), *Dorland’s* defined “conception” as “[t]he fecundation of the ovum.” In the 25th edition, fecundation was defined as “impregnation or fertilization.” “Fecundate” is a verb defined as “to impregnate or fertilize.”

In the 26th (1981), the 27th (1988), and the 28th (1994) editions, *Dorland’s* altered its definition of “conception.” The new definition contained two parts – one based on implantation and another that was fertilization-based. The definition described “conception” as the “onset of pregnancy, marked by implantation of the blastocyst in the endometrium; the formation of a visible zygote.” There was a tension in this definition. The first part of the definition clearly described the implantation in the lining of the uterus (endometrium). On the other hand, the definition’s reference to the “formation of a visible zygote” probably referred to the syngamy or fusion of the two (male and female) gametes to produce a zygote. Whatever was meant precisely, this second part of the definition of “conception” was not based on implantation but on earlier events.

In the 29th edition (2000), there was shift to a wholly fertilization-based definition where “conception” was defined as “the onset of pregnancy, marked by fertilization of an oocyte by a sperm or spermatozoon; formation of a visible zygote.” This *Dorland’s* edition stepped away from any reliance on an implantation-based definition of “conception.”

The definition used in *Dorland’s* 30th (2003) and 31st editions (2007) notes oddly that “conception” is “an imprecise term denoting the formation of a viable zygote.” (The 2007 edition is the current or latest edition of *Dorland’s*.) The switch from “visible” to “viable” may signal a slight shift in focus by the editors. A “visible zygote”

probably reflected consideration of the single zygotic cell and the fact that such a cell could contain two pro-nuclei before syngamy and then a clearly delineated, single nucleus after syngamy. The move to the use of “viable zygote” may point to a single-cell zygote that has the capability to progress along the developmental pathway to form a fetus. In either case, these definitions are not implantation-focused given the early point at which the zygote is the key player in the developmental story – that is, before implantation.

Dorland's on Pregnancy. Since 1900 *Dorland's* has used only two definitions of “pregnancy” that are relevant for our purposes. From the 1st edition (1900) until the 21st (1947), “pregnancy” was defined as “[t]he condition of being with child; gestation.” The definition contains no reference to either fertilization or implantation. In the 22nd edition (1951), *Dorland's* modified the definition as follows: “The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon [continuing without further reference to fertilization or implantation].” Such union places the beginning of pregnancy not at the point of uterine implantation but after fertilization. This definition has been used by *Dorland's* through its current version in 2007 (31st ed.).

Dorland's: Analysis. *Dorland's* has provided a fertilization-based definition of “conception” in every edition. This was true even in the 26th through 28th editions which always offered a fertilization-based definition of “conception” in addition to an implantation-based definition. After the publication of the 29th edition (2000), *Dorland's* definition of “conception” reverted to a fertilization focus and did not reference implantation again. Additionally, *Dorland's* definition of “pregnancy” has been explicitly fertilization-centric since 1951 without exception. Thus, it is accurate to say that *Dorland's* has never presented a purely implantation-based definition of either “conception” or “pregnancy.” *Dorland's* definitions are heavily weighted to a fertilization-based viewpoint.

B.

Stedman's on Conception. *Stedman's Medical Dictionary* is the second oldest of the medical dictionaries surveyed in this study. *Stedman's* defined “conception” from its 5th edition (1918) to its 19th (1957) as “[t]he act of conceiving, or becoming pregnant.” These editions contained no explicit reference to fertilization or implantation as the point of conception. However, the 20th edition (1961) and 21st (1966) added the fertilization-focused phrase “[t]he fecundation of the ovum.” Fecundate is defined as “[t]o impregnate, to fertilize.”

