

On ether-drinking and extra-alcoholic intoxication / [Benjamin Ward Richardson].

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ON ETHER-DRINKING AND EXTRA-ALCOHOLIC INTOXICATION.

THOSE who like to find excuses for indulgence in the use of alcoholic drinks are apt to argue that the taste for intoxicants is a part of natural man. Some go further and declare that the said part, more clearly than anything else, distinguishes man from the beast. The beast has no taste for strong drink ; the beast never gets drunk of its own will and pleasure ; the beast knows nothing of the enjoyment of the wine cup, of wine that maketh glad the heart of man : therefore, the poor beast is a little lower than man, as man is a little lower than the angels.

It is a pity to break this delusion, but it must be broken. Beasts are not so much lower in intelligence than man that they cannot enjoy wine. Man is not so much above the beast that he alone can enjoy it.

With both man and beast the taste for and enjoyment of alcoholic drink are mere matters of education. You can educate either of them to take strong drink, and the world, if it liked the amusement, could train up menageries of drunken beasts that would rival the gin palaces of Liverpool, Manchester, or London itself.

There is a disease common amongst the hard drinkers of the human family which has gained the common name of "gin-drinker's liver," and which the learned members of the Faculty of Medicine call "cirrhosis of the liver." The disease consists of an indurated condition of the liver which impedes, and as a rule fatally impedes, the function of that vital organ, with dropsy as a further condition, and death in due time, which is not often a long time. Amongst my pathological specimens I have the cirrhotic liver of a cat. This cat was taught by some young children to drink alcohol. The cat would amuse a company at dessert by taking her share of old port, and by becoming first excited and then very stupid, unsteady, and sleepy. In a few months this feline drunkard became dropsical and soon died. Her liver presented one of the most typical examples of cirrhosis.

an uncircumscribed and unlimited? And this I observe in those great lovers and lords of reason, quoted by the fathers, Zoroaster, Trismegistus, Plato, Numenius, Plotinus, Proclus, Aurelius, and Avicen; that when they spoke of this mystery of the Trinity—of which all wrote something, and some almost as plainly as Christians themselves—that they discussed it not as they did other things, but delivered them as oracles, which they had received themselves without dispute.”

The feverish life of Suckling never fulfilled its true issues. Expatriated and disgraced, his sun went down in a foreign land, ere almost it had reached its meridian. He possessed, however, a true and exquisite genius, as his lyrical outpourings abundantly testify. The vicious habits he contracted in early life almost paralysed his talents, except on rare and special occasions, when the brilliancy of his genius forced its way through the clouds of sorrow and humiliation. He remains to us chiefly a name, though there is indicated the outline of a master of lyric verse but little below the first rank. He never carried his genius to such perfection as did Herrick, but he has individual stanzas and poems which are equal to anything that Herrick, Wither, or Waller ever achieved. To the allurements of a court at first brilliant and trifling, then sensual and devilish, we owe in great measure the failure of Suckling's life, and the extinction of his fine genius. But, when all deductions have been made, there still remain substantial reasons for classing the poet honourably amongst the distinguished men of his age.

GEORGE BARNETT SMITH.

When I was conducting my researches on the influence of alcohol on animal temperature, I fed pigeons on peas that had been soaked in a solution of alcohol. At first, as is the case with the human subject, objection was taken by the birds to the foreign substance in their food, and in a few instances the wiser birds objected to it altogether. But others, so far from objecting, soon acquired a taste for the foreign substance and became decided alcoholics. They quickly were made sleepy, drowsy, and in short diseased animals, but for that they did not care. The alcoholic constitution once pronounced in them, they were fond of the luxury that led to it. If they could have talked to their abstaining fellows, what arguments they might have used ! Happily for the world that feeds on pigeons, they could neither talk nor argue alcoholically.

A horse will learn to drink beer. One day, when I was riding in a hired carriage near to Canterbury, the horse stopped short at a wayside public-house. I asked the driver what that was for. "The horse," said he, "always stops here for his beer ; he wouldn't go by on no account ; you couldn't whip him by, sir, till he has had his beer. His former master taught him to drink beer and invariably treated him to it at this house, and here he'll stop till he gets it." It was the fact. A large tankard of beer was brought out for that horse, and he disposed of the fluid with as much relish as his master, and then went his way. "It's a shame," added the driver, "but young fellows from London who like a joke, and who also like beer themselves, will sometimes give him a lot and make him very drunk. Then he is awkward to drive, and bad for two or three days afterwards, and we have to give him more beer to keep him up, which costs a lot."

