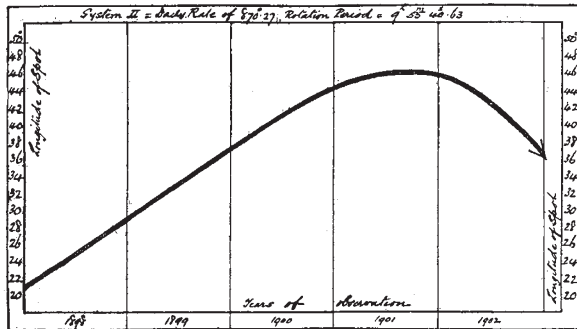


The table shows that the "very good" and "good" nights, taken together, included little more than one-fourth of the aggregate number of observations during which the state of definition was recorded.

Though frequently marred by bad atmospheric conditions, a number of very interesting formations were visible on the planet in 1902. Perhaps the most noteworthy feature of the opposition was the very marked acceleration which occurred in the rate of motion of the great red spot. The longitude of this marking in April, 1902, was  $46^\circ$ , but early in January, 1903, it had declined to  $37^\circ$ , and the resulting mean rotation period during about eight months was 9h. 55m. 39s., or 3 seconds less than the period in 1899, when it was nearly 9h. 55m. 42s. The following diagram will exhibit the changes in the longitude of the spot during the last five years:—



The equatorial region of Jupiter was very brilliant during the past opposition, and the interval separating the dark belts on either side of it seemed filled with glowing material. The usual dark and white spots were distributed along the north side of the south equatorial belt, and the mean rotation period of these was found to be 9h. 50m. 26s. 7, or about  $2\frac{1}{2}$  seconds less than last year. The observations indicate that this equatorial current became rather suddenly accelerated towards the close of the opposition. It will therefore be rather important to determine its rate as early as possible in the ensuing spring, when Jupiter reappears in the morning sky. It will also be interesting to observe the position of the red spot in order to find whether the recent marked increase in its motion has been maintained.

W. F. DENNING.

#### SOCIETY FOR PSYCHICAL RESEARCH.

SIR OLIVER LODGE, in the course of his address before the Society for Psychical Research on Friday last, said that a few friends who desired to remain anonymous had started an endowment fund, amounting at present to 2000*l.*, in order to set the Society upon a sound and permanent basis, and in order to provide the material means of attacking the problems which the future might bring before them. As soon as a capital sum of 8000*l.* had been attained, it was proposed to offer a research scholarship in psychical science, to which a holder, irrespective of sex or nationality, might be appointed for one year and from year to year as might seem good, his or her time to be devoted to the work of psychical investigation. When practical benefits could be definitely foreseen, people felt justified in spending money even on science, though as a rule that and education were things on which they were specially economical.

And why should not psychical investigation lead to practical results? Were we satisfied with our treatment of criminals? Were we, as civilised people, content to grow a perennial class of habitual criminals and to keep them in check only by methods appropriate to savages—hunting them, flogging them, locking them up and exterminating them? Any savage race in the history of the world could do as much as that, and if they knew no better, they were bound to do it for their own protection. Society could not let its malefactors run wild any more than it could release its lunatics. Until it understood these things, it must lock them up; but the sooner it understood them the better. Force was no remedy; intelligent treatment was. Who could doubt but that a study of obscure mental facts would

lead to a theory of the habitual criminal, to the tracing of his malady as surely as malaria had been traced to the mosquito? And, once we understood the evil, the remedy would follow. It was unwise and unscientific to leave prisoners merely to the discipline of warders and to the preaching of chaplains. That was not the way to attack a disease of the body politic. He had no full-blown treatment to suggest, but he foresaw that there would be one in the future. Society would not be content always to go on with these methods of barbarism; the resources of civilisation were not really exhausted, though for centuries they had appeared to be. The thing demanded careful study on the psychical side, and it would be a direct outcome of one aspect of their researches. The influence of the unconscious or subliminal self, the power of suggestion, the influence of one mind over another—these were not academic or scientific facts alone; they had a deep practical bearing, and sooner or later it must be put to the proof.

They sought to unravel the nature and hidden powers of man; and a fuller understanding of the attributes of humanity could not but have some influence on our theory of divinity itself. If any scientific society was worthy of encouragement and support, it should surely be that. If there was any object worthy the patient attention of humanity, it was surely these great and pressing problems of whence, what and whither that had occupied the attention of prophet and philosopher since time was. The discovery of a new star, or a marking in Mars, or of a new element, or a new extinct animal or plant was interesting. Surely the discovery of a new human faculty was interesting too? Already the discovery of telepathy constituted the first fruits of that society's work, and it had laid open the way to the discovery of much more. Their aim was nothing less than the investigation and better comprehension of human faculty, human personality and human destiny.

#### THE MEXICAN AXOLOTL.

WHEN I was in Mexico during the last summer, I naturally paid attention to the Axolotl question, a problem which in spite of, or perhaps because of, the various articles written on this subject has remained in a state of confusion. I am now able to make statements which will afford a solution.

In the normal course of events, *Amblystoma* spawns in the water and the larvæ metamorphose into the entirely lung-breathing, terrestrial creature which alone is sexually ripe.

*A. tigrinum*, the image of the Axolotl, has a wide distribution, ranging from New York to Colorado and to the valley of Mexico. Velasco,<sup>1</sup> received metamorphosing larvæ of the typical *A. tigrinum* from the little lake Santa Isabel, near Guadeloupe, about five miles north of the capital. There is no reasonable doubt that this species occurs in the perfect form in various other parts of the valley of Mexico, for instance, around Lake Zumpango. A sure sign of the approaching metamorphosis is the appearance of large yellow, irregular patches on the surface, which is at first uniformly dark. By some individuals, this adult coloration is assumed early, when the larvæ are less than half grown; in others it is delayed.

There are various places in Mexico and in the United States where not all the larvæ metamorphose. Some remain more or less uniformly dark, retain their gills and fins, but become sexually ripe. Such typical Axolotl occur side by side with metamorphosing and with metamorphosed specimens. Examples:—The Natural History Museum at South Kensington possesses a gravid female, a big typical Axolotl from Anclan, Jalisco; from the same locality are four half-grown larvæ which have assumed the tiger spots, a sure sign of approaching metamorphosis. There are further, from St. Mary's Lake, Estes Park, Colorado, 7400 feet altitude, two full-grown perennibranchiate males in breeding condition and one big female. Lastly, from the Cumbre de los Arrastrados, Jalisco, 8500 feet, there are several young larvæ of the unmistakable spotted type, and one large male larva which is dark and spotless and with all the appearance of not going to change.

In a few favoured localities, none of the larvæ change into the complete *Amblystoma*, but propagate as permanent Axolotl. This applies to that clan of *Amblystoma tigrinum* which inhabits some of the lakes near Mexico City. It is well known

<sup>1</sup> *La Naturaleza*, vol. iv. (1879), pp. 209–233, pls. vii.–ix.; cf. also Spengel, who gives a much condensed *résumé* with remarks upon Velasco's paper, *Biolog. Centralblatt*, vol. ii. (1882), pp. 86–83.