In the 1970s, *Stedman's* moved to an implantation-based definition. The 22nd edition (1972) defines “conception” as follows: “Successful implantation of the blastocyst in

the uterine lining.” The next edition (23rd ed.), published in 1976, states: “Implantation of the blastocyst; see implantation.”⁹

Since 1982, *Stedman’s* has used fertilization-based definitions with one exception in 2000 (27th ed.). The 24th edition (1982) and 25th edition (1990) define “conception” as: “The act of conceiving, or becoming pregnant; the fertilization of the oocyte (ovum) by a spermatozoon.” In 1995, the 26th edition alters the final wording of the second phrase to read “...by a spermatozoon to form a viable zygote.”¹⁰

In 2000 with its 27th edition, *Stedman’s* once again used an implantation-based definition of “conception” which reads: “Act of conceiving; the implantation of the blastocyte in the endometrium.” *Stedman’s* has published only one edition since then, and in 2006 (28th ed.) *Stedman’s* reverted to a fertilization-based definition, defining “conception” as “[f]ertilization of oocyte by a sperm.”

Stedman’s on Pregnancy.

Stedman’s has defined “pregnancy” with remarkable consistency since its 2nd edition in 1912 – the earliest *Stedman’s* we could obtain. The definition contained a list of synonyms for “pregnancy” accompanying two descriptive sentences or clauses. The 1912 definition read: “Gestation, fetation; gravidity; the state of a female after conception until the birth of the child.” This was followed by a sentence describing human pregnancy’s duration as “[t]he duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.” The definition remained unchanged through the 19th edition (1957). In 1961 (20th ed.), “or 280 days” was added, and this phrase was retained in 1966.

From 1912 to 2008 the following terms were included, at one time or another, in the *Stedman’s* definitions as synonyms for “pregnancy:” gestation, fetation, graviditas, gravidity, cyesis, and cyophoria.¹¹ An online medical dictionary (<http://www.drugs.com/dict/>), using *Stedman’s* definitions, indicates that these terms are all synonyms for “pregnancy” with one term, cyophoria, found in a source other than *Stedman’s* due to its very rare usage.¹²

In 1972 (22nd ed.) the definition read: “Gestation, fetation; gravidity; the state of a female after conception until the birth of the child.”[†] Additionally, the second sentence describing a pregnancy’s duration was dropped going forward. In 1976 (23rd ed.), 1982 (24th ed.), and 1990 (25th ed.) the list of “pregnancy” synonyms was

[†] See Appendix B to track the described changes more easily. Also, after 1972, “baby” replaced “child.”

lengthened in 1976 as follows: “Gestation; fetation, cyesis, cyophoria; graviditas; gravidity.” In 1982 and 1990 “cyophoria” was deleted from the list.

In the last three editions (1995, 26th ed.; 2000, 27th ed.; 2006, 28th ed.) the list of synonymous terms was moved to follow the main sentence. For example, the 26th ed. (1995) reads: “The condition of a female after conception until the birth of the baby. SYN fetation, gestation, gravidism, graviditas.”

In 2000 and 2006 the following disturbingly cold definition of “pregnancy” is presented: “The state of a female after conception and until the termination of the gestation.” While it is true that many pregnancies end with spontaneous or induced abortions, the endpoint of pregnancy is normally thought to be birth. Additionally, “The gestation” replaces “the baby” – another unsettling innovation.

Stedman’s: Analysis.

Since 1961, *Stedman’s* definitional approach to “conception” and “pregnancy” has been fertilization-based six times and implantation-based three times. Furthermore, four of the last five editions have presented a fertilization-based combination of the two definitions.

TABLE
Stedman’s: Implantation or Fertilization-based?
(analyzing “conception” & “pregnancy” together)

Year	Edition	Basis
1961	20 th	Fertilization-based
1966	21 st	Fertilization-based
1972	22 nd	Implantation-based
1976	23 rd	Implantation-based
1982	24 th	Fertilization-based
1990	25 th	Fertilization-based
1995	26 th	Fertilization-based
2000	27 th	Implantation-based
2006	28 th	Fertilization-based

At the very least, one cannot rely on *Stedman’s* to support the proposition that implantation-based definitions of “conception” and “pregnancy” represent the consensus view of the medical field.

C.

Taber's on Conception. *Taber's* first edition was published in 1940. From 1940 (1st ed.) until 1997 (18th ed.), the dictionary used a fertilization-based definition of "conception." There have been two formulations. The first definition was used from 1940 to 1955 (6th ed.) and states: "The union of the male sperm and the ovum of the female." The definition was altered slightly in the next edition by adding "fertilization" at the end: "The union of the male sperm and the ovum of the female; fertilization." This definition was used until 1997 (18th ed.).

