up the tube; near the critical volume the mist was very dense, especially near the middle; continuing to compress, the mist disappeared below, but became dense above; the clear part extended upwards, and the mist finally disappeared at the top of the tube. When observations were made during expansion the phenomena were very similar, except that the mist was usually lower down in the tube. (2) The limits of volume between which mist was visible were much the same for the four paraffins examined, about 1·17 or 1·18 to 0·87 or 0·88 (critical volume = 1·00). (3) At slightly higher temperatures the mist was much less dense and the range of volume more restricted. It seems probable that the position of maximum opalescence depends on the volume, but further investigation is desirable.

June 28.—"The Alcoholic Ferment of Yeast-juice. Part ii.—The Coferment of Yeast-juice." By Dr. Arthur **Harden** and W. J. **Young**. Communicated by Dr. C. J. Martin, F.R.S.

Experiments have been made on the nature of the dialysable, thermostable substance contained in yeast-juice, upon the presence of which the fermentation of glucose by yeast-juice depends, and to which the name coferment is provisionally applied. The inactive residue, obtained by filtration of yeast-juice through a Martin gelatin filter, has been prepared in a solid form, which is quite inactive when dissolved in glucose solution, but is rendered active by the addition of filtrate or of boiled yeast-juice. This solid retains its potential activity for a considerable time. When a *small* quantity of boiled yeast-juice is added to a solution of this inactive residue in 10 per cent. glucose, fermentation commences, and continues for a period varying with the amount of boiled juice added. The cessation of fermentation appears to be due to a change in the coferment, since the addition of a further quantity causes a repetition of the phenomenon.

PARIS.

Academy of Sciences, October 1.—M. H. Poincaré in the chair.—Remarks by M. **Berthelot** on his work entitled "Traité pratique de l'Analyse des Gaz."—Some new examples of Rosaceæ containing hydrocyanic acid: L. **Guignard**. In addition to the plants mentioned by the author in earlier papers on this subject, the names of twenty additional genera are given from which hydrocyanic acid has been obtained. The earlier experiments have also been made quantitative, and it has been found that the amounts of the acid obtainable depend on the age of the organs of the plant. The leaves nearly always furnish the highest proportion of prussic acid, and in certain cases the proportion is nearly as high as that given by the leaves of the cherry laurel.—The ravages of *Loxostega* (*Eurycreon*) *sticticalis* in the cultivation of beet-root of the Central Plateau: Alfred **Giard**. For some years this parasite has been well known in North America as a dangerous enemy of the beet. More recently it has caused great damage to beet culture in Russia, but France has hitherto escaped this pest. This year, possibly owing to the unusual dryness, it has taken firm hold of some regions of the Midi, in some districts more than 90 per cent. of the roots being affected. The author describes in detail the measures necessary to eradicate the parasite.—The periodic trajectories of electric corpuscles in space under the influence of terrestrial magnetism, with application to the magnetic perturbations: Carl **Störmer**.—The constituents of the alloys of manganese and molybdenum: G. **Arrivaut**. The preparation of alloys rich in molybdenum is difficult in the furnace, but easy when a suitable mixture of the oxides is reduced with aluminium. From the ingots thus obtained the compounds Mn_2Mo, MnMo, and $MnMo_2$ have been isolated.—Syntheses in the quinoline series. Dihydrophenylnaphthoquinoline dicarboxylic ester and its derivatives: L. J. **Simon** and Ch. **Mauguin**.—The existence of stable yeast forms in *Sterigmatocystis versicolor* and in *Aspergillus fumigatus*; and the pathogenic nature of the yeast derived from the latter type: G. **Odin**.—The "*fenêtre*" of the Plan-du-Nette and the geology of Haute-Tarentaise: W. **Kilian**.—A leakage between impermeable zones in calcareous subsoils: E. A. **Martel**.

DIARY OF SOCIETIES.

THURSDAY, OCTOBER 18.

CHEMICAL SOCIETY, at 8.30.—Presentation of the Longstaff Medal to Prof. W. Noel Hartley.—The Amino-dicarboxylic Acid derived from Pinene: W. A. Tilden and D. F Blyther.—The Preparation and Properties of Dihydropinylamine (Pinocamphylamine): W. A. Tilden and F. G. Shepheard.—Determination of Nitrates: F. S. Sinnatt.—The Nature of Ammoniacal Copper Solutions: H. N. Dawson.—Malacone, a Silicate of Zirconium containing Argon and Helium: S. Kitchen and W. G. Winterson.—The Relationship of Colour and Fluorescence to Constitution, Part i., The Condensation Products of Mellitic and Pyromellitic Acids with Resorcinol: O. Silberrad.—The Colouring Matters of the Stilbene Group, Part. iii.: A. G. Green and P. F. Crosland.—(1) Separation of $\alpha\alpha$- and $\beta\beta'$-Dimethyladipic Acids; (2) Action of Alcoholic Potassium Hydroxide on 3-Bromo-1 : 1-Dimethyl-hexahydrobenzene: A. W. Crossley and N. Renouf.—(1) The Compounds of Pyridine with Dichromates; (2) The Normal Chromates and the Unsaturated Character of the Chromate Radical: S. H. C. Briggs.—(1) Interaction of Succinic Acid and Potassium Dichromate, Note on a Black Modification of Chromium Sesquioxide; (2) Derivatives of Polyvalent Iodine; the Action of Chlorine on Organic Iodo-derivatives, including the Sulphonium and Tetra-substituted Ammonium Iodides: E. A. Werner.—(1) New Derivatives of Diphenol (4-4'-Dihydroxydiphenyl); (2) The so-called "Benzidine Chromate" and Allied Substances: J. Moir.—The Interaction of the Alkyl Sulphates with the Nitrites of the Alkali Metals and Metals of the Alkaline Earths: P. C. Rây and P. Neogi.

INSTITUTION OF MINING AND METALLURGY, at 8.—The Auriferous Rocks of India, Western Australia, and South Africa; M. Maclaren.—Sand Sampling in Cyanide Works: D. Simpson.—Treatment of the Precipitate and Manipulation of the Tilting Furnaces at the Redjang-Lebong Mine, Sumatra: S. J. Truscott.—A Combined Air and Water Spray: T. White.

FRIDAY, OCTOBER 19.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—*Discussion:* Railway-motor-car Traffic: T. H. Riches and S. B. Haslam.—*Paper:* Some Notes on the Mechanical Equipment of Collieries: E. M. Hann.

SATURDAY, OCTOBER 20.

ESSEX FIELD CLUB (at Epping).—Annual Fungus Foray—all day Meeting.—The Ecology of Fungi: George Massee.

CONTENTS.