

diminished about one-third. Second, promptness in action and exactness in investigation have been accomplished. Third, all the facts of the case from the first discovery of the body to the finding of the justice are matters of accurate record and are material as evidence in the higher courts in case a trial follows the inquest. Fourth, the duties are now so divided that the man of medical training investigates so much of the case and only so much as has to do with the medical question of the cause and manner of the death, while the man of legal training settles the question of responsibility and determines whether or not a crime has been committed, what the nature of that crime, and, if possible, who is the suspected criminal. Fifth, the records in the hands of the secretary of the commonwealth constitute a valuable body of observed facts that may become of great value to the student of legal medicine. Last, the association of Medical Examiners, constituting the Massachusetts Medical Legal Society, has stimulated each examiner to keep himself well-informed and as far as possible prepared for any case that may fall to his lot. And in general, the diffusion through the State of a number of physicians specially interested in medico-legal research has tended to call the attention of physicians to that branch of medical study, and has had an influence to improve the grade of medical testimony in the courts of the commonwealth.

### ETHER INEBRIETY.

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BY NORMAN KERR, M.D., F.L.S.,  
OF LONDON, ENG.

PRESIDENT SOCIETY FOR THE STUDY OF INEBRIETY; CHAIRMAN  
BRITISH MEDICAL ASSOCIATION, INEBRIATES' LEGISLATION  
COMMITTEE; CONSULTING PHYSICIAN, DALRYMPLE HOME.

Ireland has in the nineteenth century presented to the world two interesting and remarkable series of inebrio-psychological phenomena. In 1838, a simple-minded Roman Catholic priest, Father Mathew, adopted and began to advocate the practice of abstinence from all intoxicating drinks. So amazing was the impression made by him that, in three years, the roll of the teetotal pledges which he had administered exceeded 5,000,000, in Ireland, in addition to large numbers in England, Scotland and America. The reality of this epidemic of temperance was attested by the statement of the Chief Secretary, in 1840, that "the duties of the military and police in Ireland are now almost entirely confined to keeping the ground clear for the operation of Father Mathew." Though this great wave of sobriety has gradually receded, till now the extent of drinking in Erin is simply terrible. I am every now and again meeting professionally

with sons and daughters of Hibernia, who glory in their steadfastness to the pledge which they so long ago took at the hands of the Irish apostle of temperance. An accurate study of this unique crusade would, in psychological results, amply repay the labors of any earnest student of mental science.

Curious to relate, the other series of inebrio-psychological phenomena is an experience in an opposite direction—an experiment, so to speak, not, as in the former case, in temperance, but in intemperance.

### ETHER INEBRIETY.

The disease of inebriety or narcomania (a mania for intoxication by any kind of narcotic or anæsthetic), may, besides other phases, assume a form correspondent to the particular inebriating substance. It may, therefore, be interesting to glance at the origin and growth of this new mode of inebriate indulgence, as this is the first opportunity afforded to us of observing the rise and progress of such a process in a community.

### RISE AND PROGRESS IN IRELAND.

The centre from which ether drinking spread was the town of Draperstown (with a population of some 300), in the southern part of the County of Londonderry. Before Father Mathew's abstinence propaganda, ether drinking was there unknown. Between 1842 and 1845 a local medical practitioner, in response to a request from a few newly-pledged abstaining converts for something the taking of which would not violate their vow, gave them a drachm of ether in water. So far as I can ascertain, this was the *fons et origo mali*. A desire for more frequent doses grew upon the ether drinkers, and the practice spread in and around Draperstown till there was a shop for the sale of ether, in one town, to every twenty-three of the population. In the session of 1855-6, an Act was passed by the British Legislature allowing spirits of wine to be used duty-free in arts and manufactures, provided it was made nasty as a drink (which the Government, in their innocence, supposed would prevent people from drinking it) by the addition of a minimum  $\frac{1}{8}$  of methylated spirit. As ether prepared in this way is much cheaper than ordinary sulphuric ether, this cheap production of "methylated ether" caused the consumption to increase "by leaps and bounds." The present ether area was, from its mountainous features, a central locality for the illicit distillation of whisky. Owing to the activity of the police and the making of roads, this illicit traffic was effectually stamped out. The disappointed cheap whisky drinkers found a cheap unintoxicant in ether. Mr. H. N. Draper first called attention to Irish ether drinking in 1877 (*Medical Press and Circular*, May 30), followed

by Dr. B. W. Richardson about 1879, and by Mr. Ernest Hart in 1890.

