

year as a minimum. The early cooperation of organizations of the working classes and of those working for the prevention of tuberculosis and alcoholism will be sought.

THE Weather Bureau has published for many years the *Monthly Weather Review*, treating of the general weather conditions throughout the United States as a whole, with occasional summaries of climatic data from other and frequently little known regions of the earth. Also there have appeared in its pages many scientific and popular contributions from the best students of meteorology and kindred subjects, thus making it one of the leading meteorological and climatological journals of the world. A considerable number of the several monthly and annual issues of this publication have accumulated in the files of the Weather Bureau and it is thought they would be a valuable addition to any library. If any library desires copies of these publications, either for the completion of broken files or as new matter of public interest, copies of such issues as are available will be furnished free of charge upon request.

UNIVERSITY AND EDUCATIONAL NEWS

COLUMBIA UNIVERSITY has received an anonymous gift of \$10,000 annually for four years for surgical research, and a gift of \$15,000 for five years for the establishment of a bureau to study legislative drafting.

FURMAN UNIVERSITY, the Baptist College of South Carolina, has now in course of construction a \$50,000 science building which will accommodate the departments of chemistry, biology and physics with lecture rooms and laboratories. Half the cost of this building was supplied by local contributors and the other half was the gift of Mr. Rockefeller. It is expected that the building will be completed and ready for occupancy at the beginning of the next session, in September.

MISS A. H. CRUICKSHANK, daughter of a former professor of mathematics in Aberdeen University, who during her lifetime made generous gifts to the university, has bequeathed £22,000 for the endowment of a chair of as-

tronomy, the establishment of a science library and the provision of law prizes in the university, and the residue of her estate for kindred objects.

THE Drapers' Company, London, has granted £6,000 to the Battersea Polytechnic for the erection and equipment of a department of hygiene and physiology.

DR. HENRY PIKE, of the University of Chicago, has been appointed assistant professor of physiology and Dr. Warfield T. Longcope, of the University of Pennsylvania, assistant professor of medicine in Columbia University.

At Cornell University Mr. F. K. Richtmyer has been promoted to be assistant professor of physics; Mr. C. W. Bennett, to be instructor in chemistry, and C. K. Carpenter to be instructor in experimental engineering.

THE following promotions have been made in the department of botany of the University of Chicago: Charles J. Chamberlain, advanced from assistant professor to associate professor; Henry C. Cowles, advanced from assistant professor to associate professor; William J. G. Land, advanced from instructor to assistant professor; William Crocker, advanced from instructor to assistant professor.

DISCUSSION AND CORRESPONDENCE

PHARMACOLOGICAL ACTION OF THE NON-ALCOHOLIC CONSTITUENTS OF ALCOHOLIC BEVERAGES

TO THE EDITOR OF SCIENCE: In a recent number of SCIENCE¹ D. D. Whitney, in an article entitled "The Poisonous Effects of Alcoholic Beverages not Proportional to their Alcoholic Contents," cites the following sentences from my report on the pharmacological action of ethyl alcohol:²

The more concentrated alcoholic liquors or spirits are, from a practical point of view, the

¹ April 14, 1911, p. 587.

² "A Critical Review of the Pharmacological Action of Ethyl Alcohol, with a Statement of the Relative Toxicity of the Constituents of Alcoholic Beverages," by John J. Abel, pp. 1-169 in Vol. II., "Physiological Aspects of the Liquor Problem," Boston and New York, Houghton, Mifflin & Co., 1903.

most toxic of all alcoholic beverages. If whiskey or cognac were always to be diluted with water until the percentage of alcohol was brought down to ten per cent., they would be no more toxic than wine of the same strength.

He then remarks:

These statements would lead one to infer that if the alcoholic content of all beverages was reduced to the same percentage, the toxicity of each beverage would be the same. If true, such a conclusion would greatly simplify the method of determining the relative harmfulness of the many kinds of alcoholic beverages.

It is easy to give a wrong impression by use of sentences removed from their context. Statements that precede and follow may be absolutely necessary to convey an author's true meaning. Had Whitney included the whole of the paragraph whose beginning he quotes, he could not have drawn an inference which gives an incorrect impression of my report. The rest of the paragraph is as follows:

In fact, a number of French authorities maintain that the finest wines are, in proportion to the amount of alcohol contained in them, more toxic than the brandies. The question of the relative toxicity of the various constituents of alcoholic beverages has been narrowed down to a study of the action of the higher alcohols, the ethers and aldehydes as compared with that of ethyl alcohol. This point of view is justified for the stronger beverages, such as the liqueurs, brandy, rum, whiskey, etc., and the stronger wines. As we have seen, however, a study of the misuse of beer would have also to take account of other factors. As these factors have not yet been made the subject of special study, we shall confine ourselves to the by-products found in spirits and wines.

