

of the book and the two concluding chapters are much more dramatic than the findings. One might say that the absence of a father with whom a lad can identify is in itself a predisposing factor, except perhaps for ectomorphs, who apparently need a mother too.

That *Physique and Delinquency* is dedicated to the memory of Earnest A. Hooton should not go unnoticed: though the Gluecks disagreed with him for years, it did not lessen their admiration for his qualities. And this unusual couple may be credited for the first investigation of why individuals differing in physique do, at times, behave differently. Sheldon's explanation involves biological predestination: the Gluecks suggest selective or differential responses to common cultural causes. Since parents do alter their expectancies to meet individual capabilities, many of the answers may lie in discovering how differences in physique are perceived, how they are dealt with, and what happens when insight is lacking.

STANLEY M. GARN  
*Fcls Research Institute*

---

A SYLLABUS IN ROENTGENOGRAPHIC CEPHALOMETRY. By Wilton M. Krogman and Viken Sassouni. Pp. v + 366, Philadelphia Center for Research in Child Growth, Philadelphia, 1957. \$12.50.

This loose leaf syllabus ranges far beyond the title. An orthodontist and anthropologist have combined to produce the first real text on radiographic cephalometry. After touching briefly on the historical development of radiographic cephalometry, the authors unfortunately give only an elementary explanation of the meaning and derivation of normative standards. To conclude the chapter a discussion of statistical methods so short as to be useless is added to an account of the numerous methods used in examining craniofacial relationships.

The next two chapters constitute the crux of the syllabus. In chapter II there is a brief description of radiographic techniques, the types of cephalostats (both human and animal) and mode of tracing the films obtained. The radiographic atlas (chapter III) is well presented and, if the points and planes are endorsed by the Orthodontic Workshop, would make the publication of real practical value.

One wonders why the section on collateral research (chapter 4) which ranges from the evolution of facial form to a discussion of the classification of malocclusion, has been included. Perhaps the section serves to point out avenues for future research in radiographic cephalometry. The unique advantages of radiographic cephalometry in the study of craniofacial growth, both cross sectionally and serially, are well presented. Lastly, a review has been made of some 44 radiographic analyses. The reviewer fears these may confuse the beginner in radiographic cephalometry, since analyses for specific research projects have been lumped together with the broader analyses of facial form.

In general, the syllabus is valuable to those familiar with orthodontic jargon and who have some experience with radiographic cephalometry.

A. H. CRAVEN

R. E. MOYERS

*University of Michigan,  
School of Dentistry.*

---

STRESS AND STRAIN IN BONES. THEIR RELATION TO FRACTURES AND OSTEOGENESIS. By F. Gaynor Evans. Pp X + 245, (American Lecture Series No. 296). Charles C Thomas, Springfield, Ill. 1957.

The publication of Evan's monograph *Stress and Strain in Bones* appears to this reviewer to be of considerable significance in the field of bone biology. Twenty years have elapsed since Murray's ('36) classic survey of knowledge concerning intrinsic and extrinsic biomechanical factors in the development, maintenance, and alteration of skeletal form. These two decades have been a period of very rapid advance in all areas of skeletal tissue biology, specially those in which use can be made of the newer techniques in chemistry, physics, and engineering. Syntheses of the multitude of individual investigations have recently appeared: *Bone. An Introduction to the Physiology of Skeletal Tissue* (McLean and Urist, '55), *Bone Structure and Metabolism* (Ciba Foundation Symposium, '56), *The Biochemistry and Physiology of Bone* (Edited by Bourne, '56). To these one may add, for completeness, the somewhat earlier *Organization of Bones* (Lacroix, French ed., '49 and English, '51) and the new edition of *Bone and Bones* (Weinmann and Sicher, '56) which in its 1947 edition was the only general treatise on skeletal tissue available. Only two of these