#### AREA OF DISTRIBUTION.

Ether drinking was in a year or so gradually introduced from Draperstown into the neighboring town of Maghera, and soon extended its sway till it occupied an area of somewhere about 295 square miles, with a population of nearly 79,000 souls. This area may, in general terms, be said to comprise the mountainous districts, especially of Derry and Tyrone, and to some extent, of Armagh and Antrim. Cases of ether intoxication have occurred in Dublin and other parts of Ireland, in Glasgow (Scotland), in Lincolnshire in England, and I have seen several in London.

#### THE ETHER DRINKERS.

All the cases which I have seen in England have been persons of education and refinement, who had first been alcoholic inebriates and gradually developed into devotees of these twin poisons. Nearly all of these English cases have been females, the only males having been members of the medical profession. In Ireland, women assert the equality of the sexes by taking their fair share of this form of intemperance. Small farmers and agricultural laborers make up the bulk of the Irish ether tipplers. Workmen, too, are well to the front. But the practice is by no means confined to these classes. Members of the learned professions have their representatives. Etherists are to be found at almost all ages from puberty onwards. Sturdy Irish lads and beautiful Irish lasses, brimful of Hibernian wit, as well as "60-year olds" of both sexes, are slaves to ether drunkenness. The mother may be seen with her daughters, and maybe a neighboring Irishwoman or two, at a friendly ether "bee." The habit has become so general that small shopkeepers treat the children who have been sent to purchase some article, with a small dose of ether, and schoolmasters have detected ether on the breaths of children from 10 to 14 (or even younger), on their arrival at school. Some critics have endeavored to lay the blame of this new development of inebriety on the Roman Catholic religion. Nothing could be more unwarrantable and unfair. The disease has spread principally among Roman Catholics, simply because this is the creed of the greater part of the population. One Protestant village, Tobermore, is as bad as any other place. All my cases have been Protestants.

#### QUANTITY TAKEN.

The amount swallowed at a draught varies mainly with the stage of education in ether consumption. A novice will find a drachm (a teaspoonful) sufficient. Gradually the wished for effect demands an increased dose, till  $\frac{1}{4}$  of an oz. may in time become the ordinary "peg" of

an accomplished drinker, to use the phraseology of Anglo-Indians. These are average quantities of a so called "moderate" drinker. More "seasoned casks" have a higher capacity, many topping off half a wineglassful as unconcernedly as an average Englishman would drink a glass of claret, or an average American a glass of champagne.

The amount of ether consumed in a day is often remarkable. A confirmed ether inebriate will take a much larger dose than any I have just enumerated, and repeat the dose three, four, five, or even six times in the twenty-four hours, when "on the spree." Indeed, in some cases, half a pint has been the regular daily allowance of constant (or habitual) inebriates. In England I have known an ether inebriate use a pint of ether by inhalation every day. In Ireland, many persons keep themselves intoxicated pretty well during the day for the sum of sixpence—taking two pennyworth at 10 o'clock, 1 o'clock and 4 o'clock. What a paradise for drunkards! Drunk three times a day for 13 cents!

#### HOW TAKEN.

In England, in my own practice, the majority of ether drinkers have inhaled the poison. In Ireland the universal method is drinking. By the latter mode the ether is taken "neat." Owing to an idea that ether, like whisky or brandy, should be drunk diluted with water to sheathe the virulence of the poison, the uninitiated and ignorant Englishman, when in Ireland, sometimes mixes his ether "peg" with water, "just to try the stuff, you know." Ludicrous failure awaits him, for, unlike ardent spirits, ether is but sparingly soluble in water. The pungency of ether, except to those who have "finished their education," generally calls for an "over-ture" to the "act" of ether swallowing. Scene I.—The mouth is washed out with cold water. Scene II.—A draught of cold water is drunk. Scene III.—The ether is swallowed "neat." Scene IV.—The performance closes with a second and final drink of cold water. The preliminary draughts of water are to cool the mouth and throat, and the post ether draught is "to keep the ether from rising." The washing of the mouth is soon omitted. By and by the preliminary draught of water follows the same fate, the ether dose and the succeeding draught of water being the commonest method. As his education advances, the etherist dispenses with water altogether. He may for a while, especially when drinking an unusually large dose, hold his nose with one hand, but probably ends by despising all precautionary safeguards, and by simply drinking his mouthful of ether at a gulp.

