discussion between us of scientific topics or even of administrative topics. Somehow I learned early in the association how his mind ran, and came to know fairly well not only the lines of his action, but the course of his thought. So between us discussion was needless. This very fact indicates the closeness of the sympathy existing between us; and I mention it as an apology for any appearance of fulsome eulogy that may have fallen from my lips.

"The feeling that overwhelms me is one of loss. The greatest of scientific men is gone; our warmest friend of scientific progress has passed away; our brightest exemplar of human knowledge is no more.

"This is but little of what I am moved to say; yet I am glad to offer even this small tribute to a great man."

Doctor Walcott, Chairman of the Committee on Resolutions, then offered the following, which was adopted by a rising vote:

"The friends and associates of Major John Wesley Powell here place upon record an expression of their grief at the loss of a loyal friend, a devoted public servant, a daring explorer, and an original contributor to the sum of human knowledge, and they extend to the family of Major Powell their sincere condolence in their great bereavement."

The meeting then adjourned.

SCIENTIFIC BOOKS.

The Chemistry of the Terpenes. By Dr. F. Heusler, Privatdocent of Chemistry in the University at Bonn. Authorized translation by Dr. Francis J. Pond, Assistant Professor in the Pennsylvania State College. Carefully revised, enlarged and corrected. One volume. P. Blakiston's Son & Co., Philadelphia. 1902. $4.00. Pp. 457.

Webster's International Dictionary states that a terpene is 'Any one of a series of isomeric hydrocarbons of pleasant aromatic odor, occurring especially in coniferous plants and represented by oil of turpentine, but including also certain hydrocarbons found in some essential oils.'

This so-called definition may serve, in part at least, the purpose of the publisher, for it may satisfy the curiosity of one who incidentally has stumbled across the word and cares little for positive information. It certainly does not define the word chemically, as it pretends to do.

Some years ago one of the writer's students presented himself with a set of examination questions of an eastern college of pharmacy. One of the questions read: 'What is a terpene?' and the student, who had attended a course on 'hydrocymenes and derivatives,' apparently was curious to know how the writer would briefly define a terpene for the purpose of an examination paper. "A terpene is a dihydro'terpene,'" was the prompt reply. For a moment the student was puzzled. Shortly, however, he recalled sufficient of A. v. Baeyer's application of Geneva Congress nomenclature to the terpenes. He therefore smiled and walked away, seemingly satisfied.

The fact is that the word terpene has been used to designate different groups of compounds. The compiler of Webster's Dictionary seems to know of natural terpenes only. Semmler, on the other hand, thought it necessary to reduce the number of natural terpenes proper and assigned to certain hydrocarbons ($C_{10}H_{16}$) found in volatile oils the name aliphatic terpenes. Not satisfied with this, he coined the name pseudoterpenes for certain other isomeric hydrocarbons of this group.

König, who tried to give a strict chemical meaning to the word alkaloid, defined this term as standing for certain derivatives of pyridine, thereby excluding such well-known alkaloids as caffeine and many others. A. v. Baeyer, in an adaptation of Geneva Congress nomenclature to terpenes and camphors, defined a terpene as a tetrahydrocymene. The terpenes of old, in accordance with the same principles of nomenclature, became terpadienes. However, there are many 'terpenes,' *i. e.*, hydrocarbons ($C_{10}H_{16}$), which cannot be

referred to cymene, even if much chemical sophistry be applied.

While from the point of view of rational chemical classification the word terpene has been much abused, like so many other chemical terms that have admirably served their purpose in times past, from a practical point of view this term is universally, though rather vaguely, understood. The same holds true of the equally abused word camphor, which is so frequently coupled with the word terpene.

The terpenes and camphors are of equal interest to the theoretical chemist and to the chemical and pharmaceutical manufacturer who deals with volatile oils and perfumes. From the very beginning of organic chemistry as a science, the volatile oils and their constituents have played an important rôle in the study of optical activity, of isomerism and of chemical constitution. On account of their subtle nature, the study of their constitution has attracted the attention of almost all organic chemists of international repute at one time or another. Whereas such substances as benzaldehyde from bitter almond oil and methyl salicylate from wintergreen oil gave satisfactory results when investigated, the former by Liebig and Woehler, the latter by Cahours—the benzaldehyde supplying even the foundation for a theory of radicles, the first structural theory of organic chemistry of lasting value—the terpenes and their derivatives, the so-called camphors, proved a stumbling block to many investigators for a long time after.

The inevitable result was that the almost innumerable unsatisfactory data which accumulated in chemical and pharmaceutical literature produced a condition well nigh chaotic. Out of this wilderness of facts, both reliable and questionable, Wallach led the way during the middle of the eighties. Flueckiger, one of the old-school investigators of the volatile oils, though advanced in years, clearly recognized the significance of Wallach's work, and called him the messiah of the terpenes. To him, therefore, this work is rightly dedicated by both author and translator.

Although Heusler has not been active experimentally in this field, he was, for several years, Wallach's assistant in the new organic laboratory at Göttingen. Here most of Wallach's work was done by his private assistants and advanced students, who at Bonn, previous to 1889, had become known as the *Terpenkünstler*. Pond was one of the students who from far and near came to Göttingen to study with the master of the 'terpene artists.' Both are, therefore, fully competent to handle so difficult a subject.

Heusler's monograph in German came as a relief to the large number of investigators in both Europe and America who were interested in the volatile oils and the derivatives of their constituents. It at once became the indispensable reference work on the subject. Since then the investigations have continued with seemingly increased activity. Suffice it here to state that not less than several hundred independent contributions have appeared annually. If it be further remembered that the constitution of possibly not a single terpene is settled beyond reasonable doubt, the importance of the systematic arrangement of the facts accumulated since 1896 must become apparent to everyone. Dr. Pond has not only translated Heusler's monograph, but he successfully accomplished the far more difficult task of bringing it up to date.

To the American, at least, the arrangement of the chapters, subheadings and references of the translation will appeal much more strongly than that of the original German edition. The type also is larger and more satisfactory. And, last but not least, the book before us is provided with a good working index, a feature that is altogether wanting in the original. Press work and paper are of the usual excellence of the publisher.

EDWARD KREMERS.

SOCIETIES AND ACADEMIES.

AMERICAN MATHEMATICAL SOCIETY.

A REGULAR meeting of the American Mathematical Society was held at Columbia University on Saturday, October 25. About forty-five persons, including thirty-five members of the Society, were in attendance. Vice-President Maxime Bôcher presided during the