

by the *pinya*, an armed party detailed by the council of headmen of the tribe to execute its sentences upon offenders. Other tribes, such as the Kurnai, use pieces of wood without any markings. Others, again, especially in Eastern Queensland, use message sticks extensively, which are often elaborately marked, highly ornamented, and even brightly painted. No messenger, who was known to be such, was ever injured. The message stick was made by the sender, and was kept by the recipient of the message as a reminder of what he had to do. For friendly meetings the messenger of Kurnai, of Gippsland, carried a man's kilt and a woman's apron hung on a reed; but for meetings to settle quarrels or grievances by a set fight, or for hostile purposes generally, the kilt was hung upon the point of a spear. Among the Wotjoballik of the Wimmera River in Victoria, the principal man among them prepares a message stick by making certain notches upon it with a knife. The man who is to be charged with the message looks on, and thus learns the connection between the marks upon the stick and his message. A notch is made at one end to indicate the sender, and probably notches also for those who join him in sending the message. If all the people of a tribe are invited to attend a meeting, the stick is notched from end to end; if part only are invited, then a portion only of the stick is notched; and if very few people are invited to meet or referred to in the verbal message, then a notch is made for each individual as he is named to the messenger. The messenger carried the stick in a net-bag, and on arriving at the camp to which he was sent, he handed it to the headman at some place apart from the others, saying to him, "So-and-so sends you this," and he then gives his message, referring, as he does so, to the marks on the message stick. The author gives an explanation of the method adopted for indicating numbers, which fully disposes of the idea that the paucity of numerals in the languages of the Australian tribes arises from any inability to conceive of more numbers than two, three, or four. A messenger of death painted his face with pipe-clay when he set out, but did not in this tribe carry any emblematical token. Among the Wirajuri of New South Wales, when the message was one calling the people together for initiation ceremonies, the messenger carried a "bull-roarer," a man's belt, a man's kilt, a bead string, and a white head band, in addition to the message stick. In New South Wales, the Kaiabara tribe use message sticks cut in the form of a boomerang, to one end of which a shell is tied. As a rule the notches on a message stick are only reminders to the messenger of the message he is instructed to deliver, and are unintelligible to a man to whom they have not been explained; but certain notches appear to have a definite meaning and to indicate different classes; and among the Adjadura there is an approach to a fixed rule, according to which these sticks are marked, so that they would convey a certain amount of meaning definitely to an Adjadura headman independently of any verbal message.

Mathematical Society, December 13.—J. J. Walker, F.R.S., President, in the chair.—Dr. Glaisher, F.R.S., communicated a geometrical note by Mr. H. M. Taylor.—Mr. Love read a paper on the equilibrium of a thin elastic spherical bowl.—The President (Prof. Greenhill, F.R.S., in the chair) contributed some illustrations of a former paper on a method in the analysis of ternary forms.—The Secretary read an abstract of a paper on a method of transformation with the aid of congruences of a particular type, by Mr. J. Brill.

EDINBURGH.

Royal Society, December 3.—Sir Douglas Maclagan, Vice-President, in the chair.—The Chairman gave an opening address.—Dr. John Murray communicated a paper by Mr. H. B. Brady on the Ostracoda collected in the South Sea Islands. One fresh-water specimen obtained in New Zealand is described. The rest were collected between the tide-marks or at depths of not more than 6 fathoms. The internal structure is not described, as the specimens were preserved in the dry state. Fifty new species and two new genera occur.—Dr. Murray communicated also a paper by Dr. O. von Linstow on *Pseudalium alatus*, Leuck., collected by Mr. Robert Gray in the Arctic Seas, and other species of the genus. A detailed description of this Entozoon is given, it having been only once previously described, and that imperfectly. Six other species of the same genus are described.—Prof. Patrick Geddes read the first part (botanical and zoological) of a restatement of the theory of organic evolution. He drew attention to the two tendencies—vegetative and repro-

ductive—which exist in organic nature, and asserted that evolution is the result of the universal subordination of the former to the latter.

STOCKHOLM.

Royal Academy of Sciences, December 12.—Contributions to our knowledge of the habits of solitary wasps, by Prof. Chr. Aurivillius.—On the singular points of such functions as are defined by non-linear differential equations, by Prof. Mittag-Leffler.—On the influence of the woods on the climate of Sweden, by Dr. Hamberg.—Singular generatrices in algebraic rule surfaces, by Prof. Björling.—On the systematic value of the varieties of herring, by Prof. F. A. Smitt.—On dinitro-naphthalin-sulphon acid and some of its derivatives, by Herr P. Hellström.—On naphthoë acids, by Dr. Ekstrand.—On the action of fuming sulphuric acid on amido-naphthalin-sulphon acids, by Herr Forsling.—On the structure of the auricles in the *Echinococon idæ*, by Prof. S. Lovén.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Puff: Mrs. Macquoid (S.P.C.K.)—Rides and Studies in the Canary Islands: C. Edwardes (Unwin).—Elementos de Estadística Gráfica: J. Schloske, traducidos del Alemán por V. Balbin (Buenos Aires).—Tratado de Geometría Analítica: J. Casey; traducido del Inglés por V. Balbin (Buenos Aires).—Carl von Linné's Ungdomsskrifter, 1, 2 (Stockholm).—Challenger Report—Zoology, vol. xxviii. (Eyre and Spottiswoode).—Elementary Building Construction and Drawing: E. J. Burrell (Longmans).—Atlas of Chemistry, part 1: V. V. Branford (Edinburgh, Livingstone).—Visitors' Guide to Salem (Salem, Mass.).—Bibliography of Astronomy for the Year 1887: W. C. Winlock (Washington).—The Beginning of American Science—The Third Century: G. Browne Goode (Washington).—On the Variation of Decomposition in the Iron Pyrites, 2 parts: A. A. Julien.—Journal of the Royal Microscopical Society, December (Williams and Norgate).—Essex Institute Historical Collections, vol. xxiv., January to December 1887 (Salem, Mass.).—Botanische Jahrbücher für Systematik Pflanzengeschichte, und Pflanzengeographie, Zehnter Band, iv. Heft (Williams and Norgate).—Journal and Proceedings of the Royal Society of New South Wales, vol. xxii, part 1 (Trübner).—Beiblätter zu den Annalen der Physik und Chemie, 1888, No. 11 (Leipzig).—Transactions of the Leicester Literary and Philosophical Society, October (Leicester).—The Encyclopædic Dictionary, vol. vii, part 2 (Cassell).—Catalogue of the Marsupialia and Monotremata in the Collection of the British Museum, Natural History (O. Thomas, London).—Die Mechanik in Ihrer Entwicklung: Dr. E. Mach (Brockhaus, Leipzig).—Year-book of Pharmacy, 1888 (Churchill).—Les Stations de l'Age du Renne, fasc. 1 (Baillièze et Fils, Paris).—Prace Matematyczno-Fizyczne, tom. 1. (Warszawa).

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