

Cunliffe W J & Shuster S. The rate of sebum excretion in man.

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We studied the constraints on a method for the measurement of "sebum production" and thereby improved it. We then showed what the method measures is the size of a preformed pool of sebum, which we guessed (rightly, it now seems) can vary independently of sebum production. [The SC1® indicates that this paper has been cited in more than 150 publications.]

## Skin Deep

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Now that our essay has hit the list of best-sellers, I have the embarrassment of having to explain its triviality. We simply showed what an existing method<sup>1</sup> really measured and how to make it more reliable. In mitigation, I can only plead that neither was understood at the time. That said, what my story lacks in substance is more than compensated by its circumstance.

Imagine a clinical physiologist in the descriptive field of dermatology of 1961, and you will understand why I tip-toed out and set up tent by the experimentally soluble. Even with very simple methods, it was impossible not to find the causal increase in sebum excretion in acne and the defects in hypopituitarism and acromegaly. To study them, we developed an androgen-sensitive rat assay. We may have been the first to find, but we were not the first to publish. Unfortunately, in the final month of his final year, my PhD student left the lab, and the efforts of three years were lost.

Four years on, now as head of the department in Newcastle, I began again, first with the rat. Although we lost the prize of priority, that very loss stimulated a more critical study of methodology and physiology of the sebaceous glands. Tony J. Thody did most of the animal physiology, and my coauthor, Bill J. Cunliffe (a whirlwind of a trainee who frenzied through the human work before becoming Uncle Acne to the world) was the first of several clinical scientists. Fortunately, none of them disappeared before we worked out the coarse control of the glands, including the pituitary sebotrophins, the surprise of MSH<sup>2</sup> and its pheromonal function, and the critical role of the early endocrine environment.<sup>3</sup> Several disputes were resolved, though out of habit some of the participants continue to wave their arms about.<sup>4</sup>

I would like to think the work stood because of the strength of the human and animal physiology which our recent review showed,<sup>3</sup> but I suspect it was just the simplicity of the method and its continued need for the assay of drugs which inhibit the sebaceous glands, and therefore cure acne.<sup>4</sup> Although our idea of sampling a preformed pool of sebum has reemerged,<sup>5</sup> explaining skin greasiness and the consequent pityrosporal dermatitis of neural palsies,<sup>6</sup> methods have moved on, becoming both simpler and more complex. Soon, therefore, "the method of Strauss & Pochi as modified by Cunliffe & Shuster" will depart the crisp reporting of new activity for the untapped vaults of memory. Then, at last, I will no longer have to explain my embarrassment.

1. Strauss J S & Pochi P E. The quantitative gravimetric determination of sebum production. *J. Invest. Dermatol.* 36:293-8, 1961. (Cited 240 times.)
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3. -----, Control and function of sebaceous glands. *Physiol. Rev.* 69:383-416, 1989.
4. Marks R & Plewig G, eds. *Acne and related disorders*. London: Dunitz, 1989.
5. Downing D T, Stranieri A M & Strauss J S. The effect of accumulated lipids on measurements of sebum secretion in human skin. *J. Invest. Dermatol.* 79:226-8, 1982.
6. Cowley N C, Farr P M & Shuster S. The permissive effect of sebum in seborrheic dermatitis: an explanation of the rash in neurological disorders. *Brit. J. Dermatol.* 122:71-6, 1990.

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