

or specific pathological condition, but more with the point of view of contributing information as to fundamental functioning. The immediate proposition looms the larger because it is the more pressing. But who will say which is the more important? Logical planning will result in such an intimate dove-tailing of both the immediate and the basic lines of effort that the perspective of time will afford a well founded understanding of the causes contributing to disease, which understanding will lay the path for cure and prevention.

This can not be done nor can full development be obtained without a close cooperation of the other members of the hospital staff with the biochemist. And it almost goes without saying that this cooperation can not be effected unless the biochemist is equipped to understand the point of view of the clinician and is capable of giving to the clinician assistance in the working out of his problems. Progress can not be expected when the biochemist either by preference, or lack of opportunity to do otherwise, remains cooped up with his test-tubes and beakers knowing nothing of the patients save as numbered bottles of urine on which he makes his little tests. Consultations should be held at which the general outlines and progress of investigation should be discussed and opportunity afforded for the examination of any particular case necessitating a biochemical interpretation or study.

Complete independence should be allowed the biochemist in the outlining of his methods of procedure and the problems for investigation, always, however, seeking assistance and ready to give help when his specialized training fits him to be of service. His administrative duties should be confined to his own lines of activity and general laboratory supervision or directorship since it is in that field his capabilities have been developed. The instruction of nurses in the principles of physiological chemistry by the biochemist should be encouraged since the proper collection of specimens depends upon their intelligence. They can not be expected to have an appreciation of the precautions necessary in

collecting the material if they are set to do it as automatons and with no knowledge of the purposes involved.

In these days of ours the question of compensation is extraordinarily vital. The scientific specialist is such because he can not help it. His mental make-up forces him to spend his life in giving, not in getting. He is rarely a success in self-directed commercial enterprise. He has no inclination to enter such work unless driven by necessity, and then it is with repugnance, that he competes with his fellow-men in the accumulation of dollars. Rather does he live a life largely deprived of the creature comforts accorded those mentalities whose urge is acquisitional. But whose is the greater service is obvious. Why should not such workers be given compensation sufficient to allow them to have homes and more than bare necessities? Why should they be forced to derive their major *joie de vivre* in intellectual introspection? Is it because the work is of low value or is it because of sluggish appreciation and lack of self-advertising? Whatever the causes it is not right, but no matter how wrong it is we have men, and will continue to have men who will gladly devote themselves to science whatever the compensation. Nevertheless measures should be taken by properly organized associations, to so educate those necessary of education that future generations of scientists, if not this one, may receive an adequate income in recognition of their continued contributions to human welfare.

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CHARLES BUCKMAN GORING

FEW of the readers of *SCIENCE* will be familiar with even the name of Charles Goring.¹ His time was largely spent as a

¹ Goring was born in 1870 and died in 1919. He was a student and later a fellow of University College, London. He served on a hospital ship during the Boer War. At the time of his death—met at his post combating the influenza epidemic—he was Medical Officer in Chief at Strangeways

prison medical officer. His one monumental work, which may perhaps best be described as *the biology of the convict*, is still unfamiliar to all but a limited circle.

Goring's work² was based on thousands of data and is stringently biometric in form, but he was no mere measurer, card shuffler and constant computer. He knew his convicts as the trained student of animal behavior knows his organisms—and better, for he had not merely their physical measurements and an intimate personal knowledge and evaluation of their mental characteristics but knew much of their ancestry and family associations. To Goring, measurements were inviolate—not to be juggled with, modified or discarded because they did not substantiate a popular theory. Better proof of this could not be found than the fact that the raw data for his book were set up before the calculations were well under way. Goring as a thoroughgoing biometrician believed that in many fields of research valid conclusions must rest upon the mathematical analysis of large masses of data. But in his research each constant was critically weighed against his own broad and intimate personal experience of the individual instances which constitute the mass.

I find it difficult to decide just what characteristic of Goring impressed me most when we were working together at the Biometric Laboratory ten years ago. Sometimes it was the steadfast scientific purpose which had supported the years of painstaking detail upon which his great book rests—detail scrupulously executed notwithstanding the fact that there was at times little prospect of its ever serving as a basis for constants and generalizations. Sometimes it was the breadth of interests, knowledge and sympathies of one whose work

Prison, Manchester. Those who desire may find a portrait and a more adequate appreciation in *Biometrika*, Vol. XII., pp. 297–307, pl. 1, 1919.

² Goring, C. B., "The English Convict; A Statistical Study." 444 pp. London, 1913. Abridged edition, Wyman and Co., 1915. The statistical work on this volume was carried out at the Biometric Laboratory with the cooperation of H. E. Soper and with the helpful suggestion and criticism of Professor Pearson.

lay in a field seemingly so circumscribed. Sometimes it was the entire freedom from both callousness and sentimentality of a man who had spent a decade, more or less, with the inmates of the British prisons.

One sentence tells much of the man. One day I asked, "Why is this to be *The English Convict* instead of *The English Criminal*?" He replied instantly, "Perhaps some of them are not criminals, only convicts."

J. ARTHUR HARRIS

SCIENTIFIC EVENTS

THE DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH OF GREAT BRITAIN

THE following is a list of research associations which have been approved by the department as complying with the conditions laid down in the government scheme for the encouragement of industrial research and have received licenses from the Board of Trade under Section 20 of the Companies' (Consolidated) Act of 1908:

British Boot, Shoe and Allied Trades Research Association,
Technical School, Abington Square, Northampton.

Secretary—Mr. John Blakeman, M.A., M.Sc.
British Cotton Industry Research Association,
108, Deansgate, Manchester.

Secretary—Miss B. Thomas.
British Empire Sugar Research Association,
Evelyn House, 62, Oxford Street, London, W.1.
Secretary—Mr. W. H. Giffard.

British Iron Manufacturers Research Association,
Atlantic Chambers, Brazennose Street, Manchester.

Secretary—Mr. H. S. Knowles.
British Motor and Allied Manufacturers Research Association,
39, St. James's Street, London, S.W.1.

Secretary—Mr. Horace Wyatt.
British Photographic Research Association,
Sicilian House, Southampton Row, London, W.C.1.

Secretary—Mr. Arthur C. Brookes.
British Portland Cement Research Association,
6, Lloyd's Avenue, London, E.C.3.
Secretary—Mr. S. G. S. Panisset, A.C.G.I., F.C.S.