In some parts of the country it is the custom still to feed fattening calves with what are called "gin balls." A portion of barley flour is made into a paste, and to the paste a measure of gin is added. The gin paste is then made up into rolls and the calves are fed with the rolls much in the same way as the traveller Bruce recorded that the Abyssinian lords were daily fed by their faithful wives. After this refreshing meal the calves are for a short time frisky and wild in the darkened and warm cells in which they are placed to fatten. But before long they go down on their knees, get exceedingly drowsy, and do not move again, nor care for anything, until the next meal comes round. "They soon take very kindly to gin balls," a feeder of calves told me. "They soon like them better than anything else, and the gin keeps them so quiet, that they are fattened up in half the time, in the dark. If we didn't give them gin, they would

get restive in the dark and wouldn't get fat." The moral of this is very effective when we remember how many human beings get ready to die by gin and darkness.

It is a delusion, then, to suppose that all the pleasures and advantages of the alcoholic existence are confined, by nature, to the higher animal, man. Nature providing for the exercise of free will, lets us learn to partake of what is even foreign to her rule. Man learns to make alcohol and offers it to other men, who take it and like it after they have gone through the nauseous ordeal, which Nature as a warning imposes, of learning to like it. It would be one of the strangest things in all living phenomena if this learning were confined to man. It would be as strange as the special phenomenon of the gift of speech in man, and would really suggest that wine was made for man alone. It happens in this case, however, that the strangeness of the phenomenon in relation to strong drink does not hold good. The lower animals—the cat, the dog, the horse, the calf, the pig, the jackass—nay even the goat which does not ordinarily drink water, can learn to enjoy strong drink equally with man.

All-provident Nature, how wonderful is thy beneficence !

If the day should ever come when, under the extending guidance of man, the alcoholic constitution shall be generally introduced into the ranks of the lower animal kingdom, it is difficult to forecast what developmental changes will take place. There will be new races of the lower animals, and breeds inapproachable. What shorthorns we shall then have ! What a splendid new breed of sheep another Jonas Webb will send to the prize show ! What horses will run for the Derby ! what hounds pursue the flying Reynard ! What trustworthy carrier pigeons there will be ! How much more faithfully and steadily the dog will serve his master ! What fine pathological cats, dropsical and drowsy, will purr on the hearth rugs ! What butcher's meat will hang up in the shambles ! How the lions will roar and the monkeys gabble and chastise their better halves in the Zoological Gardens and travelling menageries ! With what skill the buyer of animals will alter his computations so as to estimate his bargains by the shorter life of that which he buys ! What modifications of tables the accident insurance offices will introduce by way of increased premiums for all travellers on horseback, and by teams on the roads ! How delicious it will be to cross footpaths in country fields where the oxen have so much brandy or beer put into their drinking-water, to keep them up and make them lively ! This truly will not be the day "when the wolf shall dwell with the lamb, and the leopard shall lie down with the kid, and the calf and the

young lion and the fatling together; and a little child shall lead them." But what import is that? If it be good that man shall possess of himself the advantages which up to the present time have only been exceptionally possessed by the beast, why should the beast be deprived of the improvement? It is the duty of man to improve the life standard of every useful thing in life that is under his command. Let him be logical, and extend the improvements inflicted by alcohol, assured that they will be reflected back again to himself a thousandfold in proportion as their goodness is extended to the world of creation beneath his own.

The opinion that no animal save man can enjoy the advantage of indulgence in alcoholic drinks so far disproved, there arises a second opinion, that alcohol is an agent unique in its kind for conferring on man the advantages that are sought from its use. Nothing, it is said, could adequately replace alcohol for the purposes it subserves. Here again we come into contact with another delusion, which, like the former, is maintained only because all the facts are not so generally known as they might be; the truth being, that there are a number of agents which answer all the purposes of alcohol, which are less injurious than alcohol, which are more convenient to take, which, when the taste for them is acquired, are equally pleasant and some of which produce a much more ethereal and refined intoxication than any wine or other alcoholic drink that is commonly brought to the table.

To the delight arising from the employment of these agents I apply the term, *extra-alcoholic intoxication*.

