

head-pressure relatively to the earth would be about four pounds per square foot. Light winds, sometimes following, sometimes resisting, the train, caused some variations which were allowed for in computations.

It is to be noted that a plane surface would have given a higher resistance, by at least 50 per cent., than was recorded by the cup-shaped vane.

R. H. T.

#### TRIVALENT CARBON.

IN the *Journal of the American Chemical Society* for November appeared an article of very unusual interest. By the action of silver, mercury or zinc on triphenylchloromethane Dr. M. Gomberg has obtained a new hydrocarbon, *triphenyl-methyl*,  $(C_6H_5)_3C$ . For some reason, perhaps because of space relations involved, two molecules of this hydrocarbon do not unite to form hexaphenylethane,  $(C_6H_5)_3C-C(C_6H_5)_3$ , as would be expected. The new body is the only one among the seventy thousand or more compounds of carbon, which contains an odd number of atoms of odd valence. The compound furnishes the first opportunity of studying the properties of a substance containing a carbon atom that is almost certainly trivalent. From this standpoint, as well as others, the discovery possesses a great theoretical interest. Especially the properties of triphenyl methyl in its rapid absorption of oxygen furnish a practically complete refutation of the view that benzene, ethylene and similar compounds contain trivalent carbon.

W. A. N.

#### COLUMBIA UNIVERSITY.

THE trustees of Columbia University have authorized the publication of the following statement drawn up by President Low:

The problem of Columbia University can now be defined, for the first time since, in 1892, it was determined to move to Morningside Heights.

Cost of land and development at Morningside Heights, .....	\$6,516,300	17
Improvements at College of Physicians and Surgeons, .....	879,688	43
	\$7,395,988	60
Interest to June 30, 1900, .....	586,519	92
	<u>\$7,982,508</u>	<u>52</u>

Of this large sum the University has succeeded in paying, mostly out of gifts and legacies, \$4,250,000. Of its outstanding debt the sum of \$750,000 is provided for. It still owes \$3,000,000 that is not provided for; upon which the annual interest payable is \$98,500.

Careful computations justify the undersigned in saying that eight years from now the University will be able, by the increase of income from its fees and endowments to care for its floating debt without embarrassment to its educational work. The falling-in of continuing interests already definitely established may hasten this result importantly. Experience also demonstrates that the endowments of the University are likely to be constantly increased by gift and legacy year by year.

The problem of the University, therefore, is to conduct its educational work for a period of eight years without curtailment by reason of the interest to be paid in the meanwhile on its outstanding debt, say \$100,000 a year.

For the academic year ending June 30, 1897, the last year at the 49th street site, the University had a deficiency on its current educational account, disregarding interest, of \$48,260. For the coming academic year, 1901-1902, the estimates for the Budget already made show that the ordinary income of the University next year will pay all of its current expenses except the interest on its outstanding debt.

If our interest payable can be taken care of for eight years, the problem of the University growing out of its removal to the new site will be solved.

From the purely business point of view, the operations of the University have been already justified. Its plant has been increased in value, after deducting the proceeds of its old buildings, by more than \$6,250,000, taking its new site at cost. If the new site be taken at its present market value, the increase in the value of the University's plant would be not less than \$8,000,000. The debt incurred in producing these results, still remaining unprovided for, is only \$3,000,000. In addition, University Hall is now being enlarged by gift; and Earl Hall is about to be erected, also by gift. In the same interval, the trust funds of the University have been increased by \$1,250,-

000; the library has grown from 120,000 volumes to over 300,000 volumes; the teaching force from 226 to 361; and the number of students from 1,564 to 2,560. These figures do not include either Barnard College or Teachers College.

Since removal, also, an educational deficiency of more than \$48,000 has been overcome, and the University, after this academic year, will be running within its income, after assuming the full care of its enlarged plant.

For a few years and for a few years only, the University needs help to prevent its debt from being further swelled by borrowed interest. It is not possible to take any such sum as the University needs, annually, in the immediate future, out of its educational work, without destroying its efficiency. This ought not to be permitted: First, because the work is highly useful and is being economically and well done; second, because any curtailing of the University's educational offer would be reflected immediately in loss of earning power; and, third, because, for the credit of the city, the University must be kept where it now is, in the very front rank.

To meet this situation, appeal is made to all the friends of the higher education in New York. Friends of the University, including the President and Trustees, have already pledged \$38,000 for this purpose. For the rest, the University confidently turns to the citizens of New York who value the things for which Columbia University stands in this metropolitan city.

#### *REPORT ON A WESTERN BRANCH OF THE AMERICAN SOCIETY OF NATURALISTS.*

As we have already announced, the American Society of Naturalists decided to meet next year at Chicago, and the Council was requested to report on the relations of the Society to the Western Branch, which has held two successful meetings in that city. Prior to this decision a committee consisting of Professors Henry Kraemer, G. D. Macloskie, E. B. Wilson, C. B. Davenport and T. H. Morgan made a report which we publish, in order that men of science may have an opportunity to consider and discuss a problem of considerable importance. The report of the committee is as follows:

The Committee appointed to consider the proposition offered by some of the members of the American Society of Naturalists to form a Western Branch of this Society (See Records of A. S. N., p. 29) submit the following recommendations for the action of the Society:

1. The American Society of Naturalists appreciates the desire of some of the Western members to form a Society of the Central States and, furthermore, appreciates the motives of the members to make this new Society a branch of the American Society of Naturalists. It is doubtful, however, if it will be possible to form such a branch, and if such a society is formed, we believe it should be as a distinct organization having its own officers, control of its own finances and the publishing of its own records.

2. The original intention of the Society of Naturalists was a good one, but we believe that it was unfortunate in changing its name from 'Society of Naturalists of the Eastern United States' to 'American Society of Naturalists' and in limiting the meetings to the Eastern United States. We recommend, therefore, that the original name be readopted in place of the present name. We believe this action would tend to facilitate the formation of similar societies, if desired, in different parts of the United States, and be in accord with the inception principles of this Society.

3. It is further recommended, in order to strengthen the work of naturalists in the United States, and so add to the influence of the whole body of naturalists in this country, that, if a Society of Naturalists of the Central United States be formed, or any similar society, if possible, each society appoint delegates to represent it at the Annual Meeting of the Sister Society; that the Executive Committee of the one cooperate with the Executive Committee of the other for united effort in contributing to the support of different objects such as the Naples and Wood's Holl Biological Stations; and that the societies extend to each other mutual privileges and courtesies such as: (a) Change in membership from one society to the other by approval of the Executive Board of both societies; (b) Admission of members of both societies to the meetings of either society, with enjoyment of certain privileges such as the reading of papers, taking part in the discussions and participation in such other matters as may be deemed advisable.

#### *SCIENTIFIC NOTES AND NEWS.*

MR. JOSEPH WHITE SPRAGUE, of Louisville, Ky., who died recently in Switzerland, left a will that should ultimately greatly benefit the