In 2001, *Taber's* switched to an implantation-based definition of "conception" that was consistent with the dictionary's implantation-based definition of "pregnancy." So, the 19th (2001) and 20th (2005) editions define "conception" as: "The onset of pregnancy marked by implantation of a fertilized ovum in the uterine wall." *Taber's* has not published another edition of its dictionary since 2005.

Taber's on Pregnancy. From 1940 (1st ed.) to 1970 (11th ed.) *Taber's* defined "conception" as: "The condition of being with child." This definition did not reveal whether there was a fertilization or implantation basis for the term. However, from 1973 (12th ed.) to 1997 (18th ed.), *Taber's* used this implantation-based definition of "pregnancy:" "The condition of carrying a developing embryo in the uterus."

This definition was amended in the last two editions – 2001 (19th) and 2005 (20th) – to read: "The condition of having a developing embryo or fetus in the body after successful conception." This might seem to allow for a fertilization-based "pregnancy" definition, but in the 2001 and 2005 editions *Taber's*, as noted above, defined "conception" in terms of uterine implantation.

Taber's: Analysis. *Taber's* definition of "conception" was clearly fertilization-based until 1997, but its definition of "pregnancy" has been implantation-based since 1973. In 2001 and 2005 *Taber's* definitions of "conception" and "pregnancy" were made consistent with each other when the implantation-based approach was imported into the definition of "conception." Before 2001, the dictionary was not consistent in the way it defined "conception" and "pregnancy."

D.

Mosby's on Conception. *Mosby's* released several dictionaries in the early 1980s. To date, every *Mosby's* dictionary has presented the same two-part, fertilization-based definition of "conception." "Conception" is defined as: 1) "the beginning of pregnancy, usually taken to be the instant that a spermatozoon enters an ovum and forms a viable zygote;" and, 2) "the act or process of fertilization."

Mosby's on Pregnancy. Mosby's medical dictionaries all carry the following definition of "pregnancy:" "The gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth."

Mosby's: Analysis. If *Taber's* is the most consistently implantation-based of the dictionaries, *Mosby's* is its opposite counterpart. As noted above, *Mosby's* has not wavered from a fertilization-based analysis of conception or pregnancy. Furthermore, *Mosby's* has never hinted at acceptance of an implantation-based definition for "conception" and "pregnancy."

IV. Loose Ends: Ectopic "Pregnancy" and Embryology

Two additional "loose ends" underscore the argument that implantation-based definitions of "conception" and "pregnancy" are terminologically unusual and problematic. Both considerations shed light on why it may have been impossible for a politically correct medical community, if it had wished to do so, to adopt uniform, implantation-based definitions for both terms.

First, if one uses the adjective "ectopic," what noun immediately comes to mind? "Pregnancy," of course. The National Institutes of Health's MedlinePlus defines an "ectopic pregnancy" as follows:

An ectopic pregnancy occurs when the baby starts to develop outside the womb (uterus). The most common site for an ectopic pregnancy is within one of the tubes through which the egg passes from the ovary to the uterus (fallopian tube). However, in rare cases, ectopic pregnancies can occur in the ovary, stomach area, or cervix.¹³

Similarly, *Taber's* 20th edition (2005) defines an "ectopic pregnancy" as the: "Extra-uterine implantation of a fertilized ovum, usually in the fallopian tubes, but occasionally in the peritoneum, ovary, or other locations." Clearly, the condition described as an "ectopic pregnancy" poses significant problems for the implantation-based terminological approach because the term describes a *pregnancy* that develops *outside the uterus*.[†]

The definitional difficulty is clear. In the current *Taber's* (20th; 2005) "pregnancy" is defined as "[t]he condition of having a developing embryo or fetus in the body, after

[†] Similarly, *Taber's* lists "Ampullar pregnancy" and "abdominal pregnancy" as terms used to more specifically describe certain types of non-uterine ectopic pregnancies. Of course, only fertilization-based definitions of conception and pregnancy are consistent with the use of "pregnancy" for conditions of this kind.

successful conception.” This wording might have avoided collision with “ectopic pregnancy,” but *Taber’s* implantation-based approach requires that “conception” be defined as “the onset of pregnancy marked by implantation of a fertilized ovum in the uterine wall.” Given the unanimity in defining “ectopic pregnancy,” there clearly are *pregnancies* (*i.e.*, ectopic, non-uterine) that do not fall within the scope of any implantation-based definitional framework.

