

WHEN IS AN EMBRYO HUMAN? AUSTRALIAN PUBLIC OPINION¹

When do cells whose natural course of development will produce a member of the species homo sapiens become accepted by the populace as human, with a person's rights and interests? Is an embryo human at conception, or does it become human at some point between conception and birth? This question has long vexed theologians, moral philosophers, law makers, and medical ethics committees. It is important in part because the answer has profound implications for the ethical evaluation of medical treatments involving the use of foetal tissue; for abortion; and for scientific research using foetal tissue.

Singularly lacking in this important debate is evidence as to what the general public believes. We address these issues using data from five large, representative national samples of Australians collected by the IsssA; there are 8,920 cases.

We first asked:

"About the beginnings of human life: Is an embryo a human being ... At the moment of conception?"		
Yes, definitely	19%	[100 points]
Yes, probably	16%	[75 points]
Sometimes yes, sometimes no	20%	[50 points]
No, probably not	28%	[25 points]
No, definitely not	18%	[0 points]
100% (8456 cases)		
(Mean = 48 points)		
(Test-retest reliability $r = .64$)		

Importantly, there is no majority opinion here: 36 percent incline towards the view that conception instantly establishes human-ness, 20 percent take a neutral stance, and 45 percent incline towards the view that embryos are not human at the

moment of conception. The average is 48, about half way between "yes" and "no".²

We continued the question:

"...About 14 days later, when the first primitive structures develop - human then?"

Opinion remains enormously diverse about humanness at this stage, but there is a clear, small shift towards perceiving the embryo as human by 14 days. Next, we asked:

"...About one month after conception?"

Opinion still remains very diverse, but is clearly shifting towards view that the foetus is human, with an average of 60 points. We continued in this way, asking about various stages until birth. Opinion steadily shifts toward "human", reaching 83 points for a six or seven month embryo and fully 93 at birth.

Most people seem to see becoming human as a process. There is a gradual shift, with the typical respondent viewing the earliest stage as non-human and progressively shifting towards the 'human' end.

Who thinks embryos are human?

Social differences on this issue are marked, as shown by multiple regression analysis (see the first Figure). The largest cleavages are religious – as they are also for abortion, euthanasia, sexual permissiveness and many other family-related issues:

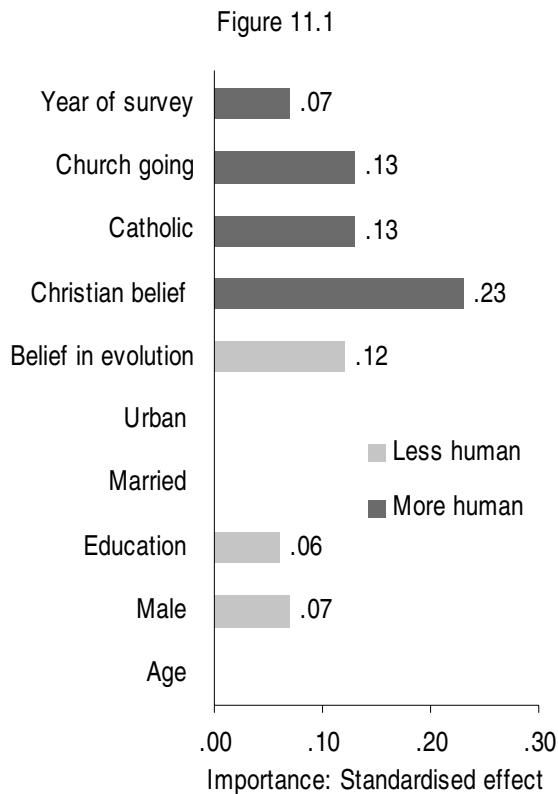
- Religious belief. is by far the dominant source of division. People who strongly endorse the basic Christian tenets see an early foetus as much more human than do unbelievers.
- Denominational differences are also important: a devout Catholic would see an early foetus as 10 points (out

¹Source: Evans & Kelley *Australian Economy and Society 2002: Religion, Morality, and Public Policy in International Perspective, 1984-2002.* Sydney: Federation Press, 2004.

² Opinion on this is quite stable, not something that changes from day-to-day, week-to-week, or even year-to-year. The correlation between what someone thought when we first surveyed them and what they thought when we re-surveyed them again an average of 4 years later is fully $r = .65$.

of 100) more human than would an otherwise comparable Protestant.

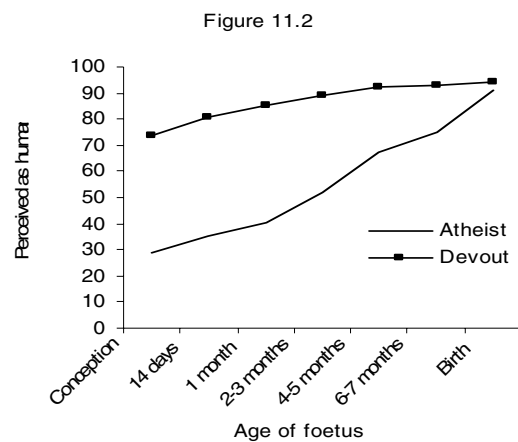
- Church-going has a separate effect. Those who attend church regularly are much more inclined than those who do not go to church to see early embryos as human.



By way of summary, differences between the secular outlook and the religious view of when life begins can be illuminated by tracing the perceived degree of personhood for two characteristic types average in all respects except religion: First, an atheist who does not believe in God, heaven, hell, or life after death, is not a Catholic and never attends church; and, second, a devout Christian who unreservedly believes in God, life after death, heaven and hell, is Catholic, and attends church weekly. The atheist would give an embryo at the time of conception only a modest degree of humanness, 29 points (Figure 2). In contrast, the devout Christian sees an embryo as already predominantly human at conception (74 points) and fully human a few months later, for example with an average of 89 points at 2 to 3 months. As a

result, the gap between the views of the atheist and the devout Christian is widest over the humanness of an embryo at conception and for the next few months, declines for a 4 or 5 month old foetus, and virtually disappears at birth.

For more than a millennium almost everyone believed in a world guided by God's hand. But late in the 19th century, these comforting beliefs were directly challenged by Darwin's theory of evolution by natural selection. Darwin argued that the gradual process of evolution accounted for the wide variety of species found in the modern world, from fish to mankind, and accounted for all their features. Evolution implies that it was not God who created species, that it was not divine purpose that guided change, and that there is nothing all that special about mankind. This in turn suggests a more relaxed view about the embryonic and foetal cells that might in time develop into a human. And in fact those who accept the theory of evolution are less likely to think early foetuses are human, even taking into account the fact they are less religious.



Over time, opinion is gradually shifting toward the view that an embryo or foetus is human. The shift is clear but not rapid, a growth of around half a point per year.

Thus there are very large social differences in views about when an embryo becomes human, differences rooted in religion and science. Their resolution will surely involve conflict, compromise and possibly coercion; in short, politics, not ethics.