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."

—Lewis Carroll, *Through the Looking Glass*

Given the hyperpoliticized 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 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?

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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 demonstrates that the conscientious objectors' scientific analysis not only is reasonable but reflects standard medical usage over time, as documented by the four surveyed dictionaries.

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 fubes to create a zygote—or about a week later upon uterine implantation has enormous moral and policy implications.

Acceptance of implantation-based definitions of *conception* and *pregnancy* would allow the use of medical technologies that might destroy living, developing embryos in the seven days that follow fertilization but precede implantation. Some believe that birth-control pills have this effect. The FDA-approved package insert 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] Intrauterine devices (IUDs) also are believed to have multiple means of action, including the blocking of implantation.[2]

In the last fifty years, organizations like the Guttmacher Institute, the research arm of Planned Parenthood,[3] and the pro-abortion American College of Obstetricians and Gynecologists 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

[1] From the package insert (label) for Plan B (levonorgestrel) under "Clinical Pharamcology," http://www.go2planb.com/pdf/PlanBPI.pdf; emphasis added.

[2] For example, the prescribing information for the ParaGard T380A Intrauterine Copper Contraceptive states (under "Clinical Pharmacology") that "the contraceptive effectiveness of ParaGard is enhanced by copper continuously released into the uterine cavity. Possible mechanisms by which copper enhances contraceptive efficacy include interference with sperm transport or fertilization and prevention of implantation," http://www.paragard.com/global/pdf/Prescribing-Info.pdf.

[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), 291–302, chapter 12. This book contains an excellent discussion of the effort to change these definitions in order to eliminate objections that hormonal birth control technologies may be abortifacients.

implantation of a fertilized ovum."[5] Forty years later, Rachel Benson Gold flatly asserted 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.

Important redoubts of scientific integrity remain, however, and Gold's claim is actually not correct. As the research presented below demonstrates, *there is 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 of certain drugs or devices might cause pre-implantation abortions by preventing uterine implantation of the developing embryos. The findings presented here indicate furthermore that the medical-scientific community has long taken a fertilization-based approach to defining *conception* and *pregnancy*, with few exceptions. In fact, fertilization-based definitions have always been predominant in the medical dictionaries.

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 help of dedicated research assistants, I was able to accumulate a nearly complete inventory of American medical dictionary definitions of these terms.

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, we can 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 the Guttmacher and ACOG publications.[8] In the opening pages of

[5] Ibid., 293.

[6] Rachel Benson Gold, "The Implications of Defining When a Woman Is Pregnant," *Guttmacher Report on Public Policy* 8.2 (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.

the dictionaries, one finds the names and credentials of the editors and contributing authors. None of the medical dictionaries is associated with *any* pro-life or pro-abortion 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 twentieth 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 patterns in the definitions of *conception* and *pregnancy* that are relevant to current policy debates and assertions of rights of conscience.

Definitions of *Conception* and *Pregnancy*

This medical dictionary survey demonstrates that there is *no* consensus supporting the position either that conception begins at implantation or that pregnancy begins at implantation. The survey results are summarized below, and the raw data are summarized in the appendix to this paper, which presents the four dictionaries' definitions of *conception* and *pregnancy* in tabular form.

Dorland's Dictionaries

Dorland's on Conception. *Dorland's* is the oldest of the major American medical dictionaries. The first edition was published in 1900. From then to 1974 (twenty-fifth edition), *Dorland's* defined *conception* as "the fecundation of the ovum." In the twenty-fifth edition, *fecundation* was defined as "impregnation or fertilization." *Fecundate* is a verb meaning "to impregnate or fertilize."

In the twenty-sixth edition (1981), *Dorland's* altered its definition of *conception*, and the new definition appeared in the twenty-seventh (1988) and twenty-eighth (1994) editions as well. The new definition contains two parts—one based on implantation and the other based on fertilization. The definition describes *conception* as the "onset of pregnancy, marked by implantation of the blastocyst in the endometrium; the formation of a visible zygote."