Embryology

Embryologists do not appear to share the ACOG-Planned Parenthood view of human development. Rather, embryology regards fertilization as the beginning of a multi-stage developmental process that does not begin with uterine implantation. For example, a foremost embryology text makes this observation:

Human development begins at fertilization when a male gamete or sperm unites with a female gamete or oocyte to form a single cell, a zygote. This highly specialized, totipotent cell marked the beginning of each of us as a unique individual.¹⁴ (Additional statements support this point.¹⁵)

The 23 Carnegie Stages of human embryological development are well known and run from Day 1 to Day 60 of pregnancy.¹⁶ Implantation occurs on Days 6-12.¹⁷ Of course, uterine implantation is critical to embryological development, but implantation does not mark the beginning of the developmental process.

The inability of medical dictionaries to migrate to an implantation-based, conception-pregnancy definitional pair may rest, at least to some extent, on the problem posed by the embryologists’ recognition that human development begins at fertilization. That is, even if “pregnancy” can be defined with an implantation basis, some term has to recognize that the beginning of the developmental process occurs at fertilization. Thus, we see some confusion, for example, in *Taber’s* having conflicting definitions of “conception” (fertilization-based) and “pregnancy” (implantation-based) from 1973 to 1997 with the last two editions being unable to account for extra-uterine pregnancies.

V. Conclusion

My review of the four American medical dictionary definitions of “conception” and “pregnancy” leads to the conclusion that there is no medical-scientific consensus supporting an implantation-based definition for those terms. A fair reading of the medical dictionaries reveals a broader acceptance of fertilization-based definitions. Of the four, only *Taber’s* leans strongly toward implantation, and its definitions of

“pregnancy” and “conception” were mixed until its last two editions in 2001 and 2005.

As noted at the outset some medical, nursing, and pharmaceutical professionals object to participating in or cooperating with the use of technologies they deem to interfere with an ongoing pregnancy. The technologies that most arouse concern impede or block embryo implantation in the uterine lining. One response to this argument has been to do what ACOG and Planned Parenthood suggest – alter the definition of “pregnancy” to make the problem go away. If conception and then pregnancy begin with embryonic implantation, then interference with or blockage of implantation does not interrupt or terminate a pregnancy.

The conscientious objectors see this as disingenuous – a trick. But what does the medical profession think about how to define the onset of pregnancy? Decades of exposure to the ACOG / Planned Parenthood arguments have *not* led to a consensus supporting the proposition that conception and pregnancy begin with uterine implantation. Fertilization remains the benchmark and the majority position.

Therefore, the conscientious objectors have used the terms “conception” and “pregnancy” in a manner that is consistent with their current usage in contemporary medical and scientific practice. Consequently, the reasonable basis of their scientific perspective should be recognized by our nation’s commercial, political, judicial, and health care authorities. Furthermore, state governments should not be misled into using the minority view, an implantation-based definition of “pregnancy” or “conception” in their statutes and regulations.

