

until the block becomes clear and sinks; this may take from three days to a week. The oil mixture is as follows:

Chloroform by weight ..... 4 parts  
 Origanum oil by weight ..... 2 parts  
 Cedarwood oil by weight ..... 4 parts  
 Absolute alcohol by weight ..... 1 part  
 Carbolic acid crystals by weight ..... 1 part

Put some dried sodium sulphate into the bottom of the tube to take up the water brought into the mixture by the celloidin.

8. Wash cleared block in three or more changes of benzol; this takes out oils and alcohol, and prepares for paraffin infiltration.

9. Infiltrate in paraffin, and embed. The temperature of the bath and long duration of infiltration will not cause shrinkage, as Apáthy states that blocks left in a bath at 70° C. for a week showed no shrinkage. To insure good ribbons I find a paraffin of medium hardness satisfactory in most cases, and leave a margin of pure paraffin about the celloidin-paraffin block when trimming. Where hard chitin is to be cut and the firmest possible block is desired, I use hard paraffin to infiltrate, and cut with a slanting knife on a sliding microtome.

10. Section and mount, using Mayer's fixative; then spread out and affix by warming as for paraffin sections. In staining on the slide, avoid leaving for any great length of time in xylol or absolute alcohol, as these liquids will dissolve the celloidin. A clearing oil instead of xylol may be used to advantage before the balsam. When objects stained in bulk are used, merely remove the paraffin in xylol and mount in balsam.

S. I. KORNHAUSER

ZOOLOGICAL LABORATORY,  
 NORTHWESTERN UNIVERSITY

#### THE ASPHYXIATION OF CANCER

GRANTING, at the present time, that early surgical removal is the most satisfactory method of curing cancer, there still remains the "hope which springs eternal in the human breast" of the scientist that a day will come when a successful non-surgical treatment of cancer may be realized. For centuries competent investigators have been seeking this goal, but without avail. With the exception of toxic gases, practically all of the possible chemical,

physical and biological agents have been tried, including cell poisons, caustics, electricity, heat, light (visible and invisible rays), "vaccines," sera, and cell or organ extracts. The chief difficulty has been the finding of an agent which has a specific destructive action on the cancer cell without an injurious effect upon the surrounding healthy tissues. It must be admitted that a rational non-surgical treatment awaits the demonstration of a specific causal agent, or of a logical explanation of such an abnormality based on a thorough study of the chemistry and physics of protoplasm in general and of the living cell in particular.

A working hypothesis concerning the cause of cancer has been formulated by the writer after several years of theoretical and practical study. According to this hypothesis cancer is the result of localized, unchecked, over-combustion, or hyperoxidation, in epithelial cells; this condition is brought about by the concentrated, accelerated and uninhibited action of intracellular oxidizing enzymes, or their coenzymes, as a result of various injurious agents.

Based upon this theory, a rational treatment of the disease involves the inhibition of such "hyper-oxidations," or the complete asphyxiation of the cancer cells. This may be attempted indirectly by attacking the intracellular oxidizing enzymes (upon which cell oxidations, growth and multiplication so largely depend) or by renewing those enzymes in the body whose function it is to combat injurious cell oxidations. The direct asphyxiation of the cancer cell involves (1) the withholding of oxygen (so necessary for cell life) either by cutting off the blood supply or by absorbing the oxygen itself before it can be of service to the tumor cells; or (2) the introduction of sufficient carbon dioxide, or other toxic gases, to cause the suppression of oxidations in the tumor cells. It is evident that such a treatment must be confined to the cancer cells, for the general effect would be to kill all of the body cells. Herein lies the chief difficulty in its practical application.

Experimental work, involving the above

ideas, is now being carried on—the results of which will form the basis of future communications.

L. D. BRISTOL

UNIVERSITY OF NORTH DAKOTA,

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### QUOTATIONS

#### BUSINESS MEN WHO WANT THE METRIC SYSTEM

NOTHING gives so much hope that the metric system will some day be adopted in America as the work now being done in its behalf by the National Wholesale Grocers' Association. It is their type of support which alone can clinch the case in favor of the simpler standard. The theorists have done their best. They have proved conclusively what saving in time and labor, what gain in foreign trade, would follow upon the adoption of the metric system. Meanwhile, however, the country has been generally given to understand that practical men opposed the change, that they thought it would involve, while it was being made, insuperable difficulties to trade and manufacture. The wholesale grocers are practical men. In countless daily transactions their business would be directly affected by the change; they would have to undergo whatever hardships may accompany the shift in all its early days. And yet the grocers say they want the metric system.

Nor are the grocers content with wanting. They are also doing all they can to hasten the system's adoption, and in the measures they are taking, the country can see what ways may be followed in order to prepare for the change and make it, when it comes, less difficult. In pursuance of a report submitted by a special committee to the convention in Boston, every wholesale grocer is urged to print on the labels of all canned and boxed good not only the weight in English pounds and ounces, but also the metric equivalent. This custom will have two values. It will help to educate the American people in the metric system, and it will begin at once to reap the benefits for American goods abroad, especially in the South American countries, which a general adoption of the metric system promises. Furthermore, the grocers are preparing for their membership

complete and easily used tables of equivalents, and are doing their utmost to show how the first year or two of the change might be rendered less difficult by their use.

Psychologically, also, the study which these practical men are making has its value to help explain why the American passion for liberty has never extended to open revolt against slavery to the old English tables. They show that children everywhere are being given a distaste for the metric system by the way it is presented to them in their study of arithmetic. Since the schoolbooks necessarily present it in relation to its equivalents in English weights and measures, it means no more for them than a new instrument of mental torture. Learned for itself alone, it would offer no more difficulty than the American money system gives the boy who learns it in a day, and almost without trying. Harnessed to the old English equivalents, its true simplicity is not revealed. From this poor start in school days, the American public appears to continue in amazing ignorance of the metric system's real value.

Very few men know, says the report to the grocers, what time it would save in commercial arithmetic and very few know the increasing pressure for its adoption brought by the needs of trade with countries which have it. If this be so, then the grocers' committee's proposal, that to their practical efforts there should be added an organization exclusively designed to educate the public on this subject, ought surely to be furthered.—*The Boston Transcript*.

### SCIENTIFIC BOOKS

*Who is Insane?* By STEPHEN SMITH, A.M., M.D., LL.D. The Macmillan Co., 1916.

Not the least remarkable thing about this very readable book is the fact that its author is a nonagenarian. Dr. Smith was the state commissioner in lunacy of New York from 1882 to 1888, and the present work largely embodies his observations during those years, together with the deductions of his long experience concerning the big questions of the prevention and treatment of mental disease.

The word of criticism which might be offered