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JOHN MICHELS, Editor.

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SATURDAY, NOVEMBER 19, 1881.

EDISON'S METHOD OF PRESERVING ORGANIC SUBSTANCES.

In a recent number of this JOURNAL,* we published a report by Mr. Otto Hehner, an official analyst of London, England, who had endeavored to trace the cause of the gastric disturbances, which were traceable in persons who had consumed preserved articles of food put up in tin cases. This poisoning had been attributed by some to traces of lead dissolved from the solder with which the tins were closed, but Mr. Hehner, although admitting the occasional presence of lead in such cases, found on a careful analysis of both vegetable and animal foods thus prepared in tin cases, that the trouble was caused by tin.

With one exception he found that the whole of the samples contained more or less tin, many to such an extent that abundant reactions could be obtained from two or three grammes of the vegetable substances; whilst of the animal foods one of the soups contained thirty-five milligrammes, one of the condensed milks eight milligrammes, and oysters forty-five milligrammes of tin to the pound.

In reply to the question whether tin when thus taken up in the system was injurious or not, he states that as forensic literature does not furnish a positive and satisfactory reply, he endeavored to settle the question by making a few experiments.

These experiments which will be found on page 507 of this JOURNAL, produced results which caused him to draw the following conclusions: "it plainly follows that while stannic compounds are not injurious in the doses given, tin in the stannous condition, is a virulent irritant poison."

These facts induced Mr. Hehner to demand some other and improved method of packing preserved food other than by the use of tin cases.

A remedy appears to hand at a most opportune moment. In the Patent office reports for October 18, last, we find that Mr. Edison has invented a method of preserving articles of food in glass vessels from which the air has been exhausted and a high vacuum produced. The glass vessel is then hermetically closed by sealing off the channel to the air pump, the envelope produced being essentially a homogenous piece of glass. This invention appears to meet the difficulty experienced in the use of tin cans and promises great results in offering a method of preserving fruits and other organic substances in which their original purity and freshness is maintained to a great degree, and the introduction of mineral poisons rendered an impossibility. The specification, as usual, is very brief and we hope to present our readers with a more detailed description of this interesting invention, on a future occasion.

ALCOHOLIC TRANCE.

At a meeting of the New York Medico-Legal Society, held at the Hall of the Academy of Medicine, November 2, Dr. Crothers read a paper on "Alcoholic Trance." The main point of the paper consisted in an attempt to establish the existence of a trance-like condition in inebriates. In this condition they were supposed to commit all sorts of ridiculous, or injurious, or even criminal actions, without a subsequent recollection of what they had done. Dr. Crothers related cases, the like of certain of which no other physician has yet seen or reported, and the like of which it may be quite safe to say no other physician is likely to record in the future. One was that of an engineer who ran a Mississippi steamer an entire trip without knowing it; another of a gentleman who regularly woke out of his "trance" at a railroad station, and was compelled to ask his fellow passengers where he was; a third, a house-painter, who would regularly climb to the top of a house, paint a whole story correctly, come down and "wake up." Other cases were still more complicated, and evidently called into action the *risorius* muscles of the Doctor's audience. Among the less remarkable instances was one of a hack-driver who became a confirmed drunkard, and several times went to States Prison, finally dying there, after being convicted of stealing horses; and of a solicitor, who had fits of jealousy and suspicion concerning his wife, and made a number of wills in a trance-like state.

Dr. Spitzka stated that he would like to ask the reader of the paper two questions. As far as he could gather, the reports were all obtained from third parties. His first question was whether Dr. Crothers had ever himself seen patients in this alcoholic "trance?"

Dr. Crothers replied that he had.

Dr. Spitzka reiterated that in that case the attendant phenomena had not been described by the Doctor in a convincing manner. His second question was, whether the hack-driver referred to had exhibited any inequality or anomaly of the pupils, the facial folds or tremor of the tongue and hands?

Dr. Crothers replied that he had manifested none of these symptoms, after some hesitation.

Dr. Beard took the floor. His remarks were not of such a nature as to permit the reporter to follow him, but

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he read an extract from the *Journal of Mental Science*, which he claimed showed the awakening interest manifested by Europeans in "unconscious states." The Doctor then wandering off to the fall of a Swiss mountain and to Astronomy, was called to order, and subsided.