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NOTES

- ¹ Package Insert (label), Plan B® (Levonorgestrel), “Clinical Pharmacology” section, p. 1.
- ² For example, the “Clinical Pharmacology” section of the package insert for the ParaGard® T 380A Intrauterine Copper Contraceptive states: “The contraceptive effectiveness of ParaGard® is enhanced by copper continuously released into the uterine cavity. Possible mechanism(s) by which copper enhances contraceptive efficacy include interference with sperm transport or fertilization, and prevention of implantation.”
- ³ Planned Parenthood is the largest abortion provider in the United States.
- ⁴ Robert G. Marshall and Charles A. Donovan, *Blessed Are the Barren: The Social Policy of Planned Parenthood* (San Francisco: Ignatius Press, 1991): ch. 12 (pp. 291-302) (the source containing the best discussion of the effort to change these definitions to eliminate objections to hormonal birth-control technologies as possibly being abortifacients).
- ⁵ Marshall and Donovan, *Blessed Are the Barren*, p. 293.
- ⁶ Rachel Benson Gold, “The Implications of Defining When a Woman Is Pregnant,” *Guttmacher Report on Public Policy* 8 (May 2005): 7.
- ⁷ This research strategy would probably not be available for those living elsewhere – with the possible exception of New York City.
- ⁸ In 1971 ACOG changed its official policy regarding abortion, endorsing abortion upon patient request as acceptable medical practice.
- ⁹ This edition defines implantation as: “The attachment of the fertilized ovum (blastocyst) to the endometrium, and its subsequent embedding in the compact layer, occurring six or seven days after fertilization of the ovum.”
- ¹⁰ Note that *Dorland’s* later use of “viable zygote” may reflect this shift in *Stedman’s* phrasing.
- ¹¹ “Gestation” and “fetation” appeared in every definition of “pregnancy” from 1912 to 2008. Either one or two of these three – gravidity, graviditas, or gravidism – has also been included in the definition.
- ¹² “Cyphoria” is a difficult term to find in any reference source. Using the Yahoo search engine I was able to find a webpage (<http://www.wordinfo.info/words/index/info/view_unit/606/?letter=C&page=31>) that defined it as “[a]n awareness of pregnancy.”
- ¹³ LINK: < <http://www.nlm.nih.gov/MEDLINEPLUS/ency/article/000895.htm> >.
- ¹⁴ Keith L. Moore and T.V.N. Persaud, *The Developing Human: Clinically Oriented Embryology* (8th ed., 2008): p. 15. There are additional, helpful definitions from embryology. An earlier edition of Moore and Persaud contains this definition of “zygote”:

Zygote. This cell results from the union of an oocyte and a sperm during fertilization. A zygote is the beginning of a new human being (*i.e.*, an embryo).

Keith L. Moore and T.V.N. Persaud, *The Developing Human: Clinically Oriented Embryology* (7th ed., 2007): p. 2.

¹⁵ From *Longman's Medical Embryology* we find this comment on fertilization:

The development of a human begins with fertilization, a process by which the *spermatozoon* from the male and the oocyte from the female unite to give rise to a new organism, the *zygote*."

T.W. Sadler, *Langman's Medical Embryology* (7th ed., 1995): p. 3. Finally, another embryology volume contains this observation about fertilization and human development:

Almost all higher animals start their lives from a single cell, the fertilized ovum (zygote)... The time of fertilization represents the starting point in the life history, or ontogeny, of the individual."

Bruce M. Carlson, *Patten's Foundations of Embryology* (6th ed., 1996): p. 3.

¹⁶ LINK: < http://en.wikipedia.org/wiki/Carnegie_stages >.

¹⁷ LINK: < <http://www.embryology.ch/anglais/iperiodembry/carnegie01.html> >.