#### WHAT IS TAKEN.

*Ether purus* of the British Pharmacopœia was

at one time affected by my inebriate patients. This pure ether ( $C_2H_5O$ ), which is free from alcohol and water, has been in my hands the only ether preparation which has proved to be without complicatory drawbacks when used as an anæsthetic (Brit. Pharmacopœia, 720; U. S., 725). *Ether* of the B. P. (sulphuric ether) was, however, the article generally used for purposes of intoxication. It contains 8 per cent. of alcohol and water with 92 per cent. of *ether purus*, and is soluble in all proportions with rectified spirit, but in only 1 in 10 with water. The specific gravity should be (B. P.) .735; (U. S.) .750. It is a swift, potent, diffusible stimulant, narcotic, anæsthetic and antispasmodic, of great value in medicine. It has a strong, penetrating odor, is sweetish, hot, burning and pungent to the palate.

To America the whole world owes a deep debt of gratitude for the introduction of ether as an anæsthetic by Dr. Morton, in Boston, in 1846, and any saddening misuse of this grand mode of alleviating human suffering ought not to lessen our appreciation of this splendid boon to humanity.

By the Act 18 and 19 Vict., c. 37 (1855-6) the use of spirit of wine, free of duty, was permitted in the arts and manufactures, on the addition of a minimum of  $\frac{1}{9}$  of wood-naphtha (methylic alcohol or spirit from the destructive distillation of wood, after rectification; specific gravity .803 B. P.), with a view to prevent this fouled liquid from being drunk as a beverage. Ether prepared from this fouled duty-free spirit is, of course, much cheaper than ether prepared from spirit of wine on which duty has to be paid. The intention, however, was defeated, inasmuch as in the process of manufacture of ether from the fouled spirit, the fouling ingredients (*i. e.*, the methyl products) are destroyed. Thus, contrary to the general belief in what is commonly called "methylated ether" being as nasty as the methylated spirit which is used for lamps and for polishing purposes, "methylated ether" is to the taste hardly discernible from pure sulphuric ether. This so-called "methylated ether" is practically undistinguishable from *ether* (B. P.) at the specific gravity of .717, *i. e.*, when purified. At any other specific gravity, an odor is given off after evaporation. Practically, one cannot discriminate between the ethylic and methylic productions.

*Price.*—The ether thus prepared from the duty-free spirit (sp. vin. rect. *cum* methylic alcohol), can be produced at as low as one-seventh of the cost of ether prepared from the duty-paid spirit, the latter being bought wholesale at \$1.25 per lb., and the former at as low as 16 cents.

#### HOW PROCURED.

Ether is imported mostly from England, partly from Scotland, by larger chemists and druggists

in the principal towns of Cookstown, Maghera-felt, and Maghera. The large dealers supply small shopkeepers, and also cottagers, who sell in "draughts" (rather less than 2 teaspoonfuls) for one penny. The small shopkeepers also supply the hawkers (who are very often women), who attend fairs and other festive gatherings to dispense the "draughts" of the liquid poison. These "draughts" are also to be had from the surgeries of some medical practitioners, and in cottages or ether shebeen, where the cottager keeps a pig or two, and sells ether, the country people frequently giving potatoes, meal, or other produce in exchange. The hawkers carry about a bottle of ether, and do not scruple at selling to any one, however young, bartering a little for one or two eggs. In this way the children may procure the ether on their way to school.

#### ETHER PHENOMENA.

Intoxication by ether presents one distinguishing feature as compared with alcoholic intoxication. The phenomena are practically alike, but in rapidity of manifestation, alcohol is "nowhere." Indeed, in this respect, ether beats the record. There is the exhilarative stage of morbid exaltation, when the fun and exuberant merriment, the latent and ineradicable impulse of one "spoiling for a fight" of the genuine Irishman stands revealed in the twinkle of the eye, and the flourish of the shillelagh. The pleasing but quickly vanishing whirl of enjoyment is followed by an evanescent episode of brain disturbance and mental riot, with muscular paralysis and incoördination. To these succeeds the concluding comatose stage, when the patient is said to be "dead drunk." The shortest period in which I have seen this inebriate panorama move on till it swung round to recovered sobriety has, with alcohol, been six hours. With ether, I have witnessed the entire revolution in less than two hours.

In my observation an alcoholic inebriate career, from start to a fatal finish, has in America been, on an average, one-third of the duration of a corresponding career in Britain. So, curious to say, has the length of an ether intoxicative paroxysm been one-third the length of an alcoholic intoxicative paroxysm. Thus the etherist can have three thorough "drunks" for one of the alcoholist. Herein, in addition to the greater cheapness, lies the superior claim of ether to the "greedy for intoxication," the true "narcomaniac."

