Landrum Brewer Shettles (1909-2003) [1]

By: Ruffenach, Stephen C. Keywords: Biography [2] Fertilization [3]

Landrum Brewer Shettles [4] is remembered as an important contributor to early *in vitro* [5] fertilization [6] research in the United States as well as a prolific author on the subject of choosing a child's sex before conception [7]. Shettles was born in Pontotoc County, Mississippi on 21 November 1909 to Sue Mounce and Brazil Manly Shettles. He trained and worked as a gynecologist at Columbia University [8] Presbyterian Medical Center, New York, after receiving his MD in 1943 from Johns Hopkins University [9]. While working at Columbia, Shettles conducted experiments dealing with egg [10] fertilization [6] and *in vitro* [5] fertilization [6]. From this work, Shettles published *Ovum Humanum* [11], a book containing detailed photographs of human eggs in development. Despite professional eccentricities and social ineptitude that, at times, hindered his work with colleagues, Shettles is considered a pioneer of *in vitro* [5] fertilization [6] technology as well as a major contributor to fertilization [6] and embryo research.

Shettles attended Mississippi College, receiving his BA in 1933. From there, he went on to become a Fellow at the University of New Mexico [12] from 1933 to 1934. He then attended John Hopkins University, receiving his PhD in 1937 and his MD in 1943. Shettles completed his internship in obstetrics and gynecology in 1934 at Johns Hopkins, but then served in the United States Army Medical Corps [13] before beginning his residency at the Columbia Presbyterian Medical Center in New York from 1947 to 1951. He remained at Columbia Presbyterian as an attending physician from 1951 to 1973. During his life, Shettles was a diplomate of the American Board of Obstetrics and Gynecology [14], the North American Section of Obstetrics and Gynecology [15], and the Pan American Medical Association [16].

While working at the Columbia Presbyterian Medical Center, Shettles began researching embryos and in 1951 he recreated the famous Rock-Menkin experiments in which the first-ever fertilization [6] of an egg [10] outside of a human body was performed. In doing so, Shettles solidified the results published by John Rock and Miriam Menkin [17] in 1944, which were met with a great deal of skepticism at the time. The recreation of this experiment also led to the publication of one of Shettles' books, *Ovum Humanum* [11] in 1960. With this book, Shettles took the photographical and graphical depictions of human eggs to a new level providing detailed, color photos of these cells for the time in history. A decade later, in the early 1970s, Shettles co-authored two books on reproduction that would both become very popular. The first, *From Conception to Birth: The Drama of Life's Beginning*, Shettles wrote with Columbia radiologist Roberts Rugh [18] and another science writer of the time, Richard N. Einhorn. The second book, published in 1971, was entitled *Your Baby's Sex: Now You Can Choose*, which he wrote with David M. Rorvic. The latter of the two gained much more commercial popularity and is still published today. It describes Shettles' method for increasing the odds of conceiving a child of a certain sex, which consisted of various tips to be followed during the act of intercourse. For example, in order to have a girl, the book recommends douching with vinegar prior to the attempt at conception [7] as well as suggesting the woman refrain from having an orgasm.

Two years later, in 1962, Shettles would later claim that he performed the first successful implantation [19] of an *in vitro* [5] fertilized egg [20] into a woman, resulting in a pregnancy [21]. This event, however, was not thoroughly documented and thus could never be substantiated. Years later, Shettles explained his decision not to publish, claiming that he was not interested in any of the publicity that would have come with the creation of the first test-tube baby [22] and that he was also worried his experiments would not be approved by the human-experimentation committees of the time.

In 1973, while working with William Sweeney [23], a colleague from New York Hospital, Shettles began a more serious, documented attempt at a successful *in vitro* [5] fertilization [6] with an infertility [24] patient named Doris Del-Zio. Sweeney was the original surgeon working with Doris Del-Zio as he tried to treat her for infertility [24]. After a number of failed surgeries to unblock Doris' fallopian tubes [25], it was finally decided that *in vitro* [5] fertilization [6] was her only hope for having a child. On 12 September 1973, Doris traveled to Sweeney's office to have some of her eggs extracted, which he sent along with Del-Zio and her husband, John, in a taxi across town to Colombia Presbyterian to meet with Shettles. It was here that John Del-Zio provided a sperm [26] sample, which Shettles took along with the egg [10] cells up to a lab to be combined and incubated for four days. At this point Shettles, who was also disliked by the administrators at his hospital due to his odd work habits, began to receive a great deal of attention from his superiors. Shettles' supervisor, Raymond Vand Wiele [27] ordered the test tube to be brought to his office where he removed the stopper, contaminating the sample and ruining the experiment. Shettles' dream of creating the world's first baby from *in vitro* [5] fertilization [6] was ruined though his work in the field would not be forgotten.

Despite falling short of his initial goal, Shettles is still remembered as an early pioneer of *in vitro* [5] fertilization [6] technology and

the study of embryos in general. His book *Ovum Humanum* [11] provided unprecedented views of the human egg [10] cell that inspired and contributed to further research in the field of embryology [28] and his other literary works remain pertinent to the study of embryos even today.

Sources

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