There is a tension in this definition. The first part of the definition clearly describes 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 refers to the syngamy or fusion of the two gametes (male and female) to produce a zygote. Whatever was meant precisely, this second part of the definition of *conception* is based not on implantation but on earlier events.

In the twenty-ninth edition (2000), there was a shift to a wholly fertilization-based definition of *conception* 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 implantation-based definition of *conception*.

The definition used in *Dorland's* thirtieth (2003) and thirty-first (2007) editions notes oddly that *conception* is "an imprecise term denoting the formation of a viable zygote." (The 2007 edition is the current edition of *Dorland's*.) The switch from

visible to *viable* may signal a slight shift in focus by the editors. "A visible zygote" probably reflects consideration of the single zygotic cell and the fact that such a cell could contain two pro-nuclei before syngamy and then a single, clearly delineated 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 first edition (1900) through the twenty-first (1947), *pregnancy* is defined as "the condition of being with child; gestation." The definition contains no reference to either fertilization or implantation.

In the twenty-second edition (1951), Dorland's modified the definition to read, "the condition of having a developing embryo or fetus in the body, after union of an ovum and spermatozoon." (It continues without further reference to fertilization or implantation.) Mention of such union still 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 thirty-first edition, the current one, in 2007.

Dorland's Analysis. *Dorland's* has provided a fertilization-based definition of *conception* in every edition. This was true even in the twenty-sixth through the twenty-eighth editions, which offered a fertilization-based definition of *conception* in addition to an implantation-based definition. With publication of the twenty-ninth edition (2000), *Dorland's* definition of *conception* reverted to a fertilization focus and did not reference implantation again.

Dorland's definition of *pregnancy* has been explicitly centered on fertilization-centric 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.

Stedman's Dictionaries

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 fifth edition (1918) through its nineteenth (1957) as "the act of conceiving, or becoming pregnant." These editions contain no explicit reference to fertilization or implantation as the point of conception. However, the twentieth (1961) and twenty-first (1966) editions added the fertilization-focused phrase "the fecundation of the ovum." *Fecundate* is defined as "to impregnate, to fertilize."

In the 1970s, Stedman's moved to an implantation-based definition. The twenty-second edition (1972) defines *conception* as the "successful implantation of the blastocyst in the uterine lining." The next edition, published in 1976, defines it as "implantation of the blastocyst; see *implantation*."[9]

[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."

Since 1982, *Stedman's* has used fertilization-based definitions with one exception in 2000 (twenty-seventh edition). The twenty-fourth (1982) and twenty-fifth (1990) editions define *conception* as "the act of conceiving, or becoming pregnant; the fertilization of the oocyte (ovum) by a spermatozoon." In 1995, the twenty-sixth edition alters the final wording of the second phrase to read "by a spermatozoon to form a viable zygote."[10]

In 2000, with its twenty-seventh 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, in 2006 (twenty-eighth edition), which reverts to a fertilization-based definition, defining *conception* as "fertilization of oocyte by a sperm."

Stedman's on Pregnancy*. Stedman's* has defined *pregnancy* with remarkable consistency since its second edition in 1912, the earliest edition of *Stedman's* we could obtain. The 1912 definition contained a list of synonyms for *pregnancy* accompanying two descriptive sentences or clauses: "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 "about forty weeks, ten lunar months, or nine calendar months." This definition remained unchanged through the nineteenth edition (1957). In 1961 (twentieth edition), the phrase "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*, *gravidism*, *gravidity*, *cyesis*, and *cyophoria*.[11] An online medical dictionary using *Stedman's* definitions indicates that these terms are still used as synonyms for *pregnancy*, except *cyophoria*, which has rarely ever been used.[12]

In 1972 (twenty-second edition), the definition read, "Gestation, fetation; gravidity; the state of a female after conception until the birth of the child."[13] Additionally, the second sentence describing a pregnancy's duration was dropped in that and future editions. In 1976 (twenty-third edition), the list of *pregnancy* synonyms was lengthened as follows: "gestation; fetation, cyesis, cyophoria; graviditas; gravidity." In 1982 and 1990, *gravidity* had become *gravidism*, and *cyophoria* no longer appeared on the list.

