

## Human at Conception:

# The 14th Amendment & the Acquisition of Personhood

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**L**ong-established Constitutional law entitles each individual to human rights and the equal protection of the law. Ratified on July 9, 1868, the Fourteenth Amendment states: “. . . nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.” Currently, however, the law protects an individual only after “viability”: the point at which that individual, as a fetus, could survive outside the womb. In the 1973 *Roe v. Wade* decision, the Supreme Court declared: “Texas urges that, apart from the Fourteenth Amendment, life begins at conception and is present throughout pregnancy, and that, therefore, the State has a compelling interest in protecting that life from and after conception. We need not resolve the difficult question of when life begins. When those trained in the respective disciplines of medicine, philosophy, and theology are unable to arrive at any consensus, the judiciary, at this point in the development of man’s knowledge, is not in a position to speculate as to the answer.”<sup>1</sup>

### **When Does Life Begin?**

Since 1973, much effort has been expended to determine when life begins and personhood is gained. But a person’s opinion about when life begins can vary based on his cultural heritage, religious background, and scientific understanding (see Table 1).<sup>2</sup> Religious definitions of when life begins vary from conception to specific gestational milestones to birth, but usually depend on when the soul or spirit enters the new being.<sup>3</sup> Philosophical and socio-cultural views of when life begins vary considerably.<sup>4</sup>

Scientific views of life’s beginnings also spread across the spectrum of time from conception to after birth.<sup>5</sup> Except for the ones that designate conception as the beginning of life, these designations involve “phenotypes”—

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characteristics that arise from the expression of the organism's DNA, and from the interaction of its DNA with its environment.<sup>6</sup>

A major difficulty in determining when life begins is the problem of what life is in the first place. It may be easy to identify life when we see it, but establishing a simple, concise definition is not easy.<sup>7</sup> While some in the U.S. Congress and in South Dakota claim that life begins at conception, this is not clear. At conception, a sperm's single-stranded DNA and an ovum's single-stranded DNA unite within a single cell, creating a new and unique human.<sup>8</sup> But whether this constitutes life is questionable, since life may be defined as, for example, "the condition that distinguishes organisms from inorganic objects and dead organisms, being manifested by growth through metabolism, reproduction, and the power of adaptation to environment through changes originating internally"<sup>9</sup>—and whether these conditions exist at conception is debatable, since 1) it will be many months before the new human is able to adapt to the environment outside the womb, and 2) it will be years before the new human can reproduce.

As for the religious definition of life, it's difficult to prove: How, after all, does one measure whether the soul has united with the body? Amidst the many definitions of life, the assignment of one point at which a developing but unborn human becomes alive or gains life—and thus deserves legal protections—is difficult at best.

### **Human at Conception**

But in the context of legal rights and protections for the unborn, the question of when life begins may be irrelevant: While the two issues are usually discussed interchangeably, the point when life begins and the event whereby personhood is obtained are not necessarily the same. Consider that the law recognizes that a dead body cannot be desecrated (this is a third-degree felony in Utah<sup>10</sup>). Furthermore, the legal tradition of using wills and trusts that are established prior to death, or probate court afterwards, to provide due process in the disposal of a decedent's property also recognizes that rights exist after death. Thus some rights to liberty and property remain, and due process is provided, even if a person does not have life. Further, as noted in the *Roe v. Wade* decision, the unborn have been recognized in some situations to have rights and to be entitled to protections of the law (although the Court claimed that "the unborn have never been recognized in the law as persons in the whole sense"<sup>11</sup>—which is reminiscent of the assertion that a slave is to be counted as only three-fifths of a person).

Because the Fourteenth Amendment addresses personhood and does not address whether or not a person has life, the most pertinent issue for the

entitlement to rights and protections under the law is whether the unborn offspring of human parents is a person or not. If it is determined that personhood is gained prior to “viability,” the Court has declared that the right to life would be effective and *Roe v. Wade* would be reversed: “The appellee and certain amici argue that the fetus is a ‘person’ within the language and meaning of the Fourteenth Amendment. In support of this, they outline at length and in detail the well-known facts of fetal development. If this suggestion of personhood is established, the appellant’s case, of course, collapses, for the fetus’ right to life would then be guaranteed specifically by the Amendment.”<sup>12</sup> (Note that the Court did not require life to have begun for the collapse of *Roe*’s case, only the establishment of personhood).

