the disease, and pain from one tonsil to the other. The acceleration of the pulse and the elevation of temperature, which ranged from 101° to 103°, were less marked than ordinarily obtains in idiopathic tonsillitis of equal severity. At this juncture, and before speaking of treatment, I will merely allude to the etiology of rheumatism without any attempt to discuss the various theories for it. Whether the causative agent is developed within the body or enters it from without in this, the germ era of medicine, with the history of the above and similar cases in mind, one can but feel a great deal of assurance in assuming that the causative agent is a germ or substance which enters the body through the crypts of the tonsils, lodging there and producing inflammation, or, if entering the body elsewhere or developing within, that the disease substance collects in or concentrates its force on the tonsillar tissues. With this view of etiology in the above case it would appear that proper local treatment would be fully as important as constitutional treatment. Therefore in the above case, I determined to abridge the course of the tonsillitis, hoping thereby to modify the course of the rheumatism. In what measure I succeeded may be fairly judged by the result already mentioned.

Treatment consisted mainly of free and repeated lancing of the tonsils with the use of warm water to promote bleeding. Anodyne and antiseptic sprays, prompt and complete evacuation of pus, which formed in one tonsil only, with saline cathartics and mild anti-rheumatic treatment. I learned from the patient that depletion had not been practiced in his former attacks and the abscesses were allowed to open spontaneously. We cannot wonder then at the prolonged and severe attacks of rheumatism that followed.

In view of foregoing facts I am compelled to believe that in cases of rheumatism in which parenchymatous tonsillitis is an antecedent symptom, the disease is at that stage largely local and affording exit for the disease germs and their morbid products by free depletion, and early evacuation of pus when there is suppuration will aid marvellously in abridging and mitigating the subsequent attack of rheumatism, if not entirely prevent it.

SOME CHARACTERISTICS DISPLAYED BY THE HUMAN MIND WHEN PLACED AT A DISADVANTAGE—A PSYCHOLOGICAL STUDY.

Read before the Section of Neurology and Medical Jurisprudence at the Forty-third Annual Meeting of the American Medical Association, held at Detroit, Mich., June, 1892.

BY T. L. WRIGHT, M.D.,
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When the traveller in the dusty and parched desert, views the mirage afar off, promising water to his burning lips, and the cool shade of green trees to his heated and weary frame, he hastens his pace, that he may the more speedily enjoy the refreshment and repose that seem to be almost within his grasp. But as he journeys onward, the pleasing vision recedes; it slowly fades—it disappears. Yet, how real, how true it seemed! Had some accident turned the beholder from his path, and he had failed to detect the illusion, his convictions would ever have remained true to the idea, that the phantom picture was a veritable reality. Indeed, thoughts and convictions, and con-

duct legitimately derived from a belief in the material certainty of the scene—though erroneous and possibly criminal—could by no fair rule be imputed to him as an agent truly responsible.

To illustrate the mystic snare in the meshes of which the mind may be entangled, and held prisoner—when no opportunity is presented to test and verify the *seeming*, by comparison with the substantial and *material*—the pretty fable of the imprisonment of Merlin, the necromancer, is quite in point.

The "Lady of the Lake"—called also the Fair Viviane—was enamored of Merlin, as indeed he also was of her. Casting about for some way by which she might detain him "for evermore," she persuaded him to impart to her, some of the secrets of his art. "At length it fell out, as they were going one day, hand in hand through a forest, they found a bush of white thorn. They seated themselves under the shade of this bush upon the grass, and Merlin fell asleep. Then the dame rose and made a ring with her wimple round the bush, and round Merlin, and began her enchantments, such as he himself had taught her; and nine times she made the ring, and nine times she made the enchantment, and then she went and sat down by him. And when he awoke, it seemed to him that he was enclosed in the strongest tower in the world, and laid upon a fair bed. Then he said to the dame, 'you have deceived me unless you abide with me, for no one hath power to unmake this tower but you alone.' And Merlin never went out of that tower where his mistress, Viviane, had enclosed him; but she entered and went out again as she listed."

