on the significance of 'bonds' in structural formulas, by Spencer B. Newberry; on positive and negative units of valence, by Albert B. Prescott. *Physiological Chemistry*, on the percentage of ash in human bones of different ages, by W. P. Mason; on chemical changes accompanying osmose in living organisms as illustrated by the oyster, by W. O. Atwater; on the delicacy of the sense of taste, by E. H. S. Bailey and E. L. Nichols; on the scientific basis of feeding infants, by A. R. Leeds. *Medical Chemistry*, on the causes, progress, and cure of a recent great outburst of typhoid-fever at Mount Holly, N.J., by Albert R. Leeds. *Committee Reports*, on methods of stating water-analysis, by G. C. Caldwell; on indexing chemical literature, by H. C. Bolton.

Prof. L. M. Norton, in his experiments in drying oils, has detected the presence of several fatty acids, which are not mentioned in the books. Especially is this the case with cottonseed-oil, which contains several acids in addition to oleic. Owing to easy oxidation, it is difficult to separate these acids. The method of distillation in a vacuum was found most effective. Prof. T. H. Norton's papers on organic chemistry disclosed numerous lines of original investigation undertaken in connection with advanced students, and emphasized the growing importance of mingling original researches with instruction, which is now practised so successfully by the leading laboratories of the world. The papers on analytical chemistry contained nothing of general scientific interest. The alloys of copper and antimony and of calcium and zinc presented by Professor Norton disclosed many important facts. He found it impossible by any known method to obtain an alloy of zinc and calcium containing more than five or six per cent of the latter metal. The properties of the compound are also profoundly affected by the proportion of calcium present.

Dr. Wiley presented, in the paper on sorghum, the means of all the recorded analyses of sorghum-juices. The important fact is brought to light that this average juice is unfit for sugar-making, containing at the rate of a little over twenty pounds of available sugar to the ton of cane. In many instances, however, the percentage of sucrose in the juice is remarkably high. The successful solution of the problem of sugar-making from sorghum depends on the production of a uniform grade of sorghum reasonably rich in sucrose. This should be the work of the agricultural experiment-stations.

The sense of taste, as shown by the experiments of Professors Bailey and Nichols, is in general more delicate in females than in males. Bitter is detected in far greater dilutions than sweet or saline tastes.

This session of Section C was remarkable in being almost free from papers of a 'cranky' nature. No lurid schemes for the regeneration of the human race by chemical affinity were presented, and no intensely improbable properties of matter were described. While many of the papers were crude and some of them quite elementary, it is nevertheless true that the Chemical Section is progressing in numbers and influence and the character of its work.

Section I.

THE Section of Economic Science and Statistics this year exercised its usual latitude in the consideration of a great variety of subjects; but, under the close scrutiny of its sectional committee and the rulings of its chairman, everything objectionable was excluded and a high standard maintained. Thus, while all the subjects presented were treated in a scientific manner, the proceedings were so conducted as to meet with popular favor. Although inconveniently located on the upper floor of Hamilton Hall, so that those unacquainted with the ways of the association had difficulty in finding the place, the sessions of this section opened with a room nearly full, on Thursday, and the attendance daily increased until the closing session on Tuesday (Aug. 23), when the hall was uncomfortably crowded by the largest audience present at any sectional meeting during the week.

'The Food-Question' was, by special arrangement, made the sole topic for Thursday. The sessions, both forenoon and afternoon, were opened by Prof. W. O. Atwater of Connecticut, who treated the subject much after the style of his articles in current issues of *The Century Magazine*. He was enabled to add much interest by a fine collection of illustrative material, some of the charts being his own, but the rest prepared at the Massachusetts Institute of Technology, and loaned for this occasion by The Industrial Education Association of No. 9 University Place in this city, through the kindness of Miss H. R. Burns. Much interest was manifested at both sessions, and the discussion took a wide range, including the economy of food in its physiological and pecuniary aspects, the food of workingmen in its relation to work done, and the preparation of food, together with the 'cooking-schools' and their results. The most prominent participants in the discussions of the day were Prof. W. H. Brewer of New Haven, E. J. James of Philadelphia, S. A. Lattimore of Rochester, J. M. Ordway of New Orleans, Dr. D. E. Salmon of Washington, Mrs. Richards and Mrs. Lincoln of Boston, and R. T. Colburn of this city.

On Friday the section gave its attention to statistical and financial questions. The leading paper was by Prof. Edmund J. James of the University of Pennsylvania, and was mainly a sharp and well-presented criticism of the recent essays of Mr. Edward Atkinson upon the growth and rapidly increasing wealth of this country. Dr. James showed grave omissions in Mr. Atkinson's figures, which greatly modified the deductions from them, and, by marshalling the same statistics in a different form, reached very different conclusions, both as to the country's accumulating wealth as a whole, and the earnings of laborers. Charles S. Hill of Washington followed with a statistical paper somewhat similar in character. Then E. B. Elliott, actuary of the Treasury Department, continued his last year's exhibit of the rates of interest realized by investors in the bonded securities of the United States. He showed, that, based upon the market-prices of the government 4 and 4½ per cent bonds, the actual interest during the past year has never exceeded 2½ per cent, and at times it has fallen below 2 per cent. He predicted a net rate for some time to come, closely approximating 2 per cent.

As with the other sections, business was suspended from Friday noon till Monday morning, by the various excursions, — an interruption emphatically disapproved by many active members.

The morning session of Monday took a rather philosophic turn, although the title of the paper which gave rise to most discussion made a claim to belonging within the realm of science: it was 'The Science of Civics,' by Dr. Henry Randall Waite, and while covering broader ground, served especially as an argument and justification for the American Institute of Civics, of which Dr. Waite is president, and its work. An animated discussion ensued, dealing with ethics, politics (in its best sense), and economics, and their relations to one another. Monday afternoon, Section I joined with that of Mechanical Science in considering the question of Isthmian transit. This subject in its various bearings was clearly presented by Commodore Taylor, Surgeon Bransford, and Engineer Peary, of the United States Navy, and Mr. J. W. Miller of this city; and the interested audience seemed well convinced of the superiority of the ship-canal and the Nicaragua route over all other schemes, and the certainty of the early completion of this enterprise by American capital, and to be under the control of the United States.

Manual training, its methods and results, in public schools and special institutions, from economical, industrial, and educational aspects, formed the principal subject of the final session of the section on Tuesday. Prof. Calvin M. Woodward of St. Louis, and Prof. James of Philadelphia, read papers, and a general discussion followed entirely favorable to manual training in every form.

Yan Phou Lee of New Haven closed the session with an eloquent address upon the Chinese question from a Chinese standpoint, delivered before as large and enthusiastic an audience as any assembled at Columbia College during the meeting of the association. It was a telling arraignment of the policy and conduct of the United States in reference to the Chinese, and reminded one of an epitome of Helen Hunt Jackson's 'Century of Dishonor.'

HEALTH MATTERS.

Cure of Consumption.

AMONG the first to use Bergeon's treatment for the cure of consumption by gaeous enemata in this country, and certainly the first in Philadelphia, was Dr. E. T. Bruen. As a result of the treatment