In the past, membership in the human race was determined by the presence of characteristics, such as brain size and ability to use complex language,<sup>13</sup> that take years after birth to become fully manifest. But owing to advances in human understanding, beginning with the description of the DNA molecule<sup>14</sup> and continuing with the many recent (largely post-*Roe*) developments in molecular genetics, it is now possible not only to clearly define the one event at which a new person comes into existence and gains personhood, but also to quantify this event scientifically: *The event at which a new, unique person is formed and personhood is gained is the event wherein a genetically unique, one-celled human is formed. This event occurs no earlier than when a human sperm penetrates the zona pellucida of a human ovum during the fertilization process, creating a one-celled human who possesses a full complement of human DNA, and occurs no later than when that first cell begins the process of mitosis to divide into two cells.*

Through all of human history it was always the human DNA that endowed those who possessed it with their membership in the human species.<sup>15</sup> Human DNA is the component of each human that makes him or her a person, regardless of the many and varied definitions of when life begins.

### **A Human Being Is a Person**

The connection of human DNA to personhood is based partly on standard terminology and biological knowledge that have existed for centuries. The novelty of the concepts expounded herein involves the connection of the recent molecular understanding of DNA to the assignment of beings to the species *Homo sapiens*.

That is, a person is a human being,<sup>16</sup> a human being is a member of the species *Homo sapiens*,<sup>17</sup> and membership in that species is traditionally based on human phenotypes that do not fully manifest until adulthood.<sup>18</sup> These

definitions connect personhood to membership in the species *Homo sapiens*.

*Black's Law Dictionary* upholds this conclusion and acknowledges that personhood can be gained prior to birth (please note that *Black's* has no entry for "human being" or "*Homo sapiens*"):

Person: 1. A human being. – Also termed *natural person*.

*Person not deceased*: A person who is either living or not yet born.<sup>19</sup>

*homo*: 1. A male human, 2. A member of humankind; a human being of either sex.<sup>20</sup>

Note that "*homo*" is the Latin term for "man" and is the source for the scientific name for the human genus, "*Homo*." The *Oxford English Dictionary* also supports the conclusion that a person<sup>21</sup> is a member of the human race.<sup>22</sup> While the first edition of *Black's* was published in 1891, 19th-century definitions published in *Webster's Unabridged Dictionary* in 1864—four years prior to the ratification of the Fourteenth Amendment—support the idea that a person is a member of the human race.<sup>23</sup> Thus standard terminology, utilized widely in this society for a long period of time, establishes the connection of personhood, humanness, and membership in the species *Homo sapiens*. This was known in 1973 at the time of the *Roe v. Wade* decision.

### Personhood Is Determined by Human DNA

How do we determine which organisms meet the criteria for membership in the species *Homo sapiens*? Traditionally, we have looked at phenotypic qualities—usually either physical characteristics<sup>24</sup> or the biological ability to produce offspring within the species, while not being able to do so with members of other species.<sup>25</sup> The most unique physical characteristic of humans is the size of the brain and the abilities this produces (e.g., use of complex language), characteristics that are not manifest until after birth.<sup>26</sup>

Since a phenotype is the consequence of DNA expression, the traditional methods of species assignment are an estimation of the underlying genetics. Different DNA sequences will produce different phenotypes, including the distinctions in anatomical and physiological characteristics that traditionally have been used to distinguish between species, because the DNA code is a universal code for all forms of life.<sup>27</sup> It simply takes years of human DNA expression for the traditional species-defining phenotypes to be fully expressed.

Thus, physical human features such as the size of the brain and the ability to successfully interbreed with other humans are phenotypes arising from human DNA. Developing or possessing such human phenotypes is the consequence of expressing the information contained within human DNA. These phenotypes do not occur from the DNA sequence of another species.

