

EDITORIAL

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ANTISEPTICS.

BECAUSE of apparent confusion at this time with respect to the meaning of the word "antiseptic," a general survey of the present status of this term will be of interest. It must be admitted, first, that such confusion does exist, and for very good reason. Like so many other English words, "antiseptic" has two meanings, according to the way in which it is used. It is variously defined as a substance which will kill pathogenic bacteria and also as a substance which merely prevents the growth of microorganisms.

The original use of the term was to designate a substance which would prevent putrefaction and decay in animal and vegetable matter. The word "antiseptic" is derived from the Greek and means, literally, "against putrefaction." Its somewhat broader present-day meaning is "against sepsis." In definitions given in the old dictionaries and encyclopedias, from 1819 to 1868, the ability to arrest putrefaction is the only meaning given to this word. At the time of Lister's epochal work, this word took on an additional meaning and germicides used in antiseptic surgery advocated by him were called "antiseptics." From this time on, dictionaries and encyclopedias give two meanings to this word, namely, (1) a substance which will prevent putrefaction and fermentation in animal and vegetable matter and, (2) a substance used to destroy pathogenic microorganisms. The American Encyclopedia (1873) gives these two definitions, giving heating or drying or cold, used in preserving food or organic matter, as antiseptic action in one sense, and then defines the term again as a germicide for use in surgery. As an example of antiseptic for surgical use, carbolic acid is mentioned and the dilutions used by Lister, 1-20 to 1-40, are given. These dilutions are germicidal.

Dictionaries for the laymen and medical profession alike have continued to the present time to give these two separate and distinct meanings for the word "antiseptic." In the medical literature since Lister's work on antiseptic surgery, killing agents, such as carbolic acid, mercuric chloride, etc., have been referred to as antiseptics, and the medical profession to-day continues to use the term in this way. One may rightfully wonder, then, why there should be confusion with respect to the interpretation of this term. There is a reason and the blame for it rests with American bacteriologists and the authors of American textbooks on bacteriology. For some unknown reason, American bacteriologists have chosen to recognize only one of the two definitions of this word and in their teaching they give only the inhibitory meaning. This interpretation has, therefore, a technical meaning peculiar to bacteriology and through teachers of this subject this meaning has been passed on to students in schools throughout the country. In this connection, bacteriologists themselves are at fault in telling only a half-truth. Defenders of this interpretation are also guilty of the same offense. Some have gone so far as to quote only half of the definition of the word as given in our standard medical and lay dictionaries and to give as examples of antiseptics only those substances used as food preservatives. This is obviously unfair and is a very defi-

nite source of misinformation which has caused confusion in the minds of many as to the correct interpretation of this word.

In a recent paper on the methods of testing antiseptics¹ the following definition is given: "Antiseptics are substances which, when applied to microorganisms, will render them innocuous either by actually killing them or preventing their growth according to the character of the preparation or the method of application." This definition includes both meanings and is hardly open to misinterpretation.

It is evident that an inhibitory substance may be used in a manner in which a long period of contact with the infective organism is assured and by preventing the growth of these microorganisms deserves to be called an antiseptic. Such preparations are of value in treating certain types of injuries and in counteracting infections. Antiseptic ointments and salves, surgical dressings saturated with inhibitory agent, antiseptic dyes which remain active in the tissues for a long time, all are of value in rendering infective organisms innocuous and they are antiseptics. However, when used in a manner in which only short-time application is had, such as ordinary liquid antiseptics as used on cuts, abrasions, etc., and mouthwashes, toothpastes, sprays, gargles, douches, soaps, etc., actual killing of the organisms must take place if the preparation is to render them innocuous and, consequently, they must be germicidal in order to rightfully be called "antiseptic." However, such preparations which are of themselves antiseptic may, when diluted, cease to be germicidal.

