

A Proposed Revival of Spinal Anæsthetization.

A distinguished European surgeon is now visiting New York. The gentleman is Prof. Jonnesco, of the University of Bucharest, and his mission is to demonstrate the value of surgical anæsthesia without loss of consciousness. The procedure which he is understood to advocate is that of injecting into the spinal canal a solution of stovaine and strychnine. The demonstrations which he has thus far given in New York have been highly satisfactory, and it is felt that he has made great advances in the technique of spinal anæsthetization. Nevertheless, there is really nothing new in his method.

The synthetic compound known as stovaine has for several years been recognized as an efficient local anæsthetic, and, moreover, it has been used to some extent within the rhachidian canal. There is, too, no novelty about Prof. Jonnesco's procedure even in the addition of strychnine to the solution employed, for Dr. J. Leonard Corning, of New York, who first employed spinal anæsthetization, used strychnine with cocaine experimentally more than twenty years ago. If the high point at which the injection is given is regarded as a novelty, let him who so regards it remember that, as early as in 1899, Dudley Tait had made injections between the sixth and seventh cervical vertebræ. Prof. Jonnesco's main achievement seems to us to lie in the fact of his nice adjustment of doses to individual cases.

It must not be forgotten that the danger incident to spinal anæsthetization is not the sole cause of the comparative desuetude into which the practice has fallen; there are in many cases grave objections to the very existence of anæsthesia without loss of consciousness, though there are a few surgeons who still push the use of local anæsthetics beyond what seem to us to be the bounds of reason. Local anæsthesia in its proper sphere is unquestionably a boon, for general anæsthetization has not yet been freed of all drawbacks. Nevertheless, it appears to us that, for all but minor operations, the embarrassment which may arise in consequence of a patient's consciousness must often outweigh those drawbacks.

Prof. Jonnesco is properly meeting with a fair hearing, but we must deprecate the newspaper notoriety with which his mission has thus far been attended, though it has been mild in comparison with what has sometimes accompanied the exploitation of similar undertakings. Its tendency is chiefly harmful by reason of its leading the public to expect the impossible and to insist upon imposing its own inferences upon surgeons who undertake major operations. It is manifest that such a state of things is not only undesirable, but positively detrimental to the satisfactory practice of surgery.—New York Medical Journal.

Fraud in Electric Lamps.

English technical journals have been warning purchasers of incandescent electric lamps against swindlers who install lamps which purport to contain metallic filaments but which soon prove to be very short-lived carbon filament lamps. The lamps, when first installed, give a brilliant light and appear to be very economical, as tested with the agent's ammeter, but the bulbs soon become blackened, the luminosity diminishes, and in a short time the lamps break—often breaking the insurance also. They are simply ordinary carbon filament lamps, overloaded. When an incandescent lamp is subjected to a voltage higher than that for which it is designed, it gives a very brilliant white light, and, on the other hand, the light becomes weak and reddish if too low a voltage is employed. The swindle is operated by putting, for example, 150-volt lamps on a 200-volt circuit. The overload of 50 volts accounts both for the initial brilliancy and for the short life of the lamps. Bulbs of ground glass are employed, so that the purchaser cannot see the alleged metallic filaments.

Continued Ephemeris of Halley's Comet.

A letter has been received at Harvard Observatory from Father G. M. Searle, C.S.P., of New York, giving the following "Continued Ephemeris of Halley's Comet. T assumed to be Apr. 19 d. 692 G. M. T."

Gr. Mean Noon.	R. A. (1910.0)	Dec.	Log. Δ	Br.
1910.	h. m. s.	Deg. M.	(Sept. 11 = 1.)	
February 3.....	1 0 25	+ 8 16.2		
February 5.....	0 57 43	8 11.5	0.243	20
February 7.....	0 55 10	8 7.5		
February 9.....	0 52 46	8 4.0	0.252	21
February 11.....	0 50 29	8 1.0		
February 13.....	0 48 19	7 58.7	0.260	22
February 15.....	0 46 15	7 56.9		
February 17.....	0 44 17	7 55.5	0.267	24
February 19.....	0 42 24	7 54.5		
February 21.....	0 40 36	7 53.8	0.270	25
February 23.....	0 38 52	7 53.5		
February 25.....	0 37 11	7 53.6	0.275	27
February 27.....	0 35 33	7 53.8		
March 1.....	0 33 57	7 54.3	0.278	30
March 3.....	0 32 23	7 54.9		
March 5.....	0 30 51	+ 7 55.8	0.278	33

THE PHASES OF VENUS.