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[10] Notice 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*, and *gravidism*—has also been included in the definition.

[12] See Drug Information Online, http://www.drugs.com/dict. *Cyophoria* is a difficult term to find in any reference source. Using the Yahoo search engine I was able to find an online source that defines *cyophoria* as "an awareness of pregnancy." English Word Information Web site, using *Robertson's Words for a Modern Age: A Dictionary of English Words Derived from Latin and Greek Sources*, ed. John G. Robertson (Eugene, OR: Senior Scribe Publications, 1991), http://www.wordinfo.info/words/index/info/view_unit/606/?letter=C&spage=31.

[13] Also, after 1972, *baby* replaced *child*. See the appendix to track the described changes more easily.

Table 1. Are *Stedman's* definitions implantation- or fertilization-based? An analysis of *conception* and *pregnancy* together

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

In the last three editions (1995, twenty-sixth; 2000, twenty-seventh; and 2006, twenty-eighth), the list of synonymous terms was moved to follow the main sentence. For example, the definition of *pregnancy* in the twenty-sixth edition (1995) reads, "the condition of a female after conception until the birth of the baby. Syn fetation, gestation, gravidism, graviditas."

In the two most recent editions (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. Four of the last five editions have presented a fertilization-based combination of the two definitions. (See Table 1.)

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.

Taber's Dictionaries

Taber's on Conception. *Taber's* first edition was published in 1940. From 1940 (first edition) until 1997 (eighteenth edition), the dictionary provided a fertilization-based definition of *conception*. There have been two formulations. The first definition was used from 1940 to 1955 (sixth edition) and read, "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 through 1997 (eighteenth edition).

In 2001, *Taber's* switched to an implantation-based definition of *conception* that is consistent with the dictionary's implantation-based definition of *pregnancy*. So the nineteenth (2001) and twentieth (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 (first edition) through 1970 (eleventh edition), *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 (twelfth edition) through 1997 (eighteenth edition), *Taber's* used the following implantation-based definition of *pregnancy*: "the condition of carrying a developing embryo in the uterus."

The definition was amended in the last two editions—2001 (nineteenth) and 2005 (twentieth) —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 the 2001 and 2005 editions, as noted above, define *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 used to define *conception*. Before 2001, the dictionary was not consistent in the way it defined *conception* and *pregnancy.*

Mosby's Dictionaries

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*: (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 give 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 dictionary with the most consistently implantation-based definitions, *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* or *pregnancy.*

Loose Ends: *Ectopic Pregnancy* and Embryology

Two loose ends support the argument that implantation-based definitions of *conception* and *pregnancy* are terminologically unusual and problematic. Both 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.

Ectopic Pregnancy

First, if one uses the adjective *ectopic*, what noun immediately comes to mind? *Pregnancy*, of course. The National Institutes of Health's MedlinePlus encyclopedia describes 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.[14]

Similarly, *Taber's* twentieth edition (2005) defines *ectopic pregnancy* as the "extrauterine 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*.[15]

The definitional difficulty is clear. In the current *Taber's* (twentieth edition, 2005) *pregnancy* is defined as "the condition of having a developing embryo or fetus in the body, after 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 definitions of *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, embryologists regard fertilization as the beginning of a multi-stage developmental process that does not begin with uterine implantation. A foremost embryology text makes this observation, for example:

> 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.[16]

Additional statements support this point.[17]

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[14] ADAM Medical Encyclopedia, s.v. "ectopic pregnancy," updated February 2, 2008, MedlinePlus Web site, http://www.nlm.nih.gov/MEDLINEPLUS/ency/article/000895.htm.

[15] Similarly, *Taber's* lists *ampullar pregnancy* and *abdominal pregnancy* as terms used to describe more specifically 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.

[16] Keith L. Moore and T. V. N. Persaud, *The Developing Human: Clinically Oriented Embryology*, 8th ed., (Philadelphia: Saunders, 2008), 15. There are additional helpful definitions from embryology. The seventh edition of Moore and Persaud (2007) contains this definition of *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)."

