in and day out on the news run bend over backward to make their stories accurate. And that would be true, also, of the *good* nonscience reporter. Newspapers, especially really good ones like the Baltimore *Sun,* have ways of finding out the inaccurate man.

As to the *New York Times Magazine* allegedly manufacturing or synthesizing quotes . . . well, there's NO excuse for that, either, but I'll bet the *Times* would raise the devil with the reporter if they knew about it!

As for background material, the first question that arises is: How much information was given by the sources of these stories—presumably scientists themselves? The scientist has the first obligation to include all data pertinent to the report he is making, and if he intentionally leaves out any historic background that might be important, his is the primary blame. If a reporter gets a story from a man with a good scientific reputation, he would naturally assume that he was getting the truth as the scientist saw it. Of course, if it were an obviously controversial subject, a good reporter would seek comment from possible dissenters. If a story emanates from questionable sources, the reporter has a distinct obligation to check on it. If he doesn't, he shouldn't be in the business.

Next question: On the "zinc chloride" story, did your correspondent or the AMA take the trouble to write in to papers pointing out that the "cure" had been listed in *Nostrums and Quackery*? It seems to me that he should have done so—and that papers would have been glad to print what he said on its news merits.

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Associated Press
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Periodic Acid-Schiff Reaction of the Insect Cuticle

HOTCHKISS (*1*) described the use of periodic acid as a histochemical reagent. It has the property of reacting with the α-glycol (—CHOH—CHOH—) group, rupturing the bond between the two carbon atoms, and converting the two alcoholic groups to aldehydic groups. Insoluble compounds containing the α-glycol group can be located in tissue sections by the use of periodic acid followed by Schiff's reagent, which gives a colored reaction product with the aldehyde that is produced.

Hotchkiss supposed that the majority of periodic acid-Schiff (PAS) positive substances that are likely to be present in tissues would be polysaccharides. Richards (*2*), on applying the test to the insect procuticle, found that the result was not always positive and postulated that the chitin, being a polysaccharide, must be "masked." The chitobiose units, which constitute chitin, however, are substituted in such a way as

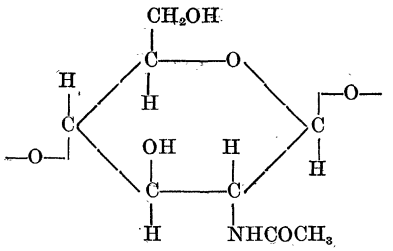

FIG. 1. Structural unit of chitin (after Meyer [*3*]).

to contain no α-glycol group (Fig. 1), and there is therefore no reason to suppose that chitin should give a positive PAS reaction (*4*). "Purified chitin" (i.e., cuticle after treatment with hot 10% NaOH solution) does give a positive reaction (*2*), because the alkali deacetylates the chitobioses. Since the PAS test was first introduced, it has been shown that a positive reaction is also given by the α-amino-β-hydroxy (—CHOH—CHNH$_2$—) group (*5*), so that whether or not the amino group (as well as the acetal-group) is removed from the chitin by alkali treatment, it could be expected to give a positive result in the PAS test.

To say that polysaccharides are present in tissue which is PAS-positive is not necessarily a valid conclusion. Having obtained a positive reaction with the epicuticle of a number of insects, Richards (*2*) has claimed that polysaccharides are present there, in the face of much biochemical evidence to the contrary; but it has been shown that the cells of the right colleterial gland of *Periplaneta,* which produces the phenolic substance that tans the ootheca, contain polysaccharide-free granules that are PAS-positive (*6*). From Pryor's work (*7*), it is reasonable to infer that substances similar to those found in the right colleterial gland are likely to be found also in the hardened regions of insect cuticle; and if one makes this inference, the more reasonable conclusion is reached that it is the phenolic cuticular tan, and not a hypothetical polysaccharide, which gives the positive PAS reaction in the epicuticle.

Lillie (*8*) has shown that the contents of the cells of the mammalian adrenal medulla are phenolic and are PAS-positive; the same situation prevails in the colleterial gland and is described elsewhere in detail (*6*).

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