The layman does not make this distinction in his use of this word. To the layman an antiseptic is a substance which will kill "germs" and that is the only use he has for it. When he buys an antiseptic he does so for the purpose of using it to kill pathogenic bacteria. Most of the medical profession are of the same opinion when they use antiseptics in a practical way. One surgeon of international reputation is known to have said that an antiseptic is of no use to him in his practice if it does not kill pathogenic bacteria. Another surgeon of high rank has said that to him the only difference between a disinfectant and an antiseptic is that a disinfectant is used to kill bacteria on inanimate objects, whereas an antiseptic is used to kill bacteria on the human and animal body. It is evident, then, that the laity and the medical profession also expect antiseptics as ordinarily used to kill bacteria. It is for this reason that the Bureau of Chemistry has taken its present stand relative to antiseptics. A judicial decision made under the Food and Drugs Act states "Language used in the label is to be given the meaning ordinarily conveyed by it to those to whom it was addressed." It is evident that in enforcing the Food and Drugs Act the meaning conveyed by the word "antiseptic" to the users of these preparations is the basis on which the Government is acting in protecting the public from mislabeled products. The attitude of the Bureau of Chemistry is not only reasonable, but it is backed by current definitions in standard lay and medical dictionaries. The Bureau is to be commended for the good work it has done and is doing in this field. Reputable drug manufacturers have shown a cooperative spirit in this work and apparently welcome a project which raises the standard of excellence in products of this nature.—G. F. R.

¹ George F. Reddish, "Methods of Testing Antiseptics," *Drug Markets*, Vol. 20, No. 9, May 3, 1927, p. 495.

"NEW AND NONOFFICIAL REMEDIES."

WHILE, probably, the greater number of our readers are informed relative to the purpose of the publication of "New and Nonofficial Remedies" it is in order to state briefly the reason for reprinting the descriptions and definitions in the JOURNAL.¹ The Pharmacopocia and the National Formulary do not include drugs and preparations of secret composition or those controlled by proprietary rights. To provide standards as far as practicable for products of the latter classes and for certain other remedial agents not recognized by the official standards, the American Medical Association established the Council on Pharmacy and Chemistry. Such preparations must comply with rules and regulations formulated by the Council, which is made up of physicians, chemists and pharmacists.

While the welfare of the physician and his patient is a prime object of the Council, pharmacists should be informed relative to the preparations which are given recognition by the Council, and this is the aim and purpose in reprinting the reports in the JOURNAL A. PH. A., after they have been published in the *Journal A. M. A.* In other words, the former seeks to render service to pharmacists. Approval has been given by the Secretary of the Council and the *Journal A. M. A.* for re-publication of the reports, as stated.

It is hoped that pharmacists will use this service as an opportunity for coöperation by verifying the descriptions, tests, etc., or correcting inaccuracies should any appear. The correctness of the descriptions, standards and tests are of direct interest to pharmacists, and the purpose of THIS JOURNAL is to give information and to render service, and this, as stated, constitutes the reason for the inclusion of the reports.—E. G. E.

ORAL ADMINISTRATION OF INSULIN.

M. Elzas states that Lasch and Brugel of Vienna had stated that it was possible to give insulin by the mouth by mixing it with 0.5 Gm. of saponin dissolved in 20 to 30 cc. of normal saline solution. Acting on their suggestion the author determined the blood sugar in a diabetic patient 1, 2, 3 and 4 hours after subcutaneous injection of insulin, and then gave insulin by the mouth in a solution of saponin in distilled water, in distilled water without saponin, and in the solution of saponin in normal saline as recommended by Lasch and Brugel. During these tests the diet remained unchanged and no change was made in the interval between the administration of insulin and the taking of food. Of the two injections which the patient received daily only the first was replaced on some days by oral administration of the drug. The result of the tests was that not only was the oral administration of insulin much more unpleasant than subcutaneous injections owing to the burning sensation it caused in the mouth, but there was a progressive rise in the blood sugar instead of the fall observed after subcutaneous injection. It is concluded that oral administration of insulin is valueless. (*Nederland. Tijdschr. Geneeskunde*, through *B. M. J. Epit.*, 1, 2 (1927), p. 1650 (1926).)

¹ See "Editorial Notes" in this issue of the JOURNAL.