Appendix A: "Conception" Defined

Title	Ed.	Year	Term Defined	Definition
American Illustrated Medical Dictionary (Dorland)	1st	1900	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	2nd	1901	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	3rd	1903	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	6th	1911	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	7th	1913	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	9th	1917	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	10th	1919	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	12th	1923	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	14th	1927	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	15th	1929	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	18th	1938	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	19th	1941	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	20th	1944	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	21st	1947	conception	1. The fecundation of the ovum
American Illustrated Medical Dictionary (Dorland)	22nd	1951	conception	1. The fecundation of the ovum
Dorland's Illustrated Medical Dictionary	23rd	1957	conception	1. The fecundation of the ovum
Dorland's Illustrated Medical Dictionary	24th	1965	conception	1. The fecundation of the ovum
Dorland's Illustrated Medical Dictionary	25th	1974	conception	1. The fecundation of the ovum
Dorland's Illustrated Medical Dictionary	26th	1981	conception	1. onset of pregnancy, marked by implantation of the blastocyst in the endometrium; the formation of a visible zygote.
Dorland's Illustrated Medical Dictionary	27th	1988	conception	1. onset of pregnancy, marked by implantation of the blastocyst in the endometrium; the formation of a visible zygote.
Dorland's Illustrated Medical Dictionary	28th	1994	conception	1. onset of pregnancy, marked by implantation of the blastocyst in the endometrium; the formation of a visible zygote.
Dorland's Illustrated Medical Dictionary	29th	2000	conception	1. the onset of pregnancy, marked by fertilization of an oocyte by a sperm or spermatozoon; formation of a visible zygote.
Dorland's Illustrated Medical Dictionary	30th	2003	conception	1. an imprecise term denoting the formation of a viable zygote.
Dorland's Illustrated Medical Dictionary	31st	2007	conception	1. an imprecise term denoting the formation of a viable zygote.
Mosby's Medical and Nursing Dictionary	1st	1983	conception	1. the beginning of pregnancy, usually taken to be the instant that a spermatozoon enters an ovum and forms a viable zygote 2. the act or process of fertilization
Mosby's Medical, Nursing, and Allied Health Dictionary	2nd	1987	conception	1. the beginning of pregnancy, usually taken to be the instant that a spermatozoon enters an ovum and forms a viable zygote 2. the act or process of fertilization
Mosby's Medical, Nursing, and Allied Health Dictionary	3rd	1990	conception	1. the beginning of pregnancy, usually taken to be the instant that a spermatozoon enters an ovum and forms a viable zygote 2. the act or process of fertilization
Mosby's Medical, Nursing, and Allied Health Dictionary	4th	1994	conception	1. the beginning of pregnancy, usually taken to be the instant that a spermatozoon enters an ovum and forms a viable zygote 2. the act or process of fertilization

Appendix A: "Conception" Defined

Title	Ed.	Year	Term Defined	Definition
Mosby's Medical, Nursing, and Allied Health Dictionary	5th	1998	conception	1. the beginning of pregnancy, usually taken to be the instant that a spermatozoon enters an ovum and forms a viable zygote 2. the act or process of fertilization
Mosby's Medical Dictionary	6th	2002	conception	1. the beginning of pregnancy, usually taken to be the instant that a spermatozoon enters an ovum and forms a viable zygote 2. the act or process of fertilization
Mosby's Medical Dictionary	7th	2006	conception	1. the beginning of pregnancy, usually taken to be the instant that a spermatozoon enters an ovum and forms a viable zygote 2. the act or process of fertilization
A Practical Medical Dictionary (Stedman's)	2nd	1912	conception	3. Becoming pregnant.
A Practical Medical Dictionary (Stedman's)	5th	1918	conception	3. The act of conceiving, or becoming pregnant.
A Practical Medical Dictionary (Stedman's)	6th	1920	conception	3. The act of conceiving, or becoming pregnant.
A Practical Medical Dictionary (Stedman's)	7th	1921	conception	3. The act of conceiving, or becoming pregnant.
A Practical Medical Dictionary (Stedman's)	8th	1924	conception	3. The act of conceiving, or becoming pregnant.
A Practical Medical Dictionary (Stedman's)	9th	1926	conception	3. The act of conceiving, or becoming pregnant.
A Practical Medical Dictionary (Stedman's)	11th	1932	conception	3. The act of conceiving, or becoming pregnant.
A Practical Medical Dictionary (Stedman's)	12th	1933	conception	3. The act of conceiving, or becoming pregnant.
A Practical Medical Dictionary (Stedman's)	13th	1936	conception	3. The act of conceiving, or becoming pregnant.
A Practical Medical Dictionary (Stedman's)	14th	1939	conception	3. The act of conceiving, or becoming pregnant.
Stedman's Practical Medical Dictionary	15th	1942	conception	3. The act of conceiving, or becoming pregnant.
Stedman's Practical Medical Dictionary	16th	1946	conception	3. The act of conceiving, or becoming pregnant.
Stedman's Medical Dictionary	18th	1953	conception	3. The act of conceiving, or becoming pregnant.
Stedman's Medical Dictionary	19th	1957	conception	3. The act of conceiving, or becoming pregnant.
Stedman's Medical Dictionary	20th	1961	conception	3. The act of conceiving, or becoming pregnant; the fecundation of the ovum.
Stedman's Medical Dictionary	21st	1966	conception	3. The act of conceiving, or becoming pregnant; the fecundation of the ovum.
Stedman's Medical Dictionary	22nd	1972	conception	3. Successful implantation of the blastocyst in the uterine lining.
Stedman's Medical Dictionary	23rd	1976	conception	3. Implantation of the blastocyst; see implantation.
Stedman's Medical Dictionary	24th	1982	conception	3. The act of conceiving, or becoming pregnant; the fertilization of the oocyte (ovum) by a spermatozoon.
Stedman's Medical Dictionary	25th	1990	conception	3. Act of conceiving, or becoming pregnant; fertilization of the oocyte (ovum) by a spermatozoon.
Stedman's Medical Dictionary	26th	1995	conception	3. Act of conceiving, or becoming pregnant; fertilization of the oocyte (ovum) by a spermatozoon to form a viable zygote.
Stedman's Medical Dictionary	27th	2000	conception	3. Act of conceiving; the implantation of the blastocyte in the endometrium.
Stedman's Medical Dictionary	28th	2006	conception	3. Fertilization of oocyte by a sperm.
Taber's Cyclopedic Medical Dictionary	1st	1940	conception	The union of the male sperm and the ovum of the female.
Taber's Cyclopedic Medical Dictionary	3rd	1945	conception	The union of the male sperm and the ovum of the female.
Taber's Cyclopedic Medical Dictionary	4th	1946	conception	The union of the male sperm and the ovum of the female.
Taber's Cyclopedic Medical Dictionary	5th	1950	conception	The union of the male sperm and the ovum of the female.
Taber's Cyclopedic Medical Dictionary	6th	1955	conception	The union of the male sperm and the ovum of the female.
Taber's Cyclopedic Medical Dictionary	7th	1957	conception	The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	8th	1959	conception	The union of the male sperm and the ovum of the female; fertilization.

