

the Katawas live in a country sufficiently open and level to admit of their becoming good horsemen. The Samus number some five or six hundred families, and live at the upper end of the Pech Dara. They are described as a merry people, given much to dancing, singing, music, and wine-bibbing. At their meals they sit in a circle and eat sedately, and with dignity, the silver wine goblet placed in a stand conveniently near being passed round the company from time to time. They shake hands in the English fashion. The women tie up the hair with a silver band. Long massive silver chains presented by the tribe are worn over the shoulders of warriors who have deserved well of their clan. Their religion is simple; the men invoke the aid of their gods in battle, vowing offerings if they are successful in the fight, and these offerings are stored up in the temples. The Kafirs are being continually encroached upon by the surrounding Afghans. Raids on a large scale are constantly made into their mountain valleys, partly to secure the women as slaves, and partly by fanatical Mohammedans on religious grounds."

A Visit to the Galapagos Islands in H.M.S. "Triumph," 1880, by Capt. Markham.—Capt. Markham gives an account of a visit he paid to the Galapagos Islands on board H.M.S. *Triumph*, in the beginning of the present year. The Admiralty chart, compiled from a rough survey made nearly half a century ago, is not very accurate, so that it was not safe for a large ironclad like the *Triumph* to extend the cruise in the numerous channels between the islands. Her visit was therefore confined to Post Office Bay in Charles Island, and the paper records the observations that were made during several inland excursions.

The Galapagos Islands, being 600 miles from any other land, have a peculiar fauna, and Capt. Markham devoted all the time at his command to the collection of birds, skins, insects, and shells. These specimens have been placed in the hands of Mr. Salvin, and it is anticipated that they will form an addition to our knowledge of the natural history of this isolated archipelago.

In our report of Mr. Weldon's paper, read before the Chemical Section of the British Association, it is stated:—"Molecular heats of formation of elements of the same group divided by the atomic volumes of the electro-negative elements give numbers either identical with, or bearing some simple relation to, each other." This should read:—"Molecular heats of formation of compounds of positive elements of the same group with the same electro-negative element, divided by the atomic volumes of the positive elements, give quotients either identical with, or bearing some simple relation to, each other. Thus:—

Mol. heat of formation of PbCl ₂ , PbBr ₂ , PbI ₂ , PbO	Mol. heat of formation of Cu ₂ Cl ₂ , Cu ₂ Br ₂ , Cu ₂ I ₂ , and Cu ₂ O
Atomic volume of Pb	Atomic volume of Cu
: : 1 : 1.	

SCIENTIFIC SERIALS

Rivista Scientifico-Industriale, No. 13, July 15.—Water in alcoholic fermentation, by Prof. Pasqualis.—On animals which exhale an odour of musk.—New observations and note on Crookes' apparatus, by Prof. Serpieri.—On automatic geodetic instruments, by Prof. Vecchi.

American Journal of Science, July.—Contributions to meteorology, by E. Loomis.—Geological relations of the limestone belts of Westchester county, New York, by J. D. Dana.—Observations on Mount Etna, by S. P. Langley.—Antiquity of certain subordinate types of freshwater and land mollusca, by C. A. White.—Description of a new position micrometer, by L. Waldo.—Boltzman's method for determining the velocity of an electric current, by E. II. Hall.—Mineralogical notices, by C. U. Shepard.—Improvement in the Sprengel pump, by O. N. Rood.

SOCIETIES AND ACADEMIES
PARIS

Academy of Sciences, September 6.—M. Wurtz in the chair.—The following papers were read:—Researches on basic salts and on atacamite, by M. Berthelot.—Contributions to the history of ethers, by the same.—On the etiology of anthracoid affections, by M. Pasteur. He cites some facts in support of his theory. On a spot in a meadow where an anthracoid cow had