Dr. Spitzka, without desiring to introduce personalities into the discussion, remarked that it was a pity the preceding speaker had not turned back a few pages in the *Journal of Mental Science* and read the extract relating to the collapse of Dr. Beard's demonstration in England, and how Dr. Beard had failed to come forward with a paper he had announced before a scientific body. As to the paper read that evening, he regretted to say that instead of science being behind in its views on the question of alcoholism, it was the paper which was far from being up to the science of the day. He would call the attention of the reader to Magnan's work, in which he would find such of his cases as had the strongest semblance to reality, carefully described under the heads of alcoholic stupor and alcoholic epilepsy. As to the hack-driver's case, that was an evident example of a well-established and well-known form of disease, namely—alcoholic paralytic dementia. He was surprised to find such a common manifestation of alcoholism as tremor reported absent by Dr. Crothers. He was still further surprised to find such ordinary everyday and characteristic symptoms of chronic alcoholism as delusions of marital infidelity, morbid suspicion, inconsistencies of behavior, stupor and amnesia erected into trance-like states. Nowhere in the paper did the author give any evidence that he made that distinction between Dipomania, Chronic Alcoholism and Acute Alcoholic Delirium, which was the A B C of our knowledge of the subject. The speaker concluded by regretting that the first time in years that so important a matter was brought before the Society, it was brought forward in so imperfect a form, and coupled with a term "trance," which in the past history of the Society had certainly acquired no good odor.

Dr. Girdner endorsed the preceding speaker's remarks, and gave an analysis of the ordinary effects of alcohol on the mind, which he referred to dynamic interferences. He concluded by objecting to the acceptance of such views as Dr. Crothers advanced until they could be better substantiated, as their acceptance would involve some remarkable medico-legal consequences. He did not believe that alcoholism, aside from its effect in producing chronic insanity, should constitute an excuse for crime. He thought that a crime committed in a drunken excess should be punished like any other crime, because the person, by his own agency, put himself in a proper condition to commit such crime.

Mr. Eller, of the New York Bar, stated that the view last announced by the preceding speaker was not a sound one in law; it was certainly not the one entertained by lawyers. He alluded to the great injustice done by police justices in sending persons to the workhouse on the complaint of any two (possibly) conspiring persons, that such person was a "habitual drunkard." He thought that term required definition.

Dr. Crothers, in closing the discussion, among other remarks of a general character, stated that our knowledge of alcoholism was not at all perfect, and that his views were an addition to science, notwithstanding what had been alleged that evening.

M. PICKET has examined seven varieties of steel (chiefly from a Sheffield and a Vienna house) with regard to magnetic power *Arch. des Sciences*, August 15). This power he finds to depend on the presence of carbon in the iron, and the aggregation of these substances. One of the two steels giving the best results had $\frac{7}{8}$ th per cent of carbon. Samples with $1\frac{1}{2}$ and $1\frac{3}{8}$ th per cent were inferior.

NEW YORK ACADEMY OF SCIENCES.

October 24, 1881.

SECTION OF PHYSICS.

Vice-president, Dr. B. N. Martin, in the Chair.

Thirty-one persons present.

Mr. W. Le Conte Stevens read a paper, of which the following is an abstract.

WHEATSTONE AND BREWSTER'S THEORY OF BINOCULAR PERSPECTIVE.

For some time after the publication of Sir Charles Wheatstone's essay ⁽¹⁾ in 1838, on the Physiology of Vision, this subject was studied with much zeal by Sir David Brewster, whose name is permanently associated with the lenticular stereoscope, an instrument now familiar in every household. Although the theories advanced by these two physicists to account for the illusion of binocular relief have since been shown insufficient, their mode of accounting for the estimate of distance as perceived in the stereoscope has been quite generally accepted. In 1844, Brewster published an essay ⁽²⁾ "On the Knowledge of Distance given by Binocular Vision," in which he elaborated and abundantly illustrated the idea that the apparent distance of an object is determined by the intersection of visual lines. The stereoscope had already been explained as an instrument by which rays of light from two slightly dissimilar pictures were made to enter the eyes, as if coming from a single object into which they are combined in front, and on each point of which the visual lines could be made to meet. Thus, in Fig. 1

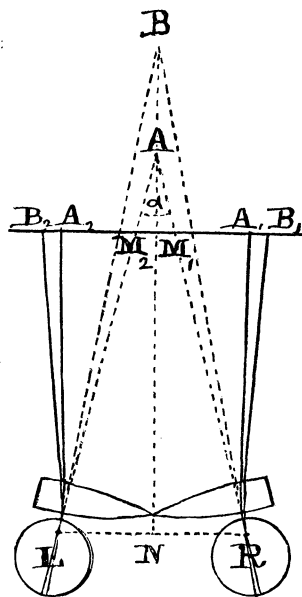


FIG. 1.

if rays from the conjugate foreground points, A_1 and A_2 , be deviated by the semi-lenses, they appear to have come from A. In like manner, the background appears at B. If i = interocular distance RL , and a = optic angle, then for the distance of A we have

$$D = \frac{1}{2} i \cot \frac{1}{2} a$$

From this formula it is obvious that D ceases to have any positive finite value when the visual lines cease to converge.

If the semi-lenses be taken away, and A_1 and A_2 be

⁽¹⁾ Phil. Transactions, 1838, Part II.
Reprinted in Phil. Magazine, s. 4, vol., III., April, 1852.

⁽²⁾ Edinburgh Transactions, vol. XV., Part III., p. 360.