In order to obtain his freedom, all that Merlin had to do was to make the effort and walk out of the seeming prison. But the illusion was so vivid and truth-like, that the mind was servilely submissive to the delusive yoke placed upon it. Thoughts, convictions and acts, based upon such a condition of hypnotic trance, could not, by any reasonable consideration, be held as proper subjects of accountability.

There are other sources of delusion, it is perhaps superfluous to say, besides the apparent freaks in nature's laws exterior to the physical organism, and besides the weakness and unsteadiness of the nervous energies within it.

Diseases within the brain not infrequently affect one or more of the senses in a manner analogous to the impressions received through normal avenues. The mind is ignorant of the source of sensations thus originating; and they are, as a rule, wrongly interpreted. Yet the will directs the personal conduct in a way that would accord with the healthful operations of the perceptive faculties. So convincing are morbid hallucinations, that the mind is prone to receive them as representatives of the material forces of surrounding nature; and its movements are most likely in a line with their false and delusive teachings. It is evident that responsibility, for acts growing directly from the impulses of hallucination, should not be esteemed as complete. Hallucinations, as well as epilepsy, and other nerve and mind disabilities, may come from traumatism, as well as from brain disease. Injuries, though distant from the great nerve centers (not to mention the presence of foreign bodies in the physical organism), may produce such morbid nervous impressions as will simulate disease of the brain itself.

It is moreover true, that while the nervous system

is in a morbidly receptive and impressible state, some very striking movement of the perceptive faculties may become aroused. A time may come when the system of nerves may again occupy a similar or identical position. In such an event, there is liable to occur a *suggestion*, which will bring to mind that same vivid perception that had been once before associated with the pending and peculiar nervous state. In this way, many strange and incongruous fancies may be generated. Dreams, somnambulism, trances—with their disconnected phantoms, their images awry and half fashioned, and their procession of ever changing shadows, and airy, though fearful nothings, have such birth as this. Here too, is total absence of sound sense and reason, although the will itself may be compelled to enter into the service of this farrago of nonsense. Under such conditions of misapprehension it is clear there is absence of moral and mental responsibility.

It is probable that few persons if any, are exempt from the trickery and deceit which are liable to be imposed upon the human mind by concealed agencies. The best poised and calmest intellects have, no doubt, their brief seasons of illusion, of hallucination, and of dangerous delusive beliefs. The deed is done. The irrevocable word is spoken. Whence comes the impulse of which it is the outcome? "I can give no reason. It is an impenetrable mystery to me!" This is the exclamation heard very often indeed, in that period of time called—"too late"—a period fully within the possibilities of every man living.

Let us now turn to another phase of our subject, and examine some of the characteristics of the human mind when placed at a disadvantage through the influence of toxic agents. We are at once struck with several particulars that have not appeared in our observations hitherto. We have been describing the senses when, to a considerable degree, they were deceived in their individual capacity. We are about to speak of the senses overwhelmed *en masse*. We have been noting defects that were mostly circumscribed in their range and application, that in fact, preserved to themselves some small quality of system and order. We are about to speak of mental confusion, incoherence, wreck. We have been treating of simple intellectual *incompleteness*, the causes of which have been mainly exterior to the bodily organism, and occurring without the complicity of the mind itself. We now proceed to examine the *total dissolution* of the mental and moral natures, brought on (as some declare) by the deliberate and wilful act of the victim himself.

In this work I will confine my thoughts to the alcoholic inebriate. I will speak of facts and principles in their general aspects, taking no account of the many exceptions and cavils that invariably beset comprehensive propositions.

In the family of man, there is a large number of individuals who live habitually under the control of a nervous system of exceeding and abnormal sensitiveness. Impressions are absolutely startling in their intensity; and the mind seems continually to be waiting in painful suspense, lest some new and unwelcome sensation should suddenly present itself. Perceptions, instead of leading to rational and practical knowledge, appear to palpitate throughout the whole mental and moral being, and arouse by an irrational but boundless sympathy, unexpected and

undesirable associations. To the neurotic, the future is clothed very often, in impenetrable darkness, and is filled with possibilities of hopeless woe; and of these his fancy is incessantly seizing upon some, which he holds to his heart as realities.