been buried in 1878, a small enclosure was formed, and four sheep put in it; in another enclosure, a short way off (3m. or 4m.), four other sheep. In seven days one of the former set died of the disease; none of the latter set were affected. (Germs of *charbon* had been found on the ground over the buried cow, but not a few metres off.) M. Pasteur differs from M. Toussaint's opinion that acute septicæmia is identical with chicken cholera.—M. Bouley gave some account of recent experiments of M. Toussaint, apparently showing the efficacy of preventive inoculation of sheep and rabbits against *charbon* by his method. He hopes that once preventive inoculation has become practical, it will be possible to make, not races, but generations, refractory to the disease, by inoculating the mothers during the last period of gestation.—Planet (217), discovered by M. Coggia at the Observatory of Marseilles, on August 30, 1880, by M. Stephan.—On the part taken by Claude Jouffroy in the history of the applications of steam, by M. de Lesseps. This refers to a regret expressed by the granddaughter of the inventor that M. de Lesseps had not, at the inauguration of Papin's statue, recalled the services of Jouffroy, who, in 1783, invented the pyroscaph, which steamed on the Saone sixteen months, making two leagues per hour. M. de Lesseps had thought it his rôle only to recall the inventions anterior to Papin, and those of Papin himself.—The enemies of the gallicolar phylloxera, by M. Coste.—Observations of solar protuberances, faculæ, and spots, during the first half of 1880, by P. Tacchini. The increase of solar activity is evident. The observations as to distribution agree well with those of previous quarters. The maximum of frequency of groups of faculæ is nearer the equator than that of protuberances. There are more groups of faculæ in the north than in the south hemisphere (nearly double the number); the protuberances are equally distributed in the two hemispheres. The maximum of frequency of spots and faculæ is produced in the same zones in the two hemispheres.—On the law of magneto-electric machines, by M. Joubert.—On the variations of fixed points in mercury thermometers, and on the means of taking account of them in estimation of temperatures, by M. Pernet. He confirms M. Crafts' views, and gives a formula for calculating the minima of zero, &c. He states that he can restrict to $\frac{1}{100}$ of a degree for several hours the variations of zero in a thermometer whose zero has undergone a depression of 0°·8 C. after determination of the 100° point.—On borodecitungstic acid and its salts of sodium, by M. Klein.—Inoculation of the rabbit with glanders; destruction of the virulent activity of the matter of glanders by desiccation; transmission of glanders by inoculation with the saliva, by M. Galtier. This points to the possibility of healthy cavalry horses being contaminated by drinking from the same trough with horses in which the disease is present in a latent state. M. Larrey called attention to a disease that was once very common in the army, where soldiers ate out of a common poiringer; it is an inflammatory and ulcerous affection of the mouth. The disease disappeared after the practice was given up in 1852.

CONTENTS

	PAGE
THE TOOTHED BIRDS OF KANSAS	457
THE THEORY OF DETERMINANTS	458
LETTERS TO THE EDITOR:—	
The Stone in the Nest of the Swallow.—CHATEL	459
A Peat Bed in the Drift of Oldham.—JAS. NIELD	460
On the Asiatic Alliances of the Fauna of the Congenian Deposits of South-Eastern Europe.—T. R. J.	460
Prosopistoma punctifrons.—R. MCLACHLAN	460
Mosquitoes.—M. A. VEEDER	460
Hardening of Steel.—T. W. GILTAY	461
THE NEW ZEALAND INSTITUTE	461
ALBERT J. MYER	462
PHYSICS WITHOUT APPARATUS, V. (With Illustrations)	462
NOTES	464
OUR ASTRONOMICAL COLUMN:—	
Faye's Comet	466
Schaberle's Comet (1880, April 6)	467
Swift's New Comet	467
The Binary Star 85 Pegasi	467
GEOGRAPHICAL NOTES	467
THE FRENCH DEEP-SEA EXPLORATION IN THE BAY OF BISCAY. By J. GWYN JEFFREYS, LL.D., F.R.S.	468
THE SHOWER OF AUGUST PERSEIDS, 1880. By W. F. DENNING	470
INTERNATIONAL METEOROLOGY	471
AGRICULTURAL CHEMISTRY. By J. H. GILBERT, Ph.D., F.R.S.	472
THE BRITISH ASSOCIATION:—	
Reports	476
Section A—Mathematical and Physical	475
Section D—Biology	477
Section E—Geography	479
SCIENTIFIC SERIALS	480
SOCIETIES AND ACADEMIES	480