The alcohol which enters into our common wines, beers, and spirits is called by the chemists ethylic alcohol, or sometimes deutylic. Not many years ago it was unknown that there was any other alcoholic spirit in existence save and except this one alcohol, which could be distilled over from wine and other common fermented drinks. Now we know that there is a large family of the alcohols, each member of which is constructed of precisely the same elements,—viz. : carbon, hydrogen, and oxygen—with the oxygen element remaining the same, but with the two first-named elements, the carbon and the hydrogen, holding different relative proportions. By accident of discovery the ethylic alcohol, or alcohol of wine, was first brought into use, but all the other alcohols have intoxicating properties, varied only in effect by the difference of their physical qualities, one being lighter and the others heavier than the common and long-known ethylic alcohol. The lightest alcohol, called methylic or wood spirit, is a quick intoxicant. It may be driven easily into vapour, and the

vapour being breathed, men and animals can be made insensible by the mere act of breathing it, just as they can be made insensible or intoxicated by the vapour of chloroform. Taken in water as a drink, methylic alcohol intoxicates in the same way as the ethylic spirit does, and with the same stages of intoxication.

In accordance, however, with the physical character of methylic alcohol, the action of it in all its stages is less intense than is that of the ethylic alcohol. Four stages of action, one of excitement, a second of excitement with some slight failure of mental and muscular power, a third of failure of both muscular and mental power, and a fourth of complete unconsciousness and of actual prostration,—all these four stages are produced by methylic alcohol when it is taken in sufficient quantity, but are brought about more quickly by it than by the heavier ethylic spirit, and they pass away more quickly when they have been inflicted on the living animal. A good third of time for bringing on action as well as for recovery from action is saved by using the lighter alcohol. Those, moreover, who have learned to drink the lighter alcohol in its pure form acquire a taste for it which is as distinctive as the taste may be for gin or whisky or old port, while they tell you that the exhilaration produced is more refined and the after-effect less disagreeable than from other kinds of stimulating drinks.

These are all advantages—the last named, that of the lightness of the after-effect, being the most intelligible. The man who is a drinker of wine and other strong drinks makes it almost a rule, in recommending his own particular favourite drink, not only to praise its goodness while using it, but its comparative harmlessness after it has been used. He knows that even his model liquor cannot possibly be swallowed so as to produce some present effect which he may consider pleasant, without, of a certainty, leaving some after-effect which requires to be apologised for. Of such disagreeables his model causes or produces the least number and the least demonstrative; therefore it is the best. It does not give headache like brandy, heart-burn like gin, giddiness and spots before the eyes like whisky, gout or gouty rheumatism like old port, acidity like claret or cider, or drowsiness and stupor like beer. It does something perchance, but nothing that a man need be pitied for enduring; therefore it is the best. One of my friends always drinks champagne. He does not like champagne so much as he does madeira or rich port, and he does not think it is so “sustaining” as either of those two wines; but then it never provokes a decided fit of dyspeptic gout, never lays him up for two or three days, as those fine old wines invariably do: it

produces just a little flatulency, and now and then a slight squeamishness and giddiness, but nothing more. For these reasons he holds by champagne as the wine which, on the whole, suits him best, or does him the least harm. He is a wiser man than many, but not the wisest. The few who drink the pure methylic alcohol hold the same ideas in respect to their model intoxicant, and in so far as their reasoning applies, at all reasonably, they are correct in what they say. Methylic alcohol, lighter than ethylic, causes a quicker sensation of what is thought to be pleasure, and for the same reason its action is more speedily over. In plain words, it escapes from the body affected by it most easily, in which particular it has a decided advantage over all the other members of its family as an agent to be used by the members of the human family for their delectation.

Up to this time methylic alcohol has not been so much used as one would suppose it might have been. The specimens of it in the market are, as a rule, so impure that there has been a prejudice against it. Yet I have met with those who would drink, with relish, even the impure sort, after a little training in drinking it, when it was made sweet and was diluted with water; while one person with whose history I am acquainted took the pure methylic spirit whenever he could get it, and looked upon it as nectar compared with the coarser spirits on which other and less refined mortals were foolish enough to stake their indulgences.