In a very wide sense, feeling is living; and feeling, in the neurotic, is a pitiless and unceasing torture. A man finding himself in the midst of fire will jump out of it; and little will he reck which way he leaps, or what may be the consequences to himself or to others. Considerations as to that matter do not enter into his motives in avoiding the flames. Casuists may dispute as to the quality of will, involved in the case. Certain it is, that such an escape is not in obedience to free will, to will invested with the capacity of choice. It is merely an example of the instinct or impulse of self preservation, which is common to the nature of all animated beings.

In a manner analogous, when a mind is chafing under the oppression and tyranny of an universal nervous irritation, it will be compelled, sooner or later to seek some measure of relief; and that too, without much consideration as to the means it may be called upon to employ. It is wholly immaterial to one suffering in a prolonged nervous agony, whether, "being sane he knows the effects of alcohol on him, and therefore, he is responsible for them," or not. The legal apothegm does not cover all the material points involved. Like one in the midst of a sea of fire, the inebriate has become frantic for relief. He does not drink to create effects, he drinks to destroy effects. He knows that alcohol will afford rest from his consuming nervous inquietude; and he appeals to it as the one available instant refuge.

An immediate effect of alcohol upon the human body is the production of partial paralysis. While this appears to extend throughout the entire system, it also seems to vary somewhat in its intensity as it affects different portions of the organism. For the alcoholic impression as a whole, does not depress or hinder the bodily functions equally. Judging from the tumultuous but discordant movements that attend physical and mental activity while under the influence of alcohol, the inference is, that this incoherence results from irregularity in the power exerted by that agent, over the several departments of the corporal structure.

Alcohol is a speedy and reliable anæsthetic. By it, the morbid sensitiveness of the neurotic constitution is allayed. Sensation is blunted; perception is proportionally dulled, and they cease to worry and distress the mind and nerves. A welcome repose comes where but a little time before, there were doubts, fears and painful anticipations.

Another alluring element of rest to the perturbed mind of the neurotic, is the influence that anæsthesia exercises upon the faculty of attention. Everybody knows how tiresome it is to hold the attention firmly in a given direction, when the nervous system is in a state of prostration. When convalescing after serious illness, it is common to lose one's self in the midst of some brief narrative, and inquire with a sigh of fatigue—"where was I, what was I talking about?" The dullness of the perceptive faculties induced by anæsthesia, separates the mind in a notable degree, from the world surrounding it. The association between the material and immaterial is interrupted; and the mind like a ship without rudder or compass floats away on the shoreless sea of an uncurbed imagination.

This leads to the consideration of another one of the primary effects of alcohol upon the mind; and it is the immediate result of blunting the sensibilities and the perceptive faculties by means of anæsthesia. The authority of *attention* having been withdrawn from the world of thought and feeling, the mind wanders free and untrammelled. No longer occupied with the affairs of present and practical life, the imagination seizes upon the stores of memory, upon the suggestions of the organic processes within the body, and even upon the unsubstantial fancies of dreams and reveries past and gone. Of these it constructs phantoms and combinations and contrasts, absurd, brilliant, or trifling, as the case may happen. In truth, the inebriate mind is in a state very similar to the one occupied in trances, visions and somnambulism—of which, brief note has already been taken. The mind works subjectively—within itself exclusively. Illusions, hallucinations, and delusive beliefs, framed from the odds and ends, the *debris* of the past in thought and feeling, delight the roving and ethereal fancy.

And here a brief suggestion or two may be not unprofitable. The inconstant and elusive state of mind just described, is commonly attributed to the stimulating effects of alcohol.

(a) Alcohol appears to act as an excitant upon the heart and brain. This is, however, to some extent, deceptive. Alcohol is a poison; and when taken in considerable quantity, the whole organism is thrown into a tumult of action in the endeavor to rid itself of the dangerous intruder. The system is invariably prostrated when this work is done—showing that the extra work was at the expense of the system itself mainly, and not by the aid of allies or auxiliaries.

