

Part I

# The Prenatal Period

1. If the fertilized ovum attaches itself to the upper uterine wall where the blood supply is rich it is usually quite secure. If the attachment takes place on the lower uterine wall, where the blood supply is less and the danger of infection greater, there may be a spontaneous abortion at two or three months, or placenta previa with massive hemorrhage through the seventh or eighth month. If by chance it is attached to the thin fallopian tube the growing fetus ruptures the tube and death of the fetus is imminent with severe complications for the mother. Lack of blood supply and risk of intra-uterine infection are not the only hazards to the fetus. The placenta is not the barrier to protect the child from drugs and toxins circulating in the bloodstream it was once considered to be. When birth is completed the newborn may have been damaged or even injured at birth.
2. Once the fertilized ovum has successfully embedded itself on the internal surface of the uterus, growth progresses in all organs according to a precise genetically determined code. The brain pathways which will subsequently serve for emotion, behaviour and intellect commence their development as the neural plate on the 21st day after fertilization. By the 24th day this has developed into the neural tube attached to a two-lobed rudimentary brain. At the same time the embryo has a length of 2.54 mm (0.1 inches) and has a rudimentary actively beating heart. Primitive muscle cells appear as somites on the 23rd day and a nerve faster than the nerve cells required to innervate them. The visual system commences as the optic vesicle around 30 days. The spinal nerve connecting the brain to the lower motor and sensory pathways and those cerebral pathways more advanced on the evolutionary scale develop much later than the primitive steps concerned with survival.
3. Only recently has serious research begun to uncover the capacity of the fetus to monitor sounds and sights and to respond to a variety of stimuli. There is evidence that the fetus may be more aware than was previously thought. Because the central nervous system develops so early, it may also be affected more than has been realized by such influences as emotional strain of the mother during pregnancy.
4. A variety of factors will affect the course of the development of the fetus. These include the nutrition of the mother and the use by her of drugs, cigarettes or alcohol. The psychological atmosphere during pregnancy — whether the mother is content or under stress — is also important. It is possible to change many of these influences. One