[17] In *Langman'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 twenty-three Carnegie Stages of human embryological development are well known and run from day 1 to day 60 of pregnancy. Implantation occurs between days 6 and 12.[18] Of course, uterine implantation is critical to embryological development, but implantation does not mark the beginning of the developmental process. Fertilization marks the beginning, and the twenty-four-hour process of fertilization is described with great precision in Carnegie Stage 1.[19]

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 from 1973 to 1997, for example, in *Taber's* conflicting definitions of *conception*, which is fertilization-based, and *pregnancy*, which is implantation-based, with the definitions in the last two editions being unable to account for extrauterine pregnancies.

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the male and the *oocyte* from the female unite to give rise to a new organism, the *zygote*." T. W. Sadler, 7th ed. (Philadelphia: Lippincott Williams & Wilkins, 1995), 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. (New York: McGraw-Hill, 1996), 3.

[18] Online course in embryology developed by the University of Fribourg, Lausanne, and Bern, Switzerland, last revised April 25, 2007, http://www.embryology.ch/anglais/iperiodembry/carnegie01.html.

[19] A full depiction of the process of fertilization is beyond the scope of this paper. That said, for over a century, embryologists have been unwavering in using the twenty-three-stage Carnegie embryonic development framework as their gold standard. *Developmental Stages in Human Embryos* by Ronan O'Rahilly and Fabiola Muller (Washington, D.C.: Carnegie Institution, 1987) is the authoritative source in this field (http://www.ciw.edu/publications_online/developmental_stages/default.html). The first stage, fertilization, is described there in great detail (9–12). O'Rahilly and Muller make this succinct observation: "Fertilization is the procession of events that begins when a spermatozoon makes contact with an oocyte or its investments and ends with the intermingling of maternal and paternal chromosomes at metaphase of the first mitotic division of the zygote. … Fertilization [in the stricter sense] involves the union of developmentally competent gametes realized in an appropriate environment to result in the formation of a viable embryo capable of normal further development" (9). Thus, a precise description of Carnegie Stage 1 of the development of the human embryo indicates that a human being begins to exist at the onset of fertilization. Thus a woman becomes pregnant with the start of the fertilization process which begins well before implantation occurs, i.e. approximately seven days later. More information about the Carnegie Stages can be obtained by visiting the Web site of the National Museum of Health and Medicine whose Human Developmental Anatomy Center Web page links to a page about Carnegie Stage 1 (http://nmhm.washingtondc.museum/collections/hdac/stage_1.htm).

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 these 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 that 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. They reason that 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 by a minority view into using an implantation-based definition of *pregnancy* or *conception* in their statutes and regulations.

Appendix

Definitions of *Conception* and *Pregnancy* in Four Major American Medical Dictionaries

Edition	Year	Definition of *Conception*	Definition of *Pregnancy*
		Dorland's	
American Illustrated Medical Dictionary			
1st	1900	1. The fecundation of the ovum.	The condition of being with child; gestation. [Continues without reference to fertilization or implantation.]
2nd	1901	— same —	— same —
3rd	1903	— same —	— same —
6th	1911	— same —	— same —
7th	1913	— same —	— same —
9th	1917	— same —	— same —
10th	1919	— same —	— same —
12th	1923	— same —	— same —
14th	1927	— same —	— same —
15th	1929	— same —	— same —
18th	1938	— same —	— same —
19th	1941	— same —	— same —
20th	1944	— same —	— same —
21st	1947	— same —	— same —
22nd	1951	— same —	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	— same —	— same —
24th	1965	— same —	— same —
25th	1974	— same —	— same —
26th	1981	1. Onset of pregnancy, marked by implantation of the blastocyst in the endometrium; the formation of a visible zygote.	— same —
27th	1988	— same —	— same —
28th	1994	— same —	— same —
29th	2000	1. The onset of pregnancy, marked by fertilization of an oocyte by a sperm or spermatozoon; formation of a visible zygote.	— same —

Note: For reasons of space and readability, the original appendices have been combined and their format changed for publication in the *NCBQ*. The data in both versions are the same.