### **When Is Personhood Acquired?**

It became possible only relatively recently to differentiate between species at the molecular level based on differences in DNA sequence. Using “molecular phylogenetics,” with assumptions about the rate of random mutation and the accumulation of new mutations over time, evolutionary distance between species can be computed.<sup>28</sup> Through these calculations, historical divergence of species can be deduced, and the species to which an individual organism belongs can be determined.<sup>29</sup>

Given DNA’s central role in coding for the characteristics of a cell, for groups of cells that form tissues, and for groups of tissues that form organs, DNA sequence differences are the most basic source of distinction between species.<sup>30</sup> Thus, if it possesses human DNA, even a single cell can be a unique human.<sup>31</sup>

While the adult human is constructed of countless numbers of cells, in all humans this adult structure results from one initial cell that divides into multiple daughter cells which themselves divide into more cells.<sup>32</sup> Most of these daughter cells specialize to perform tissue- and organ-specific functions. But, with few exceptions (and ignoring small errors of duplication), each of the adult body’s non-reproductive cells contain essentially the same DNA that existed in the initial single cell.<sup>33</sup> Thus, personhood is acquired in the event in which a single-celled being with human DNA is formed. In the usual case (i.e., sexual reproduction), this event is conception; in the case of a human clone, the event would be the creation of the clone.

### **Further Considerations**

One of the primary arguments favoring abortion has been that the fetus is simply tissue in the mother. The DNA of the “tissue” in question, though, arose not solely from the body of the mother but through sexual reproduction. DNA is heritable information, which each new person receives from his or her two human parents. That is, the “tissue” is not tissue of the mother, despite the fact that it is, in the typical case, contained for the initial nine months of its existence within the mother’s body. It is, as evidenced by its DNA, a human being distinct from its mother and father.

Another argument in the abortion debate is that personhood cannot exist at conception because a potential for “twinning” exists during the first few weeks following fertilization and, thus, it is not clear what form the zygote will take or how many persons may actually exist. “Twinning” is the process in which the pluripotent cells of a developing zygote physically separate into two (i.e., twins) or more (i.e., triplets, quadruplets, etc.) groups of cells that subsequently develop independently. However, twinning is not

the creation of a new individual in the way that conception unites two single strands of human DNA to create a new organism. Twinning is the *natural cloning process* (or asexual reproduction) in which one or more pluripotent cells are naturally separated from a developing but conserved human individual, forming a duplicate who subsequently develops independent of the original.<sup>34</sup> When twinning occurs, two or more new and unique persons exist independent of their parents.

### Conclusions

The knowledge that establishes personhood based on a human being's membership in the species *Homo sapiens* has existed for a considerable period of time. The determination of membership in that species has, however, until the recent post-*Roe v. Wade* era, been based on phenotypic characteristics, such as brain size, that become manifest only after birth. With the modern understanding of the molecular structure of DNA and the molecular basis of inheritance, membership in *Homo sapiens* can be quantified at conception, and personhood can be shown to be acquired at one and only one event. In the usual case, conception is the event in which a human being obtains his or her DNA sequence and acquires personhood.

This knowledge ends the need for reliance on theology or speculation as to when life begins: *A unique being possessing the DNA to make him or her a member of the species Homo sapiens is a person—and is thus entitled to the equal protection of the laws and to the rights of due process under the law.* A one-celled human being is as human, and as much of a person, as the most educated, most renowned, and most powerful Supreme Court justice.

