

that not only endocrinological symptoms, but also anorexia nervosa-like signs and symptoms may indicate the presence of a germ cell tumor of the brain.

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Buchbesprechung

G. Möller (ed.) **Immunological Reviews, vol. 115: Concepts in Immunology**. Munksgaard, Copenhagen 1990. 262 pages, Subscription price 1990 (6 volumes per year) DKK 1465.00 including postage. USA, Canada and Japan: DKK 1525.00 including postage and air freight.

This volume is an attempt “in opening a new format to carry out a thoughtful unhurried scientific discussion without jet lag and the distraction of a big conference”, – as the editor of the series, Göran Möller, states it.

The central part is a long paper of M. Cohn and R.E. Langman on “The Protection: the unit of humoral immunity selected by evolution” (142 pages). It critically reviews present theories and proposes an alternative system. Its central idea is that the humoral immune system must be modular. The module = *the Protecton* is defined “as the smallest sample of B-cells and humoral antibodies that retains all of the properties of the whole”. It is supposed to be the same in organisms of any size, differing only in the number of units. The authors postulate a quantitative model and attack the presently accepted notions of almost unlimited capabilities to make specific antibodies, e.g. assuming the minimal effective Ig concentration against every single antigen to be 10 ng/ml, and the amount of antibody produced by the 10^7 B-cells/ml, and they calculate that sufficient antibody production (10–100 ng/ml) will need

8.5–11–13.5 days. – Based on such assumptions and with particular concern to evolutionary aspects, the authors have build up a comprehensive computer program making the *Protecton* theory “a valid competing concept”.

The draft of this paper was submitted to 8 leading immunologists (*Nossal, Coleclough, Ohno, Paul, Klinman & Decker, Pink, Dintzis & Dintzis, Storb*), who after careful study made their remarks: All of them agree about the merits of *Cohn & Langman (Nossal)*: “I sometimes think that, if they did not exist, we would have to invent them!”), but each of them pronounces some critique, partly concerning misinterpreted experimental data, partly the theory itself. Each of these contributions is again followed by a response (or defense?) of the original authors in which they try to clarify their standpoint.

Obviously, this is not an easy reading, and the reviewer admits that many of the arguments were above his head. It seems, however, quite clear that this format may indeed be an improved possibility to discuss basic problems at depth, giving full consideration to the ideas of other research groups. – The book is recommended for extensive study to basic immunologists, but also to other scientists with an interest in the philosophical background of modern science, if they have sufficient knowledge of the subject.

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