

In view of these facts, our own experiments and a careful survey of other literature, it seems to us entirely reasonable to question the existence of any evidence that plants contain a substance which will alter amounts of sugar in the blood.

#### SUMMARY.

No evidence could be found for the reputed activity of plant extracts in reducing normal or high blood-sugar. Also no evidence could be found for any transference of hypoglycemia from one animal to another.

#### REFERENCES.

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- (3) Winter and Smith, *Science*, 57, *Suppl.* 12 (1923); *Biochem. J.*, 17, 683 (1923).
- (4) Best and Scott, *Jour. Metabolic Research*, 3, 177 (1923); Chopra and Bose, *THIS JOURNAL*, 15, 558 (1926); Colin, *Ibid.*, 15, 556 and 16, 199 (1926-1927).
- (5) Allen, *J. Am. Med.*, 89, 1577; *Am. Jour. Physiol.*, 81, 462 (1927).
- (6) Taylor and Atter, *Pharm. J.*, 120, 35 (1928).
- (7) *Ibid.*, 120, 320 (1928).
- (8) Editorial, *J. A. M. A.*, 91, 586 (1928).
- (9) Mills, *Quart. Jour. and Yearbook of Pharm.*, 1, 657 (1928).
- (10) Nye and Fitzgerald, *J. A. M. A.*, 92, 184 (1929); Corkhill and Douth, *Ibid.*, 94, 1447 (1930).
- (11) Shaffer and Hartmann, *J. Biol. Chem.*, 45, 365 (1921).

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### SUGGESTIONS FOR THE IMPROVEMENT OF PROFESSIONAL RELATIONS BETWEEN DENTISTS AND PHARMACISTS.\*

BY C. L. WHITMAN, D.D.S.

The professions of Dentistry and Pharmacy have been very closely related since their beginning. It is my purpose to point out some of the reasons for and method by which the pharmacists and dentists may coöperate to their mutual advantage.

In the United States there are about 67,000 dentists, all of whom prescribe drugs to a certain extent. But as a rule, while drugs are used often they are not prescribed as effectively or skilfully as they might be. I do not mean to condemn the dental profession as a whole, but this condition exists more frequently than it should. Dentistry has been practised for centuries but not as we know it to-day; modern dentistry, as a distinct and separate profession, was born in 1839 when the Baltimore College of Dental Surgery, the first dental school in the world, was established in Baltimore. Dentistry and medicine were from that year practically divorced and while dentistry, in its early days, depended largely on medicine for its development, its fundamental studies are at present based on biology, exactly as is medicine or any other branch of the healing art. Before this first dental college was established few specific books on dental therapeutics existed; the little knowledge concerning the action of drugs was scattered through the few dental works which existed at that time, or was closely guarded by its possessors. Since then dentistry has rapidly forged ahead—great strides have been made and dentistry is continuing to progress.

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\* Section on Education and Legislation, A. P. H. A., Washington meeting, 1934.

As the profession of dentistry has advanced and become more of a factor in the healing art, it has been increasingly exploited by many unscrupulous manufacturers; preparations, concerning which little or nothing is stated as to their formulas, are being constantly brought to the dentist's attention. This condition, I believe, is in a great measure unconsciously encouraged by the dentist because much of his prescribing is done by word of mouth. This is due in part to inadequate training in this particular subject in the dental schools and by the constant pressure upon the dentist through detail men and the advertising of preparations concerning which little or nothing concerning their make-up is stated. The American Dental Association is not unaware of this condition and accordingly it has established a Council on Dental Therapeutics. The purpose of this Council is to acquaint the profession with preparations and drugs which are of use to dentistry and also to expose those preparations which are useless or unacceptable. The results of their findings are reported each month in the *Journal of the American Dental Association*. These findings will be compiled in a book similar to the N. N. R. of the American Medical Association and represent a great forward stride in dental therapeutics.