BY PROF. FREDERIC R. HONEY, TRINITY COLLEGE.

The present time offers an excellent opportunity for observations of Venus, which is now evening star, and may be seen for some time after sunset. The planet is daily approaching the earth, and increasing in brilliancy.

With the exception of Mercury, no other planet presents as great a variety of phases; but Mercury's diameter is not much more than three-eighths that of Venus, and on account of Mercury's greater distance from the earth at inferior conjunction, the apparent diameter is not as variable as that of the more

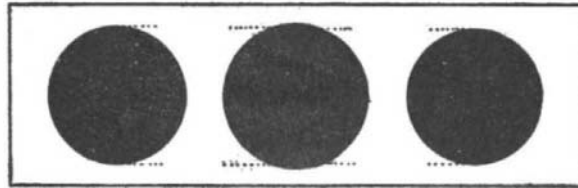


Fig. 1.—APPARENT DIAMETERS OF VENUS AT CONJUNCTIONS OF 1908, 1910 AND 1911.

brilliant planet. While Mercury is rarely seen, owing to his proximity to the sun, Venus as evening star is visible after sunset, for several months; and again for several months as morning star, she is visible before sunrise, no other planet approaching as near the earth.

The mean distance between the earth and Venus at inferior conjunction is about twenty-six million miles, with a variation mainly dependent upon the position of the earth in its orbit. The eccentricity of the orbit of Venus is less than that of any other planet, and is barely visible in the plot. It is less than one-

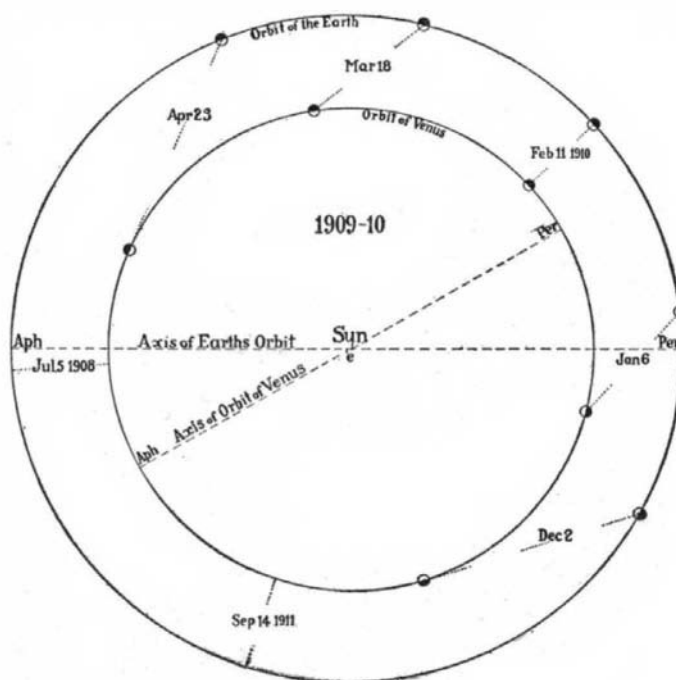


Fig. 2.—THE ORBITS OF VENUS AND THE EARTH.

third of *e*, the linear eccentricity of the earth's orbit, which is a little over one and a half million miles.