Intoxication by ether may be described as "hysterical," and intoxication by ether *cum* alcohol as "maniacal." A man arrested while drunk on ether alone, would probably be quite sober by the time the constable had him at the police station, which might be very awkward for the constable, though the arrest had been made

when the man was in a frenzy of boisterous excitement. Several deaths from ether, and *ether cum alcohol*, have occurred.

#### PATHOLOGY.

Little is known of the pathology of ether. The habit has been too young to afford opportunities of much post-mortem examination of ether inebriates. Premature old age, an antedated shriveling up of the living frame, attests the poisonous influence of the destroying agent. Gastritis (acute and chronic), debility, dyspeptic distress, epigastric pain, pallor, tremors, timidity, moroseness, suspicion, nervous prostration, chilliness, a cyanosed or lemon skin, and an intermitting heart-beat, with exaggerated reflexes, are prominent symptoms. I have one such victim in my mind's eye now. Fawning, cunning, terror-stricken, this wretched medical colleague is the incarnation of utter misery. Not yet 40 years of age, he shuffles about like a worn-out old man of 90 after a wasted and mis-spent life. It has been urged by some medical authorities that ether is guiltless of producing any pathological lesion, from the almost lightning rapidity with which its inebriating manifestations appear and fade away, and from no serious morbid after-death appearances having been observed. This conclusion is, in my judgment, premature. Judging from the symptoms from which I have seen ether inebriates suffer, I have not the slightest doubt that ether has a pathological influence on various organs and tissues, and that, if ether drinking could boast of as venerable an antiquity as alcohol drinking, unmistakable lesions would have been but too manifest. What are the forty years of ether consumption by a hundred thousand persons, to the thousands of years of alcohol consumption by at least as many millions of human beings?

#### REMEDIES.

Happily, this new form of inebriation is but in its infancy, so there is some hope that its growth may be "nipped in the bud." As, in the conversion of methylated spirit into ether, the nauseous methyl products are destroyed, something might be done towards making the liquor loathsome to the palate by the compulsory addition of the wood spirit *after* the completion of the etherification, before the sale of the liquid. This, however, would be but a palliative, for I have had patients under my care who drank methylated spirit (some even from jars with anatomical preparations), and, in Edinburgh and Glasgow, Sunday drinking of this nasty beverage recently flourished apace. In a certain locality in the north of Ireland, the drinking of methylated spirit was introduced seven or eight years ago. At first confined to the very poor in a hilly district, it has spread rapidly, till now

farm laborers and farmers are daily indulging in it.

There are many inebriates who hate and abhor the taste of the intoxicant which, in their narcomaniac madness, they would barter their salvation to procure.

Another remedy would be the abolition of the retail sale. This would help by putting difficulties in the way of the drinker, but would only mitigate the mischief. Still more effectual would be the scheduling of ether as a poison, the sale of which is restricted to druggists under certain safeguards. This course was so readily adopted for Ireland by the British Government in January last, that I have yet hope the day will come when the more deadly allied poison—alcohol—will be placed in the same category, and so dangerous a drug will be relegated to the shelf of the apothecary, its sale hedged in with as stringent precautions as is now the sale of arsenic or prussic acid. But this halcyon era of prohibition will only be attained after a prolonged struggle, amid the howls and groans of an enraged liquordom, whose indignation is concentrated on all who attempt to "rob a poor man of his beer."

It is too soon yet to foretell the ultimate result of the bold step taken by our Government in scheduling ether as a poison, but it has made the procuring of ether for drinking purposes so difficult that for the present the sale has diminished by at least 75 per cent. I fear, however, that the cupidity of some wholesale dealers will incite them to risk the penalties of the law by surreptitious sales, which will speedily be ferreted out by the marvelous cunning of the diseased and demoralized inebriate.

The lines of sound treatment of ether inebriety, and of its prevention by law, must alike be based on an intelligent appreciation of the true character and etiology of ether drunkenness. This is, in reality, but a new manifestation of an underlying morbid condition which renders certain of the sons and daughters of men peculiarly liable to plunge into intoxication. We can never hope to succeed in the cure and prevention of any disease, until we first recognize the presence of the disease itself. The malady of narcomania, as subtle as it is far-reaching in its influence on body, brain and mind, and morals, is a legitimate outcome of natural law, and we will not be adequately equipped for the fight till we are thoroughly conversant with the laws under which every form of the disease of inebriety is developed and propagated.

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A NEW REMEDY FOR WHOOPING-COUGH is onabaine, in doses of about  $\frac{1}{1000}$  grain. It has been tried with success by Dr. Gemmell, of Glasgow, and lately by Dr. I. L. Porteus, of Yonkers, N. Y.—*New York Med. Journal*.