no way of knowing whether explanatory hypotheses are true; and he maintains, in somewhat misleading language, that an element of "faith" is involved in reaching such hypotheses. The purpose of this long detour into methodology seems to be to make the reader more tolerant of the distinctive approach of medical psychology and to provide a foundation for the thesis that many sciences are "autonomous" in relation to physics. But to me, the detour appears to be quite irrelevant as an intellectual support for the educational plea Woodger is ostensibly making.

Woodger takes to task the proposal to employ a purely behavioristic language and method in the treatment of mental illness, on the ground that such an approach does not work with many patients. Woodger may be quite right in this. However, he also goes on to say that, since such an approach has "more remote political and theological implications," and since "medicine should be neutral in these matters and offer its helping hand to all and sundry, irrespective of creed or politics," medicine "must be shy of adopting any doctrine which will restrict its hypothesis-making and modes of treatment to one particular theoretical direction" (p. 143). But what Woodger is apparently recommending here is that in *constructing* explanatory hypotheses in medical psychology, one ought to keep a weather-eye open to the political and theological convictions of patients. In my opinion, this is the path to madness.

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Glaucoma. Transactions of the first conference, 5–7 Dec. 1955, Princeton, N.J. Frank W. Newell, Ed. Josiah Macy, Jr., Foundation, New York, 1956. 251 pp. Illus. $4.50.

This volume is a record of accepted facts, experiences, animal experiments, opinions, and theories on glaucoma and factors that influence intraocular pressure. It contains the papers that were presented at a conference by a panel of investigators predominantly from the ophthalmic field.

The first of three principal sections is concerned with a type of the disease termed "angle closure glaucoma." This type of glaucoma is the most satisfactorily treated but also is of lowest incidence. Unanimity of opinion is expressed concerning this type of the classified disease, both with regard to mechanism of the cause and the control. The theory of pupillary block, now more generally accepted by ophthalmologists, is unanimously agreed upon by the panel.

The second section is concerned with factors which influence the intraocular pressure that originates in the central nervous system. Experiments previously published by Von Sollman (National Institutes of Health) are reviewed and discussed. These experiments demonstrate changes in the intraocular pressure in response to an electric stimulation on an isolated area of the interbrain of the cat. No conclusions were offered that suggest a relationship of these experiments to glaucoma. The effect of such stimulation was dramatic but not sustained.

Opinions varied concerning the existence of afferent or efferent nerve end organs located in the trabecular meshwork of the anterior chamber. No conclusions were reached on whether nerve fibers in the area merely pass through this tissue or have terminations in this location. Certain chemical experiments were cited as evidence of the existence of an efferent function from one eye to the other. Interpretations of the results were sharply questioned by several members of the panel.

The third and largest section is concerned with the anatomical location of the resistance to the outflow of aqueous fluid from the anterior chamber. Barany (Sweden) reviews his experiments on enucleated eyes. The eyes were perfused with aqueous fluid, and a level of resistance to the standard condition of the experiment was more or less constant. Hyaluronidase was added to the perfusion fluid; this caused the resistance to outflow to drop by approximately one-half. It is Barany's assumption that the hyaluronidase dissolves some of the mucopolysaccharide of the anterior chamber trabecular structure, thus allowing for an increased flow of aqueous fluid. Operative destruction of the trabecular meshwork reduces the resistance to aqueous outflow to zero. From these experiments it would appear that the structure responsible for the increased or decreased resistance to aqueous outflow is located in the trabecular meshwork.

Grant (Boston) did the same operative destruction of the trabecular meshwork that Barany did and found in the majority of instances that there was no increase in the facility of aqueous outflow. Grant concluded that the obstruction to outflow was more peripheral than it is in the trabecular meshwork. Considerable discussion and questioning by the members of the panel failed to throw light on the discrepancy in results.

Barany further describes perfusion experiments in an attempt to locate the sensitive material located in the angle, which he assumed to be hyaluronic acid. Experiments designed to throw light on the regulation of resistance of the angle suggested that the angle was able to adapt to the absence of hyaluronic acid; other parts of the meshwork increased their resistance to outflow.

Becker (St. Louis) presents results of tonography after the use of Diamox to study further the pressure regulatory mechanism by altering the change in inflow without altering the resistance to outflow.

There is considerable discussion on cellular volume in the angle and the possibility of its influence on outflow.

Autobiographical sketches of the participants are appended. The index is excellent.

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Advances in Carbohydrate Chemistry. vol. 11. Melville L. Wolfrom and R. Stuart Tipson, Eds. Academic Press, New York, 1956. xviii + 465. $11.

I make no claim to being a qualified judge of detailed presentations by recognized experts in eight highly specialized carbohydrate fields. However, to one with at least a working knowledge of carbohydrate literature and a daily need for its effective application, these *Advances* have proved their value. The very high editorial and technical standards, established by the previous ten volumes, have been rigorously maintained.

Continued application of periodate oxidation in establishing carbohydrate structures justified a concentrated study (by J. M. Bobbitt). Since this technique can be misapplied all too easily by inexperienced hands, a particularly valuable section stresses significant precautions to be observed during its use.

The multiple functionalities of the osones and of kojic acid have attracted much attention with very little interest in applications having developed. Although osones are usually represented in the α-ketoaldehyde manner originally proposed by Emil Fischer, the consistent lack of ketonic properties makes this open-chain structure very questionable. A survey of osone research, supplied by S. Bayne and J. A. Fewster, should assist in stimulating further studies. Much more attention has been given to kojic acid, even to the extent of several past attempts and at least one current attempt at commercialization, and A. Beélik has written a very worth-while chapter. Despite its structural challenge, significant industrial applications are still in the future.

F. G. Gonzáles presents an interesting discussion of the products from reactions between reducing sugars and β-ketonic esters along with detailed procedures and tables of constants. The author is obviously intrigued by the possible unique biological significance of these com-