



National Committee For a Human Life Amendment Inc.

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THE UNBORN CHILD AS A PATIENT¹

By Dr. Albert William Liley

My name is Albert William Liley. I am a registered medical practitioner in New Zealand. I hold the appointment of Research Professor in Perinatal Physiology at the Post-graduate School of Obstetrics and Gynecology of the University of Auckland, New Zealand. I have trained in neurophysiology, obstetrics, and pediatrics, and clinically I have worked as a fetal pediatrician for most of the last seventeen years. This work began with the development of techniques for the antenatal diagnosis of the severity of Rh hemolytic disease, and in 1963, I developed a method by which Rh babies beyond the aid of conventional therapy could be given transfusions in utero to tide them over to a deliverable maturity. This situation has highlighted the fact that we are dealing with the same baby before and after birth, and our clinical approach to these children is simply a matter of whether we can look after them more safely and adequately in the uterus or out of it. The techniques we developed for the diagnosis and supervision and treatment of Rh babies before birth have now been widely exploited for the investigation of other problems and, further, they have provided an opportunity to invade the privacy of the fetus and to make many observations of a variety of aspects of fetal life and behavior. I would like to submit in written testimony an article entitled "The Foetus as a Personality" from the *Australia-New Zealand Journal of Psychiatry*.

Several important points emerge from the experience I have had in the field of perinatal medicine. Firstly, it is obvious that the fetus can need and receive diagnosis and treatment just like any other patient. As one who has to

¹The Senate Judiciary Subcommittee on Constitutional Amendments held hearings May 7, 1974, on proposed constitutional amendments to protect the unborn child, with special emphasis on that day on the medical evidence regarding the humanity of the unborn. The full text of Dr. Liley's testimony submitted at that time is reproduced herein.

²For the full reference to this article see the suggested readings appended below.

look after babies before birth, I would find it extraordinarily arbitrary to be asked to consider that one baby was important and should be cared for properly, and that another was unimportant and that his existence should be denied. Secondly, physiological observations and investigations demonstrate that the fetus is not a placid, dependent, fragile, nerveless vegetable, but very much in command of his own environment and destiny with a tenacious purpose. It is the fetus who is responsible for the endocrine success of pregnancy, who solves the homograft problem in pregnancy, who determines how he will lie in pregnancy and present in labor, and who determines the duration of the pregnancy. Normally, the onset of labor is a unilateral decision by the fetus. Thirdly, it is apparent that the classical picture of fetal life as a time of quiescence, of quietly and blindly developing structures in anticipation of a life and function to begin at birth is completely erroneous. Development of structure and development of function go hand-in-hand; the fetal environment is not a dark and silent world, and the fetus does not live in a state of sensory deprivation. The picture we have built up of fetal environment and fetal behavior is described in the article which I have submitted for testimony.

My own practice in medicine makes it very clear that in modern obstetrics, we are caring for two individuals, mother and baby. Indeed, it may be more than two individuals, as in a multiple pregnancy, and in this situation, we have found it clinically necessary to identify unmistakably and keep track of each of the babies in a multiple pregnancy before birth. Not only is it apparent that an illness such as Rh disease may represent the same problem for the same patient before and after birth, but a similar continuity is demonstrable for behavior traits. For instance, measurement of fetal swallowing rate in utero shows considerable variation from one baby to another, but these rates correlate closely with the independently-assessed feeding performance of the newborn in the nursery. Further, some babies suck their thumbs in utero and some do not; but we have never observed a baby who sucked his thumb in utero who was not also a thumb-sucker after birth. We have x-ray evidence of thumb-sucking in utero at 24 weeks gestation, but thumb-sucking has also been photographed in the 9-week abortus.

The fetus is also responsive to experimental modification of the taste of amniotic fluid. Injection of oily contrast media (a foul-tasting iodinated poppy seed oil) causes the fetus to quit drinking or swallowing; conversely, artificially sweetening the amniotic fluid with saccharine usually causes an approximate doubling of fetal swallowing rate, although a minority drink decidedly less after saccharine injection. We are interested in following these children and checking saccharine tasting when they are older, as it is well known that to some people saccharine in concentration is not tasted as sweet, but intensely bitter.

The fetus is responsive to touch and pressure, and sustained pressure will produce evasive action which, in

fact, can be utilized when we wish to modify fetal position for diagnostic or therapeutic purposes. The fetus responds violently to painful stimuli, for instance, needle puncture and the intrafetal injection of cold or concentrated solutions. Our observations of many of these aspects of fetal behavior have been made after 18 weeks gestation for two reasons: 1) this has been the time span when the clinical problems with which we deal have permitted us to invade fetal privacy; and 2) many of our diagnostic techniques, for instance, x-ray and fetal electrocardiography, are applicable only in later pregnancy. However, new techniques such as the use of ultra-sound, are enabling us to push these observations back into the first half of fetal life. In any case, the fact that these fetal responses were already intact by the time our former techniques of observation were applicable shows that these responses must have developed earlier, and indeed from brief observations on the early miscarried fetus, such as the classical studies in the United States by Davenport Hooker, we know that early fetal responsiveness was only quantitatively, and not qualitatively, different from the early to the later stages of pregnancy.

Suggested Further Readings*

- A Child Is Born: The Drama of Life Before Birth.* By Axel Ingelman-Sundberg and Claes Wirsen, with Lennart Nilsson. NY: Dell Publishing Co. Inc., 1965. 160 pp. Described as "A practical guide for the expectant mother." Includes a complete description of the development of the unborn child, from conception to birth; accompanied by the famous Nilsson color photos of the developing child. Paper—\$3.95.
- Heffernan, Bart T., M.C. "The Early Biography of Everyman," in *Abortion and Social Justice*, eds. Thomas W. Hilgers, M.D. and Dennis J. Horan, Esq., J.D. (NY: Sheed & Ward, 1972), pp. 3-25. The best popular statement of the current medical evidence on the world of the developing unborn child. Paper—\$1.95.
- Liley, A.W. "The Foetus as a Personality" *The Australia-New Zealand Journal of Psychiatry* (1972) 6, pp. 99-105. An address to a scientific convention on the behavioral characteristics of the unborn child. Reprints can be obtained: Prof. A. W. Liley, Postgraduate School of Obstetrics and Gynecology, National Women's Hospital, Claude Road, Auckland, New Zealand. [An earlier version of this paper is readily available in the United States as: "The Foetus in Control of His Environment," Albert W. Liley, F.R.C.O.G., Ph.D., in *Abortion and Social Justice* (cited above), pp. 27-36. Paper—\$1.95.]
- Liley, H.M.I., M.D., with Beth Day. *Modern Motherhood: Pregnancy, Childbirth and the Newborn Baby.* NY: Random House, rev. ed. 1969. 239 pp. An articulate and readable handbook on the care of the unborn and the newborn, with special focus on the latest findings of fetology. [Dr. Liley's husband is Dr. A. W. Liley. The author is a New Zealand pediatrician and her husband is the author of the preceding testimony. Hardback—\$5.95.]
- Oppenheimer, Jane M. *Essays in the History of Embryology and Biology.* Cambridge, Mass.: The MIT Press, 1967. 374 pp. A collection of scholarly essays on the men and the ideas that were important in establishing modern embryology on a firm scientific basis. Hardback—\$12.50.

*These references are not part of Dr. Liley's testimony. They are offered in this re-print as a guide to the reader interested in further study.

Other Re-prints in This Series

Abortion: A Help or Hindrance to Public Health? by Andre E. Hellegers
Human Genetics and the Unborn Child, by Dr. Jerome Lejeune