The last inferior conjunction occurred on July 5th, 1908, when the earth was near aphelion, and the distance between the planets was very nearly twenty-seven million miles. The next inferior conjunction will occur on February 11th, 1910, when the distance will be reduced to twenty-five and one-third million miles. The interval between inferior conjunctions is about one year and seven months. That of 1911 will occur on September 14th, when the distance between the earth and Venus will be nearly twenty-six and a



Fig. 3.—PHASES OF THE PLANET VENUS.

third million miles. These distances correspond with those shown in the plot of the orbits, and the difference between them is apparent even in a drawing which is made to a scale small enough to bring it within the limits of this page. The effect of this variation of distance in changing the apparent diameter of Venus is shown in Fig. 1, which represents the planet magnified as it would appear projected on the sun's disk at the time of a transit. Its apparent diameter is inversely proportional to its distance from the earth. At the date of the approaching conjunction (February 11th, 1910) the planet will be very much

nearer the earth than at either the preceding or succeeding conjunctions.

Fig. 2 shows Venus at the date of the greatest elongation from the sun (December 2nd) when the half-moon phase is presented, and at the date of greatest brilliancy (January 6th, 1910) which is the crescent phase. In order to show the rapidity with which the apparent diameter increases as Venus approaches the earth during the months of December and January, the outline of the planet is faintly traced as it would appear, were it possible to see it on February 11th.

Fig. 2 inverted gives the phases which will be repeated after conjunction, when Venus will be morning star. The dates of greatest brilliancy and of greatest elongation are respectively March 18th and April 23rd, and the apparent diameters will not differ much from those of January 6th and December 2nd.

It should be noted that prior to the date of the greatest eastern elongation, and subsequent to that of the greatest western elongation, Venus presents the gibbous phase; that is, while the apparent diameter is diminished, more than one-half of the visible surface is illuminated.

Word Blindness.

It is scarcely open to question that all education should be individual, but unfortunately this requirement cannot be met in our crowded schools. The State is compelled to require a definite amount of knowledge from all engaged in the same course. The difficulties to which this may give rise are illustrated by the following stories of pupils, who despite earnest endeavor could never learn to write correctly, or to read fluently, or to pass the examinations provided for the lowest classes, although some of them are able to accomplish important scientific work. A perfectly healthy fifteen-year-old girl, one of the best pupils of the highest class of a German school, could not spell correctly either German or foreign words, either from dictation or from memory. She could write single characters perfectly; she could also read a single series of musical notes, and play the violin by note, but she could not read piano music. The difficulty was that she was unable to impress the picture of the word on her memory. By the employment of a great number of aids to memory she succeeded in making much progress, but she continued to make the most incredible errors in writing, which sharply contrasted with the general excellence of her work at school. She could not read fluently, because the image of the word was not present to her memory.

The girl's grandmother, a highly-educated woman, her great-uncle, and a son of the latter exhibited the same defects. Each of the men wrote a number of scientific works, but the spelling had to be corrected by others. In this case, therefore, this same defect, which the English call "word blindness," appeared in four members of one family. As we know that the brain contains a special center for the memory of words, we must conclude that the entire absence of this elementary faculty in persons otherwise of good mental equipment, must be caused by a defect of this small part of the brain.

As such persons cannot satisfy the requirements exacted in the lowest classes, they are in danger of never reaching the higher ones. In London, one case of word blindness was found among each two thousand school children. With proper appreciation of the conditions, it should be possible to carry on the education of such a child if otherwise intelligent. This, however, cannot be done by the school; it must be accomplished by the parents or by benevolent societies.—Umschau.

To Our Subscribers.

We are at the close of another year—the sixty-fifth of the SCIENTIFIC AMERICAN'S life. Since the subscription of many a subscriber expires, it will not be amiss to call attention to the fact that the sending of the paper will be discontinued if the subscription be not renewed. In order to avoid any interruption in the receipt of the paper, subscriptions should be renewed before the publication of the first issue of the new year. To those who are not familiar with the SUPPLEMENT, a word may not be out of place. The SUPPLEMENT contains articles too long for insertion in the SCIENTIFIC AMERICAN, as well as translations from foreign periodicals, the information contained in which would otherwise be inaccessible. By taking the SCIENTIFIC AMERICAN and SUPPLEMENT the subscriber receives the benefit of a reduction in the subscription price.

The trials of the new German improved "Dreadnought" "Westfalen" in the North Sea are stated to have been highly satisfactory. She developed 24,000 horse-power and attained a speed of 20 knots, compared with the 20,000 horse-power and 19 knots stipulated for in the contract with the Weser yard.