

mal, as with all gases, and all heat supplied is utilized as external work. The constant-quality curves have the equation  $pv^{1.0568} = C$ . With adiabatic expansion, the quality improves with all mixture in which  $x < 0.6$  and the fluid progressively condenses for mixtures of initially  $x = 0.7$  and above. The value of  $n$  is found to be

$$n = \left(\frac{x}{c}\right)^{\frac{1}{6.36}}; xn^{-6.36} = C;$$

the logarithmic curve is given, graphically illustrating the law of variation of  $n$ .

The specific volume of  $CS_2$  is 2.6258 times that of air. Its boiling point is, according to Thorpe and Freidburg,  $115.88^\circ F$ . and its critical temperature is  $504.5^\circ F$ ., at a pressure of about 65 atmospheres.

The paper is one of special value and is the outcome, in part, of work for the Ph.D. at Cornell.

R. H. T.

#### SOCIETIES AND ACADEMIES.

##### NEW YORK ACADEMY OF SCIENCES. SECTION OF BIOLOGY.

THE first meeting of the academic year was held at the American Museum of Natural History on October 12, Professor Wilson acting as temporary chairman. As in former years, this first meeting after the long vacation was devoted to reports on scientific work carried on by members of the section during the summer. The following notes indicate the lines of the work of the members who reported.

Professor Bristol, in association with Professor Mark, of Harvard, directed the summer work at the Bermuda Biological Station. Dr. Hay was very successful in collecting in Wyoming materials for his studies of fossil turtles. Professor Osborn directed explorations in Wyoming, Nebraska and South Dakota in the interest of the American Museum of Natural History, securing much valuable material which supplements collections previously made. Professor Grabau collected in Michigan materials for continuation of his studies on Devonian faunas. Dr. Summer directed the Biological Laboratory of the United States Fish Commission at Woods Hole, Mass. Pro-

fessor Calkins studied the relation of Protozoa to cancer and smallpox. Professor Cramp-ton continued the accumulation of data relating to selection in Lepidoptera. Mr. Bigelow studied the early embryology of some crustaceans. Mr. Yatsu experimented on regulation and organization of nemertean eggs. Professor Wilson at Naples studied problems of localization and mosaic development of molluscan eggs.

M. A. BIGELOW,  
Secretary.

##### SECTION OF ASTRONOMY, PHYSICS AND CHEMISTRY.

At the meeting of the section on October 5, Professor Harold Jacoby and Dr. S. Alfred Mitchell exhibited a combined prismatic transit and zenith telescope. This instrument, just received by the Department of Astronomy of Columbia University, was made by Bamberg of Berlin. It includes all the latest observational devices, including an eye-piece of the Repsold pattern for the automatic registration of transit observations.

Dr. George F. Kunz and Dr. Charles Baskerville gave an exhibition of radium of 300,000 activity, with some notes on the action of the Roentgen ray, ultra-violet light and radium on mineralogical substances. This paper will be published elsewhere in SCIENCE.

S. A. MITCHELL,  
Secretary of Section.

#### DISCUSSION AND CORRESPONDENCE.

##### THE INTERNATIONAL CONGRESS OF ARTS AND SCIENCE.

TO THE EDITOR OF SCIENCE: I returned only a few days ago from Europe and, therefore, have not seen until now the letter of Professor Dewey in SCIENCE of August 28 and that of Professor Woodward in SCIENCE of September 4, both of which deal with the International Congress of Arts and Science and especially with my essay on that congress, published in the May number of the *Atlantic Monthly*.

Professor Woodward's document gives me hardly a chance for a reply, since I can not see that it contains an argument. It is only a general expression of his contempt, on principle, for every effort to classify sciences from