Appendix A: "Conception" Defined

Title	Ed.	Year	Term Defined	Definition
Taber's Cyclopedic Medical Dictionary	9th	1962	conception	The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	10th	1965	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	11th	1970	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	12th	1973	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	13th	1977	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	14th	1981	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	15th	1985	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	16th	1989	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	17th	1993	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	18th	1997	conception	2. The union of the male sperm and the ovum of the female; fertilization.
Taber's Cyclopedic Medical Dictionary	19th	2001	conception	2. The onset of pregnancy marked by implantation of a fertilized ovum in the uterine wall.
Taber's Cyclopedic Medical Dictionary	20th	2005	conception	2. the onset of pregnancy marked by implantation of a fertilized ovum in the uterine wall.

Appendix B: "Pregnancy" Defined

Title	Ed.	Year	Term Defined	Definition
American Illustrated Medical Dictionary (Dorland)	1st	1900	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	2nd	1901	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	3rd	1903	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	6th	1911	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	7th	1913	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	9th	1917	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	10th	1919	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	12th	1923	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	14th	1927	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland)	15th	1929	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland's)	18th	1938	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland's)	19th	1941	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland's)	20th	1944	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland's)	21st	1947	pregnancy	The condition of being with child; gestation. [continues w/out reference to fertilization or implantation]
American Illustrated Medical Dictionary (Dorland's)	22nd	1951	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	23rd	1957	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	24th	1965	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	25th	1974	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	26th	1981	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	27th	1988	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	28th	1994	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	29th	2000	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	30th	2003	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Dorland's Illustrated Medical Dictionary	31st	2007	pregnancy	The condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon. [continues]
Mosby's Medical and Nursing Dictionary	1st	1983	pregnancy	The gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth. [continues]
Mosby's Medical Dictionary	2nd	1987	pregnancy	The gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth. [continues]
Mosby's Medical, Nursing, and Allied Health Dictionary	3rd	1990	pregnancy	The gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth. [continues]
Mosby's Medical, Nursing, and Allied Health Dictionary	4th	1994	pregnancy	The gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth. [continues]

