Microscopic Examinations: Section showed a richly vascularized connective tissue supporting a large number of solid glandular tubules containing rounded or flattened epithelial cells. Occasional hollow tubules lined with low cuboidal cells and filled with colloid material were observed.

CASE VI.—H. T., female, aged forty-nine years; colored. Admitted to the Johns Hopkins Hospital for chronic nephritis.

Autopsy 2895. Anatomical diagnosis: Chronic diffuse nephritis (large white kidney), cardiac hypertrophy and dilatation, diffuse myocarditis and fatty degeneration; verrucous tricuspid, and aortic endocarditis, hemorrhagic gastritis, catarrhal enteritis, general anasarca, edema and atelectasis of lungs, myomas of uterus, pelvic peritonitis, general arteriosclerosis, chronic pancreatitis, colloid goitre, obesity.

Pancreas: Normal in size and consistence. Cut showed distortion of lobules. Ducts were dilated and a little thickened.

Microscopic Examination: There was considerable increase of the interstitial tissue, with atrophy of many of the acini. Islands were fairly numerous. Insular capillaries were thickened. A considerable number of the islands had undergone hyaline degeneration, and in some cases to an extreme degree.

Kidney: Microscopically there was extensive replacement of the cortex by fibrous tissue, with considerable granular degeneration and desquamation of the tubular epithelium. There were many hyaline and fibrous glomeruli. Well-marked thickening of the renal arterioles was observed.

Liver: Microscopically there was congestion of the lobules about the central veins, with some compression atrophy of the cells.

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ALCOHOLISM AND EPILEPSY, ALSO SO-CALLED ACUTE ALCOHOLIC EPILEPSY.¹

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THE craving for alcohol and alkaloids or substances that are similar to these in their action is so universal as to appear almost

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instinctive. From cereals, fruits, plants, seeds, and tubers, man has obtained substances for such use, and those commonly employed have been the various alcoholic beverages, cocoa, coffee, guarana, hemp, kola bean, maté, opium, tea, and tobacco. Such substances have been drunk, chewed, smoked, inhaled, used subcutaneously, and otherwise introduced locally. Habits of this kind were in vogue among the ancients even in the earliest times. There are records that tell of the use of wine 5000 B.C. And since it appears that man always has craved something to soften his sorrows and to add to his pleasures, there is no likelihood that we shall become absolutely free from this human weakness.

Having, then, these habits always with us, it is of the utmost importance to be familiar with the harm that results from such indulgence. This is a difficult problem, for upon no subject within the domain of medicine do such extreme views obtain as upon that of the use of intoxicants. Of all habit-engendering substances, alcohol is the one most commonly used, but a number of factors must be borne in mind in determining the effects produced by such use. The quantity and the quality of the liquor; the time of day taken, and the period of time over which it is consumed; and not the least important factor is the physical and mental make-up of the individual. The matter of tolerance is significant. It has been defined by Hare, of England, "as the capacity to ingest relatively large amounts of alcohol without experiencing the ordinary obtrusive physiological effects."

Although we know that at times alcohol may be used in enormous quantities and for a long period without showing appreciable deleterious effects, we also know that it may cause death acutely or it may bring about widespread degeneration through years of excessive indulgence. The pathological changes extend to all tissues except bone, but its effects are especially marked in the nervous system. The particular affinity of alcohol for this part of the body is shown even after death, when it may be found in the cerebrospinal fluid after all trace has disappeared elsewhere. In the nervous system both functional and organic disturbances are observed. Mental manifestations with alcoholism as a factor are especially numerous, and any type of insanity may be simulated. However, the only mental disorders which are distinctly the result of the prolonged action of alcohol upon a previously normal brain are delirium tremens and polyneuritic psychosis (Korsakow's disease), and even the latter is occasionally produced by the absorption of septic matter, and it is also said to have followed influenza and typhoid. All other psychoses occurring among alcoholics are of the types of those developing among abstainers.

Many believe that in the offspring of alcoholists there is a proneness to hysteria, insanity, idiocy, epilepsy, and crime. But here it is important to remember that the nervous instability which may

have led the parents to drink, may also account, at least in part, for these disorders and diseases developing in the offspring.

At times information is gathered that is worse than useless; it is misleading. Mott, a distinguished English writer, says: "The great point in any scientific observation is not to try to prove something, and to avoid any propagandistic tendency, thus the question of alcohol and insanity is an illustration in point. The Council of Fifty in Massachusetts investigated the number of patients admitted to asylums in which there was an alcoholic history; it was then suggested that they might investigate the number of total abstainers; it was found that they were quite as numerous."

Of special interest is the relation of alcoholism to epilepsy; it is concerned with this disease in several ways, and yet it probably is not as potently a factor in the causation of epilepsy as is often stated, for we have not sufficiently taken into consideration the nervous instability which frequently has led the parents to drink, and which in itself must have been partly, and at times perhaps wholly, responsible for the development of epilepsy in the offspring. It also appears that only rarely does chronic alcoholism produce recurrent attacks of fits, except as they are dependent upon the immediate taking of alcohol. This latter subject will be considered somewhat in detail later.

Alcoholism has, or is alleged to have, the following relations to epilepsy:

1. Drunkenness of one or both parents at the time of conception has been said to be a fruitful cause of epilepsy in the offspring (Esquirol). This is an exceedingly difficult matter to investigate, as the nature of the sexual act forbids observation. However, there is data which indirectly throws light upon this subject. In France it is said that a considerable number of children appear nine months after seasons of drinking, such as carnivals in the cities and church fairs in the country. It has also been observed in some countries that the congenital epileptics and imbeciles are conceived at the time of new wine. It is held, as a rule, in the wine countries that a poor school year comes seven years after a good wine year.

