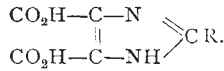
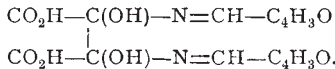


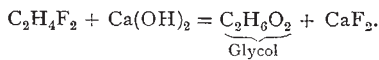
The undulations set up at the extremities of a receiver 1 metre long have been photographically registered by the side of time signals. The extremely accurate results obtained indicate that the method may be used for the study of the phenomena of the propagation of waves in conditions of gaseous condensation and temperature above those as yet investigated.—On the electrical resistance of bismuth in a magnetic field, by M. A. Leduc. The author develops a formula which allows the calculation of the resistance of a wire of bismuth placed in a magnetic field at a certain temperature, in terms of its resistance at 0° outside the field.—On the β -pyrazol-dicarboxylic acids, by M. Maquenne. Aldehydes react with dinitrotartaric acid in presence of ammonia, giving rise to monobasic acids which, on heating, form β -pyrazol-dicarboxylic acids of the general formula



Furfural does not act in the same manner, the body obtained being



The sugars with aldehyde reactions give no definite combination with nitrotartaric acid.—On a phenol acid derived from camphor, by M. P. Cazeneuve.—Note upon active amylic derivatives, by M. Philippe A. Guye.—On the saponification of halogen organic compounds, by M. C. Chabrié.—The author forms the fluorides by the sealed tube method, and saponifies these bodies by means of milk of lime, e.g.



A reaction of the halogen compounds with B_2O_3 is also indicated.—On a gaseous antiseptic, its action upon the pyrogenous bacteria of the urinary infection, by M. C. Chabrié.—On the fixation of gaseous nitrogen by the Leguminosæ, by MM. Th. Schloesing and Em. Laurent.—On the microbe of the nodosities of Leguminosæ, by M. Em. Laurent.—On some transitory characters presented by *Chelmo rostratus*, Linn., by M. Léon Vaillant.—On the sexual dimorphism of *Enterocola fulgens*, by M. Eugene Canu.—On the sexual differences of *Lepadogaster himaculatus*, Flem., by M. Frédéric Guitel.—On the antagonistic molecular forces which are produced in the cellular nucleus, and on the formation of the nucleiform membrane, by M. Ch. Degagny.—On the origin of the terraces (*rideaux*) in Picardy, by M. H. Lasne.

DIARY OF SOCIETIES.

LONDON.

THURSDAY, NOVEMBER 27.

ROYAL SOCIETY, at 4.30.—On the Homology between Genital Ducts and Nephridia in the Oligochaeta : F. E. Beddard.—The Patterns in Thumb and Finger Marks ; on their Arrangement into Naturally Distinct Classes, the Permanence of the Papillary Ridges that make them, and the Resemblance of their Classes to Ordinary Genera : F. Galton, F.R.S.—Preliminary Note on the Transplantation and Growth of Mammalian Ova within a Uterine Foster-Mother : W. Heape.—The Conditions of Chemical Change between Nitric Acid and Certain Metals : V. H. Veley.—The Variations of Electromotive Force of Cells consisting of Certain Metals, Platinum, and Nitric Acid : G. J. Burch and V. H. Veley.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Efficiency of Secondary Cells ; "On the Chemistry of Secondary Cells : Prof. W. E. Ayrton, F.R.S., and E. W. Smith.

FRIDAY, NOVEMBER 28.

PHYSICAL SOCIETY, at 5.—Notes on Secondary Batteries : Dr. Gladstone and W. Hibbert.—An Illustration of Ewing's Theory of Induced Magnetism : Prof. S. P. Thompson.

AMATEUR SCIENTIFIC SOCIETY, at 8.—Aquatic Microscopical Life (with Lantern Illustrations) : J. D. Hardy.

SUNDAY, NOVEMBER 30.

SUNDAY LECTURE SOCIETY, at 4.—The Natural Growth of Religion in India : Sir A. C. Lyall, K.C.B., K.C.I.E.

MONDAY, DECEMBER 1.

SOCIETY OF ARTS, at 8.—Gaseous Illuminants : Prof. Vivian B. Lewes.

ROYAL MICROSCOPICAL SOCIETY, at 8.—*Conversazione*.

VICTORIA INSTITUTE, at 8.—On the Geological History of Egypt : Prof. Hull, F.R.S.

ROYAL INSTITUTION, at 5.—General Monthly Meeting.

TUESDAY, DECEMBER 2.