(b) The destruction of the sensibilities also operates as a pseudo-stimulant, by setting free, through anæsthesia, the body and mind, from irksome and laborious association with the material surroundings.

(c) Again, alcohol acts as a *quasi* stimulant by the seeming contradiction of its benumbing powers. In other words, alcohol paralyzes with peculiar emphasis, certain *restrictive*, or inhibitory nerve centers. It interferes with the monitors, the regulators of the imagination, and permits that faculty to roam without law or restraint.

These three primary or instant effects of alcohol, are they which prove so alluring to the inebriate. The neurotic partakes of alcohol with the object of obtaining the quickest and best relief from a great nervous agony or strain. The primary effects of alcohol fulfill the measure of this object perfectly. The point is to secure the instantaneous application of the first impressions made by the alcoholic agent. The motives actuating the inebriate, do not therefore reach to the secondary stages of drunkenness; nor, still less, to the last or tertiary stages.

In concluding what I have to say about the condition and responsibility of mind, when it is placed at disadvantage by alcohol, I will simply add this: There are certain lines that are common to alcoholic intoxication in all circumstances. But it is important to remember that psychologically, the mental and moral situations are radically different, in the several conditions of the inebriate constitution. In the primary stage of inebriety in a sound constitution, the imagination is vivid and bright (though erratic) and good fellowship reigns. In the second-

ary stage, the circulating fluid is filled with poisons other than alcoholic; the whole organism is in a quiver of anguish, while the mind is sullen, morose, hateful. In the third stage, when the brain, heart and glandular system have undergone profound physical degeneration, the mind is imbecile and degraded, but is comparatively harmless.

In conclusion, I will call attention to the fact, that intoxication is not the only bad outcome of the alcoholic influence; and also that it is not the result always the most to be deplored. Recent intoxication is supposed to be rather agreeable than otherwise. It excites the generous and sympathetic feelings. But when drunkenness is complicated by the presence, within the organism of subsidiary poisons contingent upon the prolonged use of alcohol, the spectacle is quite different. There are toxic principles in alcohol which are more destructive than those producing the state of simple inebriation. They are the fruitful sources of physical degenerations, both of the body at large and of the brain in particular, that are seldom the consequences of intoxication from opium, chloral, haschisch and other hypnotics. Indeed, alcohol is capable of producing all the degenerative injuries peculiar to the habitual inebriate without ever proceeding to the point of actual drunkenness. Dr. Maudsley expressly mentions "that more dangerous form of habitual indulgence in small quantities of wine and spirits throughout the day by which some active men of business endeavor to spur their overtaxed energies." To these poisonous properties of alcohol (which belong to few other intoxicants) the attention of the public should be directed. In that way only, can the true gravity of carelessly and ignorantly handling that most powerful but most pernicious agent, alcohol, become fully appreciated.

EUCALYPTOL IN DIPHTHERIA.

Read in the Section of Laryngology and Otology at the Forty-third Annual Meeting of the American Medical Association, held at Detroit, Mich., June, 1892.

BY MARION THRASHER, M.D.,
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A diphtheria epidemic pervaded portions of San Francisco during the winter months of 1891-92. It was most plentiful and virulent in that part of the city, where there was a stagnation of sewage. The writer was located in that quarter, and had ample opportunity for the practical study of this much dreaded disease.

Years ago California imported the Australian gum tree, the *eucalyptus globulus*, for shade, it being a tree of rapid growth. The inhabitants soon learned that it absorbed malaria and transformed unhealthy into healthy localities. The writer observed in the above epidemic, that diphtheria was rarely if ever found in houses surrounded by eucalyptus trees.

Eucalyptol is a powerful germicide, a disinfectant, a stomachic, a tonic, a stimulant and antiperiodic.

In small doses it produces mental activity, accelerates circulation and respiration, excites salivary secretion, promotes appetite, induces diaphoresis, and increases the elimination of urea.

It is expelled from the system through the mucous membrane of the fauces, trachea, bronchi, skin and kidneys. In short it possesses all of the characteristics that a remedy should possess to meet the require-