
Foreword

“When even the brightest mind in our world has been trained up from childhood in a superstition of any kind, it will never be possible for that mind, in its maturity, to examine sincerely, dispassionately, and conscientiously any evidence or any circumstance which shall seem to cast a doubt upon the validity of that superstition. I doubt if I could do it myself.”

Mark Twain

There are few other examples in the history of Medicine that are such a blend of myths, superstition, and unfounded beliefs as is to be found in the history of twin studies. It might be hard to believe that for many centuries it was “accepted” that twins are a result of some divine punishment for sexual misconduct, either in the form of superfecundation (from different partners) or as a consequence of female movements during coitus at the time of conception.

Only well within the last two centuries has it become clear that twins have a unique and fascinating embryonic development, quite different from that of singletons. Still, there few other examples in Medicine where doctrinaire views turned into what is usually considered “common knowledge” among students and teachers of early embryonic development. Admittedly, our ability to look at these early stages of human life in singletons, as well as in twins, is extremely limited. However, our understanding of this blurred scientific void is becoming clearer owing to two relatively new areas of scholarship. One is examining human gametes and zygotes *in vitro* during the application of assisted reproductive technology, and the second is inferential genetic research. The latter is the background from which Prof. Charles E. Boklage developed into one of the most prominent scholars in twin research.

My ways with Charles crossed in the past owing to our mutual interest in the development of twins. Charles emerged as an expert on twinning during his

long and remarkable scientific career until his present position at East Carolina University in Greenville, North Carolina. Prof. Boklage has his primary and secondary specialties in behavioral and developmental genetics and neurosciences and biostatistics, respectively, whereas his keen interest in research is directed to reproduction and embryonic development, where the process of twinning has naturally a central position.

The innovative ideas of Prof. Boklage are in every way *avant garde*, pushing the boundaries of what is considered the “common knowledge” in the presently “accepted” theories of the twinning process. As in decorative art, being *avant-garde* is the hallmark of open-mindedness. One might agree with Charles’ opinions, one might not, but none can avoid his fresh ideas and remain impartial to his scientific perspective of the early stages of human development. This monograph entitled *How New Humans are Made* is further example of Charles’ pure, unbiased, open-minded, *avant-garde* scientific endeavor.

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