

by treating with water and analysing the methane produced.—A delicate method for the detection of nickel in the presence of cobalt: **Z. Tchougaeff**. A direct comparison of the dimethylglyoxim reagent suggested by the author some years ago with the reagent recently proposed by M. Peczzi-Escot (ammonium molybdate) shows that the latter is much inferior in delicacy, and under certain conditions may also give rise to a precipitate with cobalt.—Syntheses in the camphor group. The complete synthesis of campholene: **G. Blanc**. The starting point of this synthesis is ethyl malonate, and the sodium derivative of this, treated with γ -bromodimethylbutyric ester, $\text{CH}_2\text{Br} \cdot \text{CH}_2 \cdot \text{C}(\text{CH}_3)_2 \cdot \text{CO}_2\text{C}_2\text{H}_5$, gives the ester of 1:1-dimethylbutane-1:4:4-tricarboxylic acid. This is saponified and the acid heated, giving $\alpha\alpha\delta$ -trimethyladipic acid, the anhydride of which, slowly distilled at the ordinary pressure, is converted into 1:1:4-trimethylcyclopentanone-5. This with magnesium methyl iodide gives the corresponding tertiary alcohol, and the latter spontaneously loses water on distillation, giving a hydrocarbon identical in boiling point, density, and refractive index with campholene from β -campholenic acid.—Sodium anilarsenite in syphilis: **Paul Salmon**. This substance is sold commercially under the name of atoxyl, and by its use comparatively large quantities of arsenic can be administered with comparative impunity. A physiological comparison of three commercial specimens, two amorphous, one well crystallised, showed that no appreciable differences could be detected. It was noteworthy that whereas in animals poisonous symptoms in the medulla were not infrequent, no such untoward effects were observed in man. Of 181 syphilitic subjects, only about 15 per cent. showed intolerance of the drug.—The causes of trypanolytic crises and relapses which follow: **A. Massaglia**. From experiments *in vitro* it is concluded that the crises are due to the formation of an anti-body in the blood of the animals infected by trypanosomes; a small number of the parasites escape destruction and grow accustomed to the action of the anti-body, and it is to these parasites which escape that the relapses are due.—The true accelerating action of sodium fluoride on the coagulation of milk by vegetable ferments: **C. Gerber**.—A preliminary sketch of the geology of Dahomey: **Henry Hubert**.—The displacements of the maxima of the positive and negative anomaly of gravity relatively to the configuration of the earth: **Giulio Costanzi**.

DIARY OF SOCIETIES.

FRIDAY, NOVEMBER 1.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Resumed discussion by Capt. H. R. Sankey on Prof. Bertram Hopkinson's paper on The Indicated Power and Mechanical Efficiency of the Gas-engine.

GEOLOGISTS' ASSOCIATION, at 8.—Conversazione.

MONDAY, NOVEMBER 4.

ARISTOTELIAN SOCIETY, at 8.—The Presidential Address on The Methods of Modern Logic and the Conception of Infinity: Rt. Hon. R. B. Haldane.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—The Determination of Indigotin in Indigo-yielding Plants: Cyril Berertheil and R. V. Briggs.—Analysis of Indigo (Part iii) and of the Dried Leaves of *Indigofera arrecta* and *Indigofera Sumatrana*: R. Gaunt, F. Thomas and W. P. Bloxam.

TUESDAY, NOVEMBER 5.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Address by the President, Sir William Matthews, K.C.M.G., and Presentation of Medals and Prizes awarded by the Council.

SOCIOLOGICAL SOCIETY, at 8.—The Evils of Cities: a Study of the Degeneration of Communities, and of the Deterioration of their Individuals: Prof. Geddes.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.15.—Presentation of the Huxley Memorial Medal to Dr. E. B. Tylor.—On Methods of Determining the Stature and taking other Measurements of the Living Person: Prof. D. J. Cunningham, F.R.S.

WEDNESDAY, NOVEMBER 6.

ENTOMOLOGICAL SOCIETY, at 8.—On some of the Butterflies of Tobago: Dr. G. B. Longstaff.—On a Large Series of Nycteribidæ (Parasitic Diptera) from Ceylon: Hugh Scott.

SOCIETY OF PUBLIC ANALYSTS, at 8.—Discussion on the Sealing of Samples.

THURSDAY, NOVEMBER 7.

ROYAL SOCIETY, at 4.30.—*Probable Papers*: The Effect of Pressure upon the Arc Spectra of Metals: W. Geoffrey Duffield.—The Diurnal Variation of Terrestrial Magnetism: Prof. A. Schuster, F.R.S.—The Electric Discharge in Monatomic Gases: F. Soddy and T. D. Mackenzie.—On the Measurement of Temperature in the Cylinder of a Gas Engine: Prof. H. L. Callendar, F.R.S., and Prof. W. E. Dalby.—Note on the Association of Helium and Thorium in Minerals: Hon. R. J. Strutt, F.R.S.

RÖNTGEN SOCIETY, at 8.15.—The Presidential Address, The Production

of High Frequency Oscillations, with Demonstrations: W. Duddell F.R.S.