If common ethylic alcohol be treated with strong sulphuric acid,—the oil of vitriol of the ancient chemists,—there is formed a light fluid, which distils over, and which, because of its extreme lightness, has been called “ether.” Pure anhydrous ether, that is to say ether from which all traces of water have been removed, is one of the lightest fluids known. Its weight is 720 as compared with water as 1,000. If into the palm of the hand a little be poured, it begins to bubble with great rapidity, for it boils and passes into vapour at 94° Fahr., that is, at four degrees of heat lower than the temperature of the natural body. It is so much less soluble than the two light alcohols which we have had under consideration, that one part of it only will fairly dissolve in twelve parts of cold water. It has a taste which is very peculiar, and which, to the uninitiated in its use, certainly not pleasant. Any one of the members of the alcohol family, if heated with strong acid, will yield an ether; but different alcohols yield different ethers, according to their kind. The light methylic alcohol yields methylic ether, which under ordinary conditions exists only in the state of a gas, but which is compressible into a liquid. Ethylic alcohol yields the ordinary ether of commerce. The heavier alcohols yield heavier

and very potent ethers, the action of some of which I have studied, but which do not concern us at the present time. Our business is with the two lightest ethers,—the methylic and the ethylic.

The action of the common ethylic ether on man has been carefully studied on the largest scale, owing to the circumstance that it is the fluid used, by the inhalation of its vapour, for the production of insensibility to pain during the performance of surgical operations. The action of the lighter methylic ether has been a subject of special study by myself, and I have reported on it to the British Association for the Advancement of Science. As an ether it is the best and safest of all the anæsthetics, but it is not readily applicable, since it exists only in the gaseous state under the ordinary atmospheric pressure.

When either the methylic ethereal gas, or the ethylic ethereal vapour, is taken into the lungs by inhalation, the effect produced is exceedingly rapid; a full degree of intoxication, with utter unconsciousness and prostration, being producible in a few minutes of time. Still, rapid as the changes induced are, there are presented to the skilled observer four definite degrees or stages of action: (*a*) a stage of excitement; (*b*) of excitement with some confusion of ideas, and imperfect muscular control; (*c*) of loss of mental and muscular control and power; (*d*) of complete loss of consciousness, with entire muscular prostration.

By skill and practice in attaining the art, the fluid ethylic ether, or a mixture of methylic ether dissolved in ethylic ether, can be swallowed as alcohol is swallowed. The art of swallowing it consists in getting such a light and gaseous body down the throat. The feat can be accomplished by the assistance of cold water as an aid to swallowing, and the ether can thus be actually introduced into the human stomach. Once in the body, the ether is taken up by the blood, in the same way as if it had been inhaled by the lungs, but not with such rapidity. Once in the blood, it makes its way over all parts, and produces effects the same in relation to degrees or stages of intoxication as alcohol does.

Ethylic ether has been known to the scientific world for many centuries, and it has performed some of the most useful of purposes to mankind. It was by the discovery of its property of producing insensibility when its vapour is inhaled, that the grand re-discovery of the process of general anæsthesia was made in the present century. It was by taking advantage of the comparative insolubility of ether, and its low boiling point, that I, some years ago, was able to introduce the process of ether spray for local anæsthesia by cold.

In a world given to treating itself with intoxicants as if they were necessities of the living existence, it could hardly escape realisation

that so potent an intoxicant as ether should be thought of and applied for purposes of intoxication. Very soon after ether began to be used for the relief of pain, it became known that some persons indulged in its daily use. One of the first men I knew who tried it experimentally for the purpose of scientific research, took a liking to the ecstatic condition caused by it, and inhaled the vapour of it as regularly as he imbibed his nightly draught of whisky toddy.

This practice, however, did not gain ground in a general way, and for many years after the discovery of the anæsthetic properties of ether was little heard of. Inhalation of vapour of ether as a mode of habitual intoxication has, in fact, never been generally adopted.

But in another and singular manner the process of *drinking* ether for the object of causing the different stages of intoxication has been established in one part of this kingdom, and has attained such a degree of extension, locally, as to demand public attention. The phenomena produced by the practice of indulgence in ether drinking are indeed very remarkable.

When I was travelling in Ireland last year I was first told the history I am about to relate. I was informed in various towns in Ireland,—in Dublin, in Cork, in Waterford, in Ballymena, in Belfast, and in Coleraine,—that in certain districts of the North of Ireland there was a widespread custom of ether-drinking, and that it behoved me to go and inquire into the subject, the scientific as well as the social bearings of it being singularly important. It was a curious circumstance, but one of many similar, showing how very little the people of Ireland travel about in their own lovely island, that, although many persons could give me second-hand information of the practice of ether-drinking, I could not find a single person who could tell me a word about it from direct personal study or observation. At a place where I was dining with a rather large party of friends, I was told by one of the company that a friend of his had visited a village in the “mountains of the North,” where the people drank ether as other people drink whisky, and that the odour of the ether was sometimes so pervading it could be detected at the distance of half a mile from the village. The story created a good laugh, in which I rather rashly joined, and I specially wished to see and interrogate the visitor to the mountains who had observed so strange a phenomenon, but he had left the town, and I was unable to see him. For some days I received accounts of these ether-drinkers with, I must confess, a considerable doubt of mind, yet only to have the fact of their existence again and again enforced upon me. There-

upon I determined to go and see for myself, though not without suspicions, even when I started, that I should find my journey somewhat like a journey that is now and then made, to no satisfactory purpose, on the morning of the first of April.