One of the ways in which pharmacy and dentistry can work together is through personal contact of individuals of both professions. The pharmacists who are conducting the pharmacies may suggest to dentists with whom they are acquainted ways in which they may prescribe drugs to better advantage. Dentists, on the whole, are eager for information; to cite a concrete example of just what I mean—let us take sodium perborate, which is one of the drugs a dentist might wish to prescribe. Five years ago he prescribed it and expected a patient to buy and use it. Nowadays a patient knows what sodium perborate is and he will substitute some flavored and colored perborate put up under a trade name, because he knows what the official perborate is, and that it tastes bad. Manufacturers, quick to see this, retail the drug under various names and flavors. Pharmacists might suggest to the dentist that he add color and an essential oil to flavor the preparation. The psychological action of the prescription would then be retained and, after all, this is one of the most important actions of a drug.

This may sound very simple to pharmacists but that is your profession. You know how to handle coloring materials, flavors and vehicles and know how to prepare drugs in some more palatable and pleasing form. You are experienced in the *use* of these things but the average dentist, at best, has probably only read of them.

In most dental schools a practical working knowledge of these drugs is not given; the students read of them in books. They may see the drugs, but they do not have the opportunity to prepare and combine drugs as in the preparation of a prescription. Because of this, the dentist lacks confidence in writing prescriptions and encouragement or suggestions from the pharmacist to the dentist would be of mutual benefit.

Another phase in the relationship between pharmacists and dentists would be in the field of laboratory diagnosis, there is an increasing demand for pharmacists who are trained and equipped to do this work. As dentistry is becoming more of a "preventive" science there is greater necessity for dentists to have a better knowledge of the patient's general physical condition, hence, the need for laboratory tests will become greater in the coming years. In advocating this, I do not mean in any way to infringe upon the practice of medicine, but I do feel that there is much that

can be done, which will not necessitate the physician's viewpoint. To cite an example of this: In the case of gingival necrosis, commonly known as pyorrhea, with a knowledge of the blood-sugar it would be possible for a dentist, before undertaking any treatment, to know whether he would obtain a favorable result. By having a white count and a granulocyte count it would be a very simple matter to differentiate between a Vincent's infection and granulocytosis; without the blood count it means a great loss of time, which could be prevented and much error in diagnosis eliminated.

This brings up another means by which the professions may cooperate. As dentistry is conscious of its weakness in this phase of its work it has taken steps to correct it by the establishment of the Council on Dental Therapeutics. Because of the work of this Council and the interest aroused the dental colleges are giving and will, in the future, give this subject more prominence in their curricula. In the meantime there are many graduate dentists who would like to know more about the subject and postgraduate classes should be encouraged. These classes would, in my opinion, be of great value and could be sponsored by pharmacy and dental schools. I refer at this time to a course for dentists that was promoted by Prof. George C. Schicks of the New Jersey College of Pharmacy of Rutgers University. This was probably the first time such an effort has been made. This course consisted of six lectures and was attended by about thirty-five dentists. The course was devoted to dental drugs and a part of the course to the enlightenment of dentists as to what is being used in proprietary drugs. Needless to say the course was enthusiastically received. I do not mean to imply that schools of pharmacy should gratuitously establish such courses for dentists. However, there are men in the profession of pharmacy who are better fitted to teach the subject—it is their vocation and because of their general knowledge of pharmacology they may be able to suggest more efficient and effective drugs than those being used. If such men could be made available to dental societies and study groups much good could be accomplished.

Finally, I would earnestly urge that the study of your vocation never cease and that you continuously strive for improvement. A few days ago my attention was directed to a survey in the state of Michigan as a foundation to formulate a plan for socialized medicine, *i. e.*, all the divisions of public health service. In this survey it was determined that that time out of school had its influence on the individual's knowledge. This was discovered as a result of examinations consisting of questions that the average practitioner should be able to answer; it was found that the longer the average man had been out of school, the less he knew. While much is being done in the way of postgraduate work, journalism, study groups and conventions, the unfortunate part is that the man who needs this help most is the one who does not take advantage of the opportunities offered.

The author of the paper interspersed the discussion by references to the value of individual and group contact, establishment of laboratories and improvement of general knowledge.

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The 30th annual meeting of the American Association of Museums will be held in Washington, D. C., headquarters at the Smithsonian Institution, May 23-25, 1935.

The AMERICAN PHARMACEUTICAL ASSOCIATION is listed among the Museums in Washington.