Appendix B: "Pregnancy" Defined

Title	Ed.	Year	Term Defined	Definition
Mosby's Medical, Nursing, and Allied Health Dictionary	5th	1998	pregnancy	The gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth. [continues]
Mosby's Medical Dictionary	6th	2002	pregnancy	The gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth. [continues]
Mosby's Medical Dictionary	7th	2006	pregnancy	The gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic and fetal periods to birth. [continues]
A Practical Medical Dictionary (Stedman's)	2nd	1912	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	5th	1918	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	6th	1920	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	7th	1921	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	8th	1924	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	9th	1926	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	11th	1932	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	12th	1933	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	13th	1936	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	14th	1939	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	15th	1942	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	16th	1946	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
A Practical Medical Dictionary (Stedman's)	18th	1953	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
Stedman's Medical Dictionary	19th	1957	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months.
Stedman's Medical Dictionary	20th	1961	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months, or 280 days.
Stedman's Medical Dictionary	21st	1966	pregnancy	Gestation, fetation; gravidity; the state of a female after conception until the birth of the child. The duration of pregnancy in woman is about forty weeks, ten lunar months, or nine calendar months, or 280 days.
Stedman's Medical Dictionary	22nd	1972	pregnancy	Gestation; fetation; gravidity; the state of a female after conception until the birth of the child.
Stedman's Medical Dictionary	23rd	1976	pregnancy	Gestation; fetation; cyesis; cyophoria; graviditas; gravidity; the state of a female after conception until the birth of the baby.

Appendix B: "Pregnancy" Defined

Title	Ed.	Year	Term Defined	Definition
Stedman's Medical Dictionary	24th	1982	pregnancy	Gestation; fetation; cyesis, graviditas; gravidism; the state of a female after conception until the birth of the baby.
Stedman's Medical Dictionary	25th	1990	pregnancy	Gestation; fetation; cyesis, graviditas; gravidism; the state of a female after conception until the birth of the baby.
Stedman's Medical Dictionary	26th	1995	pregnancy	The condition of a female after conception until the birth of the baby. SYN fetation, gestation, gravidism, graviditas.
Stedman's Medical Dictionary	27th	2000	pregnancy	The state of a female after conception and until the termination of the gestation. SYN fetation, gestation, gravidism, graviditas.
Stedman's Medical Dictionary	28th	2006	pregnancy	The state of a female after conception and until the termination of the gestation. SYN fetation, gestation, gravidism, graviditas.
Taber's Cyclopedic Medical Dictionary	1st	1940	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	3rd	1945	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	4th	1946	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	5th	1950	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	6th	1955	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	7th	1957	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	8th	1959	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	9th	1962	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	10th	1965	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	11th	1970	pregnancy	The condition of being with child.
Taber's Cyclopedic Medical Dictionary	12th	1973	pregnancy	The condition of carrying a developing embryo in the uterus.
Taber's Cyclopedic Medical Dictionary	13th	1977	pregnancy	The condition of carrying a developing embryo in the uterus.
Taber's Cyclopedic Medical Dictionary	14th	1981	pregnancy	The condition of carrying a developing embryo in the uterus.
Taber's Cyclopedic Medical Dictionary	15th	1985	pregnancy	The condition of carrying a developing embryo in the uterus.
Taber's Cyclopedic Medical Dictionary	16th	1989	pregnancy	The condition of carrying a developing embryo in the uterus.
Taber's Cyclopedic Medical Dictionary	17th	1993	pregnancy	The condition of carrying a developing embryo in the uterus.
Taber's Cyclopedic Medical Dictionary	18th	1997	pregnancy	The condition of carrying a developing embryo in the uterus.
Taber's Cyclopedic Medical Dictionary	19th	2001	pregnancy	The condition of having a developing embryo or fetus in the body after successful conception.
Taber's Cyclopedic Medical Dictionary	20th	2005	pregnancy	The condition of having a developing embryo or fetus in the body, after successful conception.