Numerous other passages could be cited to show that the word "all" has no place in Whitney's inference. On page 23 of the report may be read:

The liquor sold in France under the name of absinthe contains all the way from forty-seven to eighty per cent. of ethyl alcohol and is highly flavored with the aromatic constituents of wormwood, anise, fennel, coriander, calamus aromaticus, hyssop, marjoram, etc., the proportion

and selection of these flavors varying with the special variety of the absinthe. As long ago as 1865 Lancereux maintained that alcohol is, from a quantitative point of view, the chief poison of absinthe. Yet there can be no doubt that if the alcohol were removed from absinthe, its excessive consumption would still wreck the nervous system, because of the presence in large amount of the aromatic constituents enumerated.

My report had to deal principally with the effect of the various constituents of alcoholic beverages on the higher animals and man, since the work of the Committee of Fifty concerned itself with the problem of intemperance. The experiments of investigators on the action of the higher alcohols, esters, aldehydes and other by-products of alcoholic beverages were given, as also tables showing the relative killing power of these constituents for higher animals and statements in regard to what was known of their action in chronic alcoholism.

From all these studies it was concluded that ethyl alcohol is the *preponderatingly harmful ingredient of alcoholic beverages*, and poisonous enough to account for all the evils of intemperance, an ingredient compared with which the small quantities of higher alcohols, aldehydes, etc., associated with it in alcoholic beverages may be neglected by those who seek to reform these evils. Nevertheless the report furnishes abundant proof that the action of the various by-products or non-alcoholic constituents of these beverages were duly considered so far as the data at hand at that time (1899-1900) were applicable to man and the higher animals. In the section of the report dealing with the subject of chronic alcoholism passages like the following may be read:

The two examples that have been cited show how necessary it is to study the behavior of *each*³ of the by-products in alcoholic drinks when administered by itself over a long period before we can attribute to each its own share of the harmfulness which ensues from the prolonged and excessive use of spirits, wines, etc. It is not enough to know the toxic equivalent of an alcohol or of a by-product as measured by the experiments detailed in the preceding section in order to deter-

³ Italics as in the original.

mine precisely what effects will follow their prolonged administration. But experiments on animals involving the daily and prolonged administration of small quantities of *each* of the several higher alcohols which are found to exist in traces in distilled liquors are not as numerous as could be desired.

Again in speaking of alcohol as a respiratory stimulant, p. 116, it is stated that highly flavored wines, brandy and other alcoholic beverages which contain larger amounts of stimulating esters have a more pronounced action than ethyl alcohol and in numerous passages elsewhere throughout the book it will be found that the pharmacological action of ethyl alcohol is contrasted with that of the by-products of alcoholic beverages. On p. 10 may be read: "In 'pure' wines the various ethers and aldehydes constituting the 'bouquet,' the degree of acidity, the amount of sugar and salts, are of importance, both from a medical and from a hygienic point of view."

A report which aims to show that ethyl alcohol is the chief deleterious agent of alcoholic beverages and the one mainly responsible for the evils of intemperance should not be so quoted that one could infer that it was there stated or implied that the effects of *all such beverages on all living things (including rotifers)* is to be measured only by their alcoholic content.

JOHN J. ABEL

BALTIMORE,
April 19, 1911

THE APPOINTMENT, PROMOTION AND REMOVAL OF OFFICERS OF INSTRUCTION

THE address by President Van Hise, "The Appointment and Tenure of University Professors," which was printed in *SCIENCE* on February 17, 1911, is interesting in many ways. It shows, in the first place, the prevalence of a strong feeling that there is something unsatisfactory about the way in which the power of appointment and removal is exercised in our universities, and, in the second place, it is noticeable for a tacit acceptance of the common assumption that any objection to the way in which a public trust is admin-

istered implies a demand for a change in the machinery by which its administration is effected, and does not, as might more naturally be thought, perhaps only exhibit a desire to see the power that directs the machinery made more intelligent. If our cities are badly governed by mayors and councils, the remedy is sought in government by commission or in some other purely mechanical attempt to change the locus of power, instead of in the more laborious and less outwardly promising task of purifying it of selfishness and ignorance; and President Van Hise seems to deal with the question of university government from a similar point of view, although, to be sure, he does so for the most part negatively and by inference rather than positively and directly. He is undoubtedly right in his contention that the president is the proper officer to be entrusted with the power of appointment and removal; although many will question his implication that the president's right to this power rests on the fact that he makes wise and courageous use of it. He is also right in insisting that removals are necessary when efficiency or usefulness are destroyed by physical, mental or moral weakness; and he is justified in attributing some (but not all) of the opposition of faculties to the presidential power of appointment and removal to their selfish desire for permanent sinecures; but his address implies an attitude on some other points to which exception may be taken.

For one thing, he is too sanguine; for he assumes two things that there is considerable reason to doubt. He seems to think, first, that the acts of governing boards of universities are always in the interests of the students and the public; and, second, that public condemnation is visited swiftly and certainly on all college presidents who employ the power of removal with even a suggestion of unreasonableness or injustice. That these two assumptions are justified may fairly be called into question.

One of the greatest weaknesses of American universities, according to an opinion of wide prevalence, is their governing boards. These