I was directed particularly to Draper's Town, "a village in the mountains of the North," and accordingly I went there from Ballymena. I passed along the line towards Belfast, until I reached a junction where there was a branch line to Magherafelt, a very pretty market town, a few miles from Draper's Town. On inquiry I found that the ether-drinking practice was not much known in Magherafelt itself, but that round about there were "ether-drinkers," and that at Draper's Town there were plenty of them. We must have a car—I say *we*, because my son accompanied me—and away to Draper's Town. As we journeyed we were taken, or rather mistaken, for two of the members of the Drapers' Company, on a visit to look after our "nate little property in the mountains," and we could not remove the impression, though we did not wish to pass for what we were not. For some reason, which I could not get at, I was believed to be the solicitor to that respectable company, and as such I was carried away in a rough "jaunty" car, drawn by a skeleton of a horse that could go like the wind when guided by a driver who was as silent as the grave, in which, I am sure, that skeleton of a horse must by this time be taking its rest. In my life I have never enjoyed such a drive of beauty as from Magherafelt to Draper's Town. For the first mile or two the road is simple enough, up hill and down, with side fences and fields, and no extensive view. But soon we emerge into a very basin of light; not into a valley, but into a huge plain, with hills, or, as the natives say, "mountains" all around us. The mountains, blue in the distance as the bluest sea, shade away into filmy clouds, which, dark in their centres, and tipped at their edges with silvery white, look like monster seagulls floating for a time around the tops of the mountains or from one mountain to another, and then dissolving away. Yet these blue mountains, when you come to them, are seen to be richly cultivated to their highest parts, and their blue colour, as the approach to them draws near, shades into the practical green. In the various movements of the changing shades I forgot for a moment all about ether except the ethereal blue, all about drinkers of every kind except those who can drink in the beauties of Nature. I almost clapped my hands in my delight. Even that silent driver of the skeleton horse seemed for a moment to catch the enthusiasm, for when I pointed out the exquisite greenness of a mountain side he remarked, obviously afraid of admitting so much

to the ogre of a solicitor to the Drapers' Company, "that green shure enough was the colour of Ould Ireland;" after which he subsided for ten minutes at least, and only resumed the conversation to ask me whether when we steamed from Holyhead to Ireland I observed in the distance "Ireland's oye." A brisk drive across this plain in the mountains brought us to an ascent, and once more along shaded lanes until we came to a plateau; then down into a valley not very deep, and up again to another plateau, and so near to our journey's end. On our right, from beneath us, as if from a hollow, rose a body of light blue smoke. "That is the smoke from Draper's Town," said the driver. A little farther on we saw the tops of the houses, and a red flag floating on a high pole or mast. "That's the doctor's flag," says the driver; "the doctor keeps a flag, and he often flies it."

The wind was not in the right direction as we entered the town, so we did not smell ether. Soon we passed a neat hotel on our right hand, and then, turning sharply to the left, we were at the upper end of the town.

We had gathered, from the stories that had been told to us about this "village of the mountains," that it was a rude and straggling place. Instead of this, we found it, to our pleasant surprise, to be one of the prettiest places in the three kingdoms. The row of houses and buildings on the right hand, which look down on a lower part of the village, are good handsome structures. Before them is an open space of large size, like a big square, exquisitely neat and clean, and beyond the square the lower town, with a fine open street leading up a hill into the country, or, as the usual expression is, "into the mountains," on the other side. In the town are some large public buildings; and the parish church, which lies a shade apart on the right as we stand above, looking towards the lower town, is a fine old edifice.