Appendix, *continued*

Edition	Year	Definition of *Conception*	Definition of *Pregnancy*
***Dorland's**, cont.*			
30th	2003	1. An imprecise term denoting the formation of a viable zygote.	— same —
31st	2007	— same —	— same —
		Stedman's	
A Practical Medical Dictionary (Stedman's)			
2nd	1912	3. Becoming pregnant.	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.
5th	1918	3. The act of conceiving, or becoming pregnant.	— same —
6th	1920	— same —	— same —
7th	1921	— same —	— same —
8th	1924	— same —	— same —
9th	1926	— same —	— same —
11th	1932	— same —	— same —
12th	1933	— same —	— same —
13th	1936	— same —	— same —
14th	1939	— same —	— same —
Stedman's Practical Medical Dictionary			
15th	1942	— same —	— same —
16th	1946	— same —	— same —
Stedman's Medical Dictionary			
18th	1953	— same —	— same —
19th	1957	— same —	— same —

continued

Appendix, *continued*

Edition	Year	Definition of *Conception*	Definition of *Pregnancy*
***Stedman's**, cont.*			
20th	1961	3. The act of conceiving, or becoming pregnant; the fecundation of the ovum.	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, nine calendar months, or 280 days.
21st	1966	— same —	— same —
22nd	1972	3. Successful implantation of the blastocyst in the uterine lining.	Gestation; fetation; gravidity; the state of a female after conception until the birth of the child.
23rd	1976	3. Implantation of the blastocyst; see implantation.	Gestation; fetation; cyesis; cyophoria; graviditas; gravidity; the state of a female after conception until the birth of the baby.
24th	1982	3. The act of conceiving, or becoming pregnant; the fertilization of the oocyte (ovum) by a spermatozoon.	Gestation; fetation; cyesis, graviditas; gravidism; the state of a female after conception until the birth of the baby.
25th	1990	— same [without the word "the"]—	— same —
26th	1995	3. Act of conceiving, or becoming pregnant; the fertilization of the oocyte (ovum) by a spermatozoon to form a viable zygote.	The condition of a female after conception until the birth of the baby. Syn fetation, gestation, gravidism, graviditas.
27th	2000	3. Act of conceiving; the implantation of the blastocyte in the endometrium.	The state of a female after conception and until the termination of the gestation. Syn fetation, gestation, gravidism, graviditas.
28th	2006	3. Fertilization of oocyte by a sperm.	— same —
Taber's			
Taber's Cyclopedic Medical Dictionary			
1st	1940	The union of the male sperm and the ovum of the female.	The condition of being with child.
3rd	1945	— same —	— same —
4th	1946	— same —	— same —
5th	1950	— same —	— same —
6th	1955	— same —	— same —
7th	1957	The union of the male sperm and the ovum of the female; fertilization.	— same —
8th	1959	— same —	— same —
9th	1962	— same —	— same —

Appendix, *continued*

Edition	Year	Definition of *Conception*	Definition of *Pregnancy*
***Stedman's**, cont.*			
10th	1965	2. The union of the male sperm and the ovum of the female; fertilization.	— same —
11th	1970	— same —	— same —
12th	1973	— same —	The condition of carrying a develop ing embryo in the uterus.
13th	1977	— same —	— same —
14th	1981	— same —	— same —
15th	1985	— same —	— same —
16th	1989	— same —	— same —
17th	1993	— same —	— same —
18th	1997	— same —	— same —
19th	2001	2. The onset of pregnancy marked by implantation of a fertilized ovum in the uterine wall.	The condition of having a developing embryo or fetus in the body after successful conception. [Continues.]
20th	2005	— same —	— same —
Mosby's			
Mosby's Medical and Nursing Dictionary			
1st	1983	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.	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	— same —	— same —
Mosby's Medical, Nursing, and Allied Health Dictionary			
3rd	1990	— same —	— same —
4th	1994	— same —	— same —
5th	1998	— same —	— same —
Mosby's Medical Dictionary			
6th	2002	— same —	— same —
7th	2006	— same —	— same —