LINNEAN SOCIETY, at 8.—The Origin of the Di-trimerous Whorls among Flowers of Dicotyledons: Rev. George Henslow.—Unrecorded Acari from New Zealand: Albert D. Michael.—On *Anigmatistes africanus*, a new Genus and Species of Diptera: R. Shelford.—*Exhibits*:—A copy of Hudson's "Flora Anglica," 1778, with numerous annotations by the Rev. William Kirby: Alexander Stevenson.—Abnormal Stem of *Eucalyptus salomonophloia*, F. Muell., from West Australia: Dr. A. B. Rendle.

CHEMICAL SOCIETY, at 8.30.—Gaseous Nitrogen Trioxide: H. B. Baker and Mrs. M. Baker.—The Atomic Weight of Tellurium: H. B. Baker and A. H. Bennett.—The Isomerism of the Double Sulphites of Sodium and Potassium: M. H. Godby.—Studies in the Camphane Series, Part xxiv, Camphoryldithiocarbamic Acid and Camphorylthiocarbimide: M. O. Forster and T. Jackson.—The Vapour Pressures of Triethylamine, of *syn*-Trimethylpyridine, and their Mixtures with Water: R. T. Lattey.—Liquid Triethylamine: R. T. Lattey.—The Action of Sulphuretted Hydrogen on Solutions of Sodium Hydrosulphite: F. S. Sinnatt.—The Alkyl Compounds of Gold. Diethylauric Bromide. Preliminary Note: W. J. Pope and C. S. Gibson.—Note on the Constitution of Homoiodictyol: F. B. Power and F. Tutin.—The Interaction of Methylene Chloride and the Sodium Derivative of Ethyl Malonate: F. Tutin.—Preparation of Aliphatic Nitro-compounds by the Interaction of the Alkyl Iodides and Mercurous Nitrite: P. C. Ray and P. Neogi.—Some Mercury Derivatives of Camphor: J. E. Marsh and R. de J. F. Struthers.—Contribution to the Chemistry of the Terpenes. II. The Oxidation of Limonene with Chromylchloride: G. G. Henderson.—The Synthesis of Acridines and Phenonaphthacridines: Tetra- and Hexa-methylacridines: Dimethylphenonaphthacridines: Dioxylmethylenediamines: A. Senier and A. Compton.

FRIDAY, NOVEMBER 8.

ROYAL ASTRONOMICAL SOCIETY, at 8.

MALACOLOGICAL SOCIETY, at 8.—Description of a New Species of Clathrella, probably from Ceylon: H. B. Preston.—On the Mollusca of Birket-el-Qurun, Egypt: C. A. Smith.—*Turbo granoliratus* (New Guinea); *Sistrum chrysalis*, *Purpura bougei*, *Natica bougei* (New Caledonia); *Urosalpinx walkeri*, *Litra walkeri* (N. W. Australia); *Amathea coxi* (Port Stephens); *Pitaria elata* (Sierra Leone); all new species: G. B. Sowerby.—Note on the Originals of the Illustrations for E. M. da Costa's "Historia Naturalis Testaceorum Britanniae," London, 1778: Alex. Reynell.

PHYSICAL SOCIETY, at 8.—Discussion on Mr. Campbell's Paper on the use of Variable Mutual Inductances.—A Graphic Method for Stream-lines and Equipotential Surfaces: L. F. Richardson.—On the Lateral Vibrations of Bars Supported at two Points with one end Overhanging: Dr. J. Morrow.

CONTENTS.

	PAGE
The Theory of Functions of a Real Variable. By G. H. H.	657
Liebig and Gusefeld. By T. E. T.	658
Botanical Works	659
Our Book Shelf:—	
Stroobant, Delvosel, Philippot, Delporte and Merlin: "Les Observatoires astronomiques et les Astromomes"	660
Gehrig, Helmkamp, Krausbauer and Stillecke: "Lese- und Lehrbuch für ländlich-gewerbliche Fortbildungsschulen."—E. J. R.	660
Bresson: "La Houille verte"	660
Letters to the Editor:—	
Transit of Mercury across the Sun's Disc, November 13-14, 1907.—Dr. A. M. W. Downing, F.R.S.	661
Origin of Radium.—Prof. E. Rutherford, F.R.S.	661
The Nature of X-rays.—Dr. Charles G. Barkla	661
On Correlation and the Methods of Modern Statistics.—Prof. Karl Pearson, F.R.S.	662
The Interpretation of Mendelian Phenomena.—Dr. G. Archdall Reid	662
Pagan Survivals and Christian Adaptations.—Rev. J. W. Hayes	663
The "Quaternary."—Dr. John W. Evans	663
The "Mauretania." By W. B. Hardy, F.R.S.	663
The Geological Succession in South Africa. By Dr. F. H. Hatch	664
The Romance of Photography. (Illustrated.) By C. J. M. Maurice Loewy	666
Notes	667
Our Astronomical Column:—	
Astronomical Occurrences in November	671
Comet Mellish, 1907e	671
The Transit of Mercury	671
The Perseid Meteors	672
A Rich Nebula Region	672
Rain-gauge Exposure and Protection. By L. C. W. Bonacina	672
Recent Developments in the Theory of Mimicry. By Dr. F. A. Dixey	673
University and Educational Intelligence	678
Societies and Academies	679
Diary of Societies	680