2. That injuries to the head in alcoholists may give rise to true epilepsy is stated by Oppenheim. This is quite possible just as alcoholism plus traumatism may cause insanity; and also, a blow upon the head in a syphilitic may act in the same way.

3. Chronic alcoholism in the parents may lead to epilepsy in the offspring; while reliable statistics are here wanting, it is probable that this is often one of the factors in the production of epilepsy.

4. Chronic alcoholism in the individual may lead rarely to epilepsy in those with no inherited or inherent tendency to the disease. This surely does not often follow except in cases of senile

epilepsy, where the attacks are rather an epileptoid manifestation and dependent upon an arteriosclerotic basis. Such attacks are less frequent and less severe, and the mental failure is not so marked, the condition also yields somewhat more satisfactorily to treatment than does the idiopathic disease.

5. In an epileptic who becomes an alcoholic, the attacks are increased in number and in severity. Of the marked intolerance of epileptics to alcohol, there can be no question. All epileptologists have met with instances where the disease has undergone a remission and where attacks have been again precipitated by the taking of alcoholic beverages.

6. Alcoholic drinks may be sought by epileptics because of post-epileptic depression, and there may be little or no drinking at other times. The disease, of course, is exaggerated.

7. A few epileptics upon becoming aware of the dreadful malady with which they are afflicted, have plunged into drink and greatly aggravated their disease; and this, independent of the depression which is sometimes the direct result of the attacks. Here, epilepsy is the exciting cause of alcoholism.

By those in charge of alcoholic wards in hospitals, the phenomenon of convulsions is frequently observed. This may be due to uremia, and it also occurs in epileptics who have gotten drunk. But there is another variety of convulsive disorder seen, and this has received but little attention at the hands of writers upon alcoholism; some even fail to mention it. We refer to so-called acute alcoholic epilepsy. The term "epilepsy" is here unfortunately used, since these attacks have no more relation to epilepsy than have the convulsions so commonly seen in children. As a rule, there is but little albumin in the urine of these patients, and this usually clears up in a few days. Contrary to the belief of a number of physicians, alcoholic convulsions and delirium tremens appear in most instances to be abstinence phenomena. They do not usually occur together, although occasionally this is observed. It is argued that these two diseases sometimes develop while the patient is still drinking heavily; in some of such cases perhaps there has suddenly developed a catarrhal condition which has prevented the absorption of alcohol; or it may also arise through a patient being profoundly intoxicated and therefore not conscious enough to continue drinking. These fits are most apt to occur in continuous alcoholists in whom a rather high degree of tolerance has been attained, and they are most likely to obtrude themselves during the first twenty-four hours of abstinence. When attacks of delirium tremens are present they occur a little later. These convulsions are not preceded by insomnia, tremor, and fear unless they are accompanied by delirium tremens. The attacks bear considerable resemblance to genuine epileptic seizures. They are mostly major; an injury may be sustained by falling, unconsciousness is complete, the tongue at times is bitten, sleep often follows

the attack, and the patient usually awakens with a headache. But still there is not the characteristic appearance of an epileptic, and the patient usually bears the stamp of a chronic alcoholic; the attacks seldom occur independently of drinking.

The prominence given alcohol as a cause of epilepsy has been overestimated, and this is apparent from the following: The nervous instability which at times drives parents to drink is in part responsible for the development of epilepsy in the offspring. We know that drinking is very common and epilepsy is relatively rare. Alcoholism is much more frequently encountered in males, but epilepsy at least is as common among females. Many of the cases of epilepsy have developed before the age when drink could be obtained. Insanity and nervous diseases are common among the Jews; epilepsy is frequently seen, and yet the Jews are an abstemious people. Those of us who have done special work among alcoholics know that a drunken Jew is a great rarity. The report of the Craig Colony for Epileptics for 1912 gives alcoholism as the probable cause of epilepsy in less than 1 per cent. of the admissions for that year, 227 patients were admitted. And, finally, even those alcoholists with no inherited or inherent tendency to epilepsy, who have convulsions (so-called alcoholic epilepsy), almost never have fits independent of drinking.

A great deal is heard about the rapid increase in the number of epileptics, but the writer believes here we stumble against some of the errors which have arisen in estimating the number of insane. It is only in recent years that we have had special institutions for the care of epileptics so that we are only just beginning to obtain data from which to draw more definite conclusions as to etiology. The conditions conducive to epilepsy and insanity may not parallel each other, but they probably do run in much the same direction.

The writer knows of no reason for believing that through racial degeneration, insanity is increasing rapidly, and this, perhaps, is worthy of a moment's consideration. Years ago it was thought to be more of a disgrace to go to an asylum or sanitarium than it is today; the insane are now infinitely more humanely cared for than formerly, and there is less fear among the relatives about having one of their family leave home; therefore, many are now available for statistics which were formerly missed. The horrors that existed in the so-called mad-house are familiar to us all, patients were chained to the walls, they were otherwise abused, and death frequently resulted from accidents, houses of detention were unsanitary, and many died because of such unhygienic conditions.

I think it probable that there is a slight relative increase in the number of insane, and this, in a measure, may be accounted for through our present scientific care of weaklings; thus, children are kept alive today who years ago could not have lived, and consequently we have the survival of the unfit, some of whom are imbecilic, epileptic, degenerate, and insane.