### NOTES

1. *Roe v. Wade*, 410 US 113 (1973); section IX.B.
2. Gilbert SF. "When does human life begin?" *DevBio: A Companion to Developmental Biology*. <http://7e.devbio.com/printer.php?ch=21&id=162>. Accessed August 19, 2006. P. 1.
3. *Ibid.*, pp. 3-8.
4. *Ibid.*, pp. 1-3, 8-10; *Roe*, section VI.1-8.
5. Gilbert, pp. 10-16.
6. Jorde LB, Carey JC, Bamshad MJ, White RL. *Medical genetics*. Second edition. St. Louis, MO: Mosby, Inc., 1999; pp. 63-64.
7. Campbell NA. *Biology*. Third edition. Redwood City, CA: The Benjamin/Cummings Publishing Company, Inc., 1993; p. 4.
8. Alberts B, Bray D, Lewis J, Raff M, Roberts Y, Watson JD. *Molecular Biology of the Cell*. Third edition. New York: Garland Publishing, Inc., 1994; pp. 1030-1034.
9. *Random House Webster's Unabridged Dictionary*. Second edition. New York: Random House, 2001; p. 1110.
10. Utah code. 76-9-704. Abuse or desecration of a dead human body.
11. *Roe*, section IX.B.

12. *Roe*, section IX.A.
13. *Random House Webster's Unabridged Dictionary*. Second edition. New York: Random House, 2001; p. 916.  
 "Homo sapiens:  
 1. The species of bipedal primates to which modern humans belong, characterized by a brain capacity averaging 1400cc (85 cubic in.), and by dependence upon language and the creation and utilization of complex tools;  
 2. Humankind."
14. Campbell, pp. 660-666. Alberts B, Bray D, Lewis J, Raff M, Roberts Y, Watson JD. *Molecular Biology of the Cell*. Third edition. New York: Garland Publishing, Inc., 1994; pp. 98-99.
15. Alberts et al. (note 14), pp. 99-102.
16. *Random House Webster's Unabridged Dictionary*. Second edition. New York: Random House, 2001; p. 1445.  
 "Person:  
 1. A human being, whether man, woman, or child;  
 2. A human being as distinguished from an animal or thing."
17. *Ibid.*, p. 931.  
 "Human Being:  
 1. Any individual of the genus *Homo*, especially a member of the species *Homo sapiens*."
18. See note 13.
19. *Black's Law Dictionary*. Eighth edition. Thomson West, 2004; p. 1178.
20. *Ibid.*, p. 753
21. *The Compact Oxford English Dictionary*. Second edition. Oxford: Clarendon Press, 1998; p. 1315.
22. *Ibid.*, pp. 794, 1031.
23. *Webster's Unabridged Dictionary*. Royal Quarto edition. Springfield, MA: G&C Merriam & Co., 1864.  
 Consider the following definitions:  
 "Person:  
 1. The exhibition or representation of a character in dialogue, fiction, or on the stage.  
 2. The part or character which any one sustains, either by office or in the ordinary relations of human life.  
 3. **The corporeal manifestation of a soul; the outward appearance, expression, &c.;body.**"(p.974)  
 "Soul:  
 1. The spiritual, rational, and immortal part in **man . . .**" (p.1262)  
 "Man:  
 1. **An individual of the human race, a human being, a person.**" (p.806)  
 "Human:  
 1. **A human being; one of the race of man.**" (p. 643)  
 "Body:  
 1. **The frame of an animal; the material organized substance of an animal, whether living or dead**, as distinguished from the spirit or vital principle.  
 2. The main, central, or principal part, as of an animal, tree, army, country, &c . . .  
 3. **A person; a human being.**" (p. 147)
24. Campbell, p. 467.
25. *Ibid.*, p. 468.
26. *Ibid.*, pp. 660-663.
27. *Ibid.*, p. 8.
28. *Ibid.*, p. 14. Graur D, Li WH. *Fundamentals of Molecular Evolution*. Second edition. Sunderland, MA: Sinauer Associates, Inc., 2000; pp. 99-247.
29. Graur et al., pp. 176-181. Noonan JP, Coop G, Kudaravalli S, Smith D, Krause J, Alessi J, Chen F, Platt D, Pääbo S, Pritchard JK, Rubin EM. Sequencing and analysis of Neanderthal genomic DNA. *Science* 2006; 314:1113-1118.
30. Alberts et al., pp 99-102.
31. Campbell, p. 7.
32. Alberts et al., p.32.
33. *Ibid.*, pp. 102-103
34. *Ibid.*, p. 1011