A small market was being held on the day of my visit, and people were very busy and agreeable. They were all neatly dressed and well-to-do. The cars of those who were from the country were waiting for their owners, comfortable and well-fitted cars drawn by first-rate cattle. Making my way to the lower part of the town, where the business was being carried on, sure enough there was the enemy. As certainly as if I had been in the sick-room using spray for an operation, there, in the open space, came over to me the odour of ether. Amongst the people who were buying and selling the odour was prevailing. At the door of a house where ether could be bought the odour was as distinct as from an open bottle containing ether. Passing along so that the wind brought the vapour from the lower part of the town, I easily traced the odour of the vapour several

hundred yards, and the statement of the gentleman who had detected it half a mile from the town came back as one which ought not to have been laughed at, as it was, without any doubt, strictly true.

I was fortunate in carrying with me an introduction which enabled me to obtain the precise information I wanted and which confirmed to the full the fact of the existence of the habit of ether-drinking in Draper's Town and the adjoining district. My informants knew when the custom commenced, and had observed the results of it with the most careful watchfulness. But for this I might have made my journey in vain, for the habit is not proclaimed from the house-tops, and recently, owing to the influence of the Catholic clergy, which influence is strongly used against it, the habit is unpopular. Those who indulge in it are either silent in respect to it, or annoyed if they be questioned in reference to it.

There have been several theories started as to the origin of this practice of ether-drinking. That which comes nearest to the truth, as far as I could make out, is to the following effect.

During the temperance mission of the illustrious Father Mathew, that useful social labourer visited the North of Ireland, and in the course of his labours was so successful in the districts to which I am now referring, that practically he brought the whole of the people over from hard whisky-drinking to total abstinence from alcohol. The change was a social revolution for good; and has been effective for good up to the present hour, though numbers of those who took the pledge from the Father have died, and though no one like him has roused the younger generation to the same enthusiastic zeal for temperance. Father Mathew converted the district to his views. He may be said, in a certain sense, to have converted Ireland, for he lighted a fire which has never died out. But this particular district he converted most effectually. After his visit the whisky bottle and the still fell out of favour altogether, with the most evident signs of improving social progress and happiness. Unfortunately, one day some cunning diabolical spirit brought into Draper's Town the ether bottle. "This," said he, "contains no whisky, nor anything that will do you harm; but a new drink, which you may taste without, in any degree, breaking your pledge. Very little of it, not much more than a thimbleful, is required to cheer your spirits." "The new drink" was thereupon introduced, and has been in operation ever since. It got its introduction about the year 1846-7, and for thirteen years at least it was sold freely. It was never, I believe, sold regularly at spirit stores, or if it were sold, the sale was concealed. A glass of "the new drink" might be permitted to oblige a customer,

but the spirit-seller did not make a trade of it, partly, perhaps, because the sale of it was opposed to his interests, and partly because it might have led to the unpleasant interference of the excise officers, who could not truly have objected to the sale of the ether, since it was all made from methylated spirit, which is exempted from duty, but who might nevertheless have become very troublesome if, on pretext of inquiry into the sale of "the new drink," they had looked into other details which enter into the business of the most respectable seller of older liquors.

As a result, the sale of ether was confined almost exclusively, as it still is, to the shops of the grocer and of other small retailers. I was shown two or three of these shops as the chief depôts where the article is obtainable.

The customer who is given to enliven himself with ether swallows his draught commonly at the place of sale, though some take the drink home. There is an art in swallowing the ether. The drinker first washes out his mouth with water "to cool it;" next he swallows a little water to cool his throat; then he tosses down the glass of ether; finally, he closes in with another draught of water to keep the ether from rising, or, in other words, to cool his stomach, so that the volatile ether may not be lost by eructation of its vapour. In a little time the "trick" is easily acquired by members of both sexes.

The quantity of ether taken at a draught varies with different persons. Mr. H. Napier Draper, who has favoured me with two excellent papers on this subject, which he has published in the *Medical Press*, gives from two to four fluid drachms, that is, a quarter of an ounce to half an ounce, as the usual quantity. Before I personally inquired into the question I should have considered the quantity of half an ounce as a dose of ether impossibly large to swallow at once. I am convinced, however, now, that it is an understatement of the usual dose. A confirmed ether-drinker will toss off a wineglassful of the "new drink" and not be afraid, and a full-sized wineglass will hold three fluid ounces. It is not all who indulge to this extent, but few take less than half an ounce who take any at all; and from half an ounce to three ounces may be put down as the range of potation. Compared with the quantity that can be administered by inhalation this amount is not singular, as an amount. The singular part is that so much can be taken in the form of drink and not be rejected by the stomach.

The ether that is thus imbibed is not actually the pure ethylic ether. It is made from what is commonly known as methylated spirit—the spirit which is used ordinarily for lamps and other every