ZOOLOGICAL SOCIETY, at 8.30.—On the Antelopes of Nyassa-Land ; Richard Crawshay.—On the Suspension of the Viscera in the Batoid Hypnos subnigrum : Prof. G. B. Howes.—Notes on the Pectoral Fin skeleton of the Batoidea and of the Extinct Genus *Chlamydoselache* : Prof. G. B. Howes.—On the Presence of Pterygoid Teeth in a Tailless Batrachian (*Pelobates cultripes*), with Remarks on the Localization of Teeth on the Palate in Batrachians and Reptiles : G. A. Boulenger.

ESSEX FIELD CLUB (at Loughton), at 7.—Some Notes on *Dipsacus sylvestris* and *D. pilosus* and their Natural Relationship : J. French.—The Butterflies of Essex : Edward A. Fitch.—The Land and Fresh-water Mollusca occurring in the Neighbourhood of Bishop's Stortford : Edwin G. Ingold.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Ballot for Members.—The Vibratory Movements of Locomotives : Prof. John Milne, F.R.S., and John McDonald. (Discussion).—The Sukkur Bridge at Benares : F. E. Robertson.—The New Chittravate Bridge, Madras Railway : E. W. Stoney.

WEDNESDAY, DECEMBER 3.

SOCIETY OF ARTS, at 8.—The Chicago Exhibition, 1893 : James Dredge.

ENTOMOLOGICAL SOCIETY, at 7.—On the Conspicuous Changes in the Markings and Colouring of Lepidoptera, caused by subjecting the Pupæ to Different Temperature Conditions : Frederic Merrifield.—Notes on the Lepidoptera collected in Madeira by the late T. Vernon-Wollaston : George T. Baker.—A Monograph of the Lycænoïd Genus *Hypochryps*, with Descriptions of New Species : Hamilton H. Druce.—The Life-History of the Hessian Fly : Frederick Enock.

THURSDAY, DECEMBER 4.

LINNEAN SOCIETY, at 8.—On the Genus of Orchid *Brownheadia* : H. N. Ridley.—On the Botany of Kandahar : J. H. Lacey.—Botanical Visit to Auckland Isles : Thos. Kirk.

CHEMICAL SOCIETY, at 8.—Ballot for the Election of Fellows.—On the Volumetric Estimation of Tellurium : Dr. Branner.

FRIDAY, DECEMBER 5.

GEOLOGISTS' ASSOCIATION, at 8.—Report on the Microscopical Examination of some Samples of London Clay from the Excavations for the Widening of Cannon Street Railway Bridge, 1887 : C. Davies Sherborn and H. W. Burrows.—A Short Visit to Ingletton and to Filey Brigg (showing how a Dangerous Reef was converted into a Perfect Breakwater by an Ancient Race) : Edwin Litchfield.

CONTENTS.

PAGE

The United States Census	73
Spiders' Webs. By O. P. C.	74
Mr. Basset's Elementary Treatise on Hydrodynamics and Sound. By A. E. H. L.	75
Lowne on the Blow-fly. By L. C. M.	77
Our Book Shelf:—	
Steel : "A Treatise on the Diseases of the Sheep"	78
Baker : "Wild Beasts and their Ways"	78
Tait : "Properties of Matter"	78
Ure : "Our Fancy Pigeons"	79
Cresswell : "Alexis and his Flowers"	79
Letters to the Editor:—	
Dr. Romanes on Physiological Selection.—Dr. Alfred R. Wallace	79
Attractive Characters in Fungi.—R. Haig Thomas ; W. ; M. H. M.	79
Doppler's Principle. (<i>With Diagram</i>).—R. W. Stewart	80
A Swallow's Terrace?—W. Warde Fowler	80
The Comb of the Hive-Bee.—Wm. Knight	80
Araucaria Cones.—William Gardiner ; James Shaw	80
The Genesis of Tropical Cyclones. By Henry F. Blanford, F.R.S.	81
The De Morgan Medal. By J. J. Walker, F.R.S.	83
A New Fossil Mammalian Fauna. (<i>Illustrated</i>). By R. L.	85
Notes	87
Our Astronomical Column:—	
A New Comet (?)	89
The Stars 121 and 483 Birm.	90
Apex of the Sun's Way	90
Orbits of 61 Cygni, Castor, and 70 Ophiuchi	90
Two New Comets (ϵ and f 1890)	90
The Star D. M. + 53° 2684	90
Matabeleland. By Lieutenant E. A. Maund	90
The Conference of Delegates of Corresponding Societies of the British Association	92
University and Educational Intelligence	94
Societies and Academies	94
Diary of Societies	96