

This Week's Citation Classic®

CC/NUMBER 28
JULY 14, 1986

Tanner J.M. *Growth at adolescence. With a general consideration of the effects of hereditary and environmental factors upon growth and maturation from birth to maturity.* Oxford: Blackwell Scientific, 1955. 212 p. (1st ed.); 1962, 325 p. (2nd ed.) [Inst. Child Health, Univ. London, and Hosp. for Sick Children, London, England]

Growth at Adolescence was written as a direct result of the longitudinal growth study carried out by me with Whitehouse and others at Harpenden over the period 1948-1971. The first edition, published in 1955, was replaced in 1962 by a considerably expanded book that covered most aspects of postnatal growth as it was seen up to 1962. [The *Science Citation Index*® (SCI®) and the *Social Sciences Citation Index*® (SSCI®) indicate that both editions of this book have been cited in over 2,235 publications.]

J.M. Tanner
Institute of Child Health
University of London
London WC1N 1EH
England

May 12, 1986

Growth at Adolescence was a direct result of the Harpenden Growth Study. This was a longitudinal study of the growth of children from preschool age to maturity—the first ever made in England—based on a children's home in the town of Harpenden, near London. It began in 1948 and ended in the 1970s.¹

When it started, I was teaching endocrinology in the Department of Physiology at St. Thomas's Hospital in London University, and my involvement in work on human growth did not appeal to the authorities there, who saw the subject as wholly irrelevant both to physiology and medicine. Accordingly, when in 1951 Sir Alan Moncrieff, professor of paediatrics and director of the recently founded Institute of Child Health, asked me to give a University of London Postgraduate Federation Lecture on the results of the Harpenden Growth Study, I responded with alacrity. However, there really wasn't too much in the way of results to report, since the Harpenden Growth Study had only been going for a couple of years.

The one area in which something substantial was already emerging was growth at

puberty, since the large variation in age of attaining various stages was already visible, especially in the photographs R.H. Whitehouse and I were taking. Accordingly, the lecture was called "Growth of the human at the time of adolescence."² It was only a step to working this up into a short monograph, which appeared in 1955.

In 1956 I joined Moncrieff at the Institute of Child Health, where I have been ever since. The first edition of *Growth at Adolescence* sold some 5,000 copies between 1955 and 1962. A lot was left out in this edition, especially material relating to the effect of environment on growth, so in the second edition I enlarged the book by about 50 percent to make it more nearly a monograph on postnatal growth in general, despite its title.

Perhaps there are two reasons why it has been so much quoted. First, it was the only monograph in the field of human growth for many years. Also, it carried a rather comprehensive bibliography, so that even when elementary textbooks on growth began to appear it continued to maintain its usefulness, at least to research workers. Second, like so many other *Citation Classics*, it described methods and many of the quotes are clearly made in this limited context. The best known of the methods is probably that for assigning successive stages of development of secondary sex characters at puberty (breasts, pubic hair, and so on).

Recently, these have become known as Tanner stages in North America, much to my embarrassment, since all I did in *Growth at Adolescence* was to formalize and give some rather better pictures of stages that had been repeatedly described in the literature of the previous 50 years. Indeed, one could say this of the contents of the book as a whole; but the literature it collated was scattered far and wide, and in 1955, even in 1962, human auxology scarcely existed as a coherent subject. I like to think that *Growth at Adolescence* played some part in establishing auxology as the discipline that paediatricians, endocrinologists, epidemiologists, and economic historians recognise today.

1. Tanner J.M. *A history of the study of human growth.* Cambridge: Cambridge University Press, 1981. 499 p.

2. Growth of the human at the time of adolescence. *Lect. Sci. Basis Med.* 1:308-63, 1953.