

probably a secondary action since after large doses the vaso-motor centre becomes involved.

3. In ascending the chinoline series, the physiological action changes in character, the lower members seeming to affect the sensory encephalic centres and the reflex centres of the cord, destroying voluntary and reflex movement; the higher members seeming to affect chiefly the motor centres, causing violent convulsions, and afterwards paralysis.

4. Speaking of these series of bodies, the mere knowledge of the constituent elements of a body is no guide to its physiological action.

5. Speaking of these series of bodies, the base, and not the acid with which it may happen to be united, determines within slight limits, the physiological character of the compound.

6. The union of methyl, ethyl, amyl, and allyl with chinoline does not entirely change its characteristic mode of action, but their presence causes a tendency to spasm and convulsion. Also in the case of the pyridine and picoline substitution compounds, increase of molecular complexity and weight does not indeed entirely change the mode of action of the simpler compound, but is always attended by a tendency to spasm and convulsion.

7. When the bases of the pyridine series are doubled by condensation, producing polymers such as dipyridine, &c., they not only become more active physiologically, but the mode of action of the condensation product differs from that of the simpler base.

Saturday was entirely taken up by excursions into the surrounding counties, Lancashire, Cheshire, and Derbyshire.

Throughout the week facilities were given to members of the Association to visit the various hospitals, libraries, manufactories, and buildings of interest in the town and neighbourhood.

#### OUR BOOK SHELF

*Jainism; or, the Early Faith of Asoka.* By E. Thomas, F.R.S. (London: Trübner and Co., 1877.)

THIS is a book which will be of great interest to orientalists and students of the science of religion and is likely to occasion a good deal of controversy. It embodies two articles published by the author in the *Journal* of the Royal Asiatic Society, the first of which endeavours to show that the Greek monograms on Bactrian coins represent dates, the hundreds being omitted in imitation of the Hindu *loka kala*, or as when we write '77 for 1877. The dates, Mr. Thomas thinks, refer to the Seleucid era (B.C. 312), and we are therefore able to place the Indo-Scythian dynasty of Kanishka, whose monuments at Mathurâ have recently been discovered, from B.C. 2 to A.D. 87. The second article challenges the usual opinion that Jainism is a late corrupt form of Buddhism and seeks to prove that Buddhism itself was originally a Jainist sect and that Asoka, the Constantine of India, was a Jainist before he was a Buddhist. His grandfather, Chandra Gupta or Sandracottus, is claimed by the Jainists, and their claim is supported by the testimony of Megasthenes; according to Abûl Fazl, Asoka himself introduced Jainism into Kashmir, and the gradual passage of his belief from Jainism to Buddhism may be detected in his rock and pillar edicts. The Bhabra edict, late in his reign, first contains positive Buddhism, and his earlier Jainist title of *Devânampiya* or "beloved of the gods," is dropped as incompatible with a creed which denied the existence of any God at all. The Mahâwanso has allowed a reference to "the twenty-four supreme Buddhos"—the number of the Jainist saints—to remain in its text, and the symbols of the Buddhas are borrowed from their Jainist prototypes. The existence of Jainism at the beginning of the Christian era is proved by the recent discoveries at Mathurâ, where the figures are nude as among the Jainists, not clothed as among the Buddhists, and the Kanishka coins lately found at Peshâwar are further evidence of Saivism and the worship of many deities, Indian, Persian, Greek, and even Roman, but not of atheistic Buddhism. It may be added that Mr. Thomas

believes that in these Kanishka coins we have evidence of the soldiers of Crassus having been settled in the extreme north-west of India.

#### LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications. The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

##### Rainbow Reflected from Water

ON Monday last, August 6, at 7 P.M., I was standing at the end of Eastbourne Pier looking towards the sea. Behind me the sun was low on the horizon but shining brightly, overhead and out to sea rain was falling from somewhat broken masses of clouds. In front a brilliant rainbow formed a complete semi-circle, the two ends apparently resting on the sea, and outside the principal bow the secondary arc was shining with considerable intensity. The sea was calm, but its surface was by no means glassy, being ruffled over with minute wavelets. Reflected from the surface of the sea, and extending in a broken curved line from the extremities of the rainbow nearly up to the pier, was a complete reproduction of the colours in the sky; the reflection, bearing in mind the ruffled surface of the water, being perfect. Not only were the colours of the primary bow reproduced, but a faint reflection of the secondary bow could be detected, whilst the dark space between the two bows, and the luminous haze which always extends for some distance from the concave edge of the primary bow, were distinctly reproduced.

The intensity of the reflected image was, as near as I could judge, one-fourth that of the actual bow. Near the horizon when the real and reflected arcs seemed to touch, there was a decided displacement of the colours, as if the diameter of the reflected bow was somewhat less than that of the original. In other words, the reflected red was not accurately in line with the red in the real bow, but appeared to line with the yellow, whilst the yellow of the reflected arc seemed a continuation of the green in the actual rainbow.

I regret that I had no polarising apparatus with me.

August 8

WILLIAM CROOKES

##### Science Lectures in London

IT has occurred to me, while reading some lectures given in Glasgow and Manchester, that were such lectures given in London during the winter months, they would confer a great boon upon a large number of people.

Perhaps, Sir, if you were to propose such a thing through the medium of your valuable paper, some might be found to bring about such a result, as I believe no difficulty would be found in forming a society such as the Glasgow Science Lecture Association.

I hope some abler pen will be found to take up the subject.

Herne Hill, August 7

L. JEANS

##### Strange Dream Phenomenon

I HAVE just experienced almost as remarkable a coincidence as those adduced by Sir W. Hamilton to prove the activity of consciousness even in sleep.

I had not been to rest for forty-one hours, and was overcome by sleep while in the act of writing a short diary I am in the habit of keeping. During the time I was asleep, I dreamed of some house property in Brighton, a dream purely fictitious and very remote from anything I had previously thought of. Awakening in a short time (scarcely a minute), I found myself still writing; and on further examination I discovered that I had, following the current of my thoughts, written as much of my dream as time had allowed.

J. VINCENT ELSDEN

##### Edelweiss

As an old Alpine man, let me say that Edelweiss is not localised in any part of the Alps; I have found plenty of it at far less altitudes than the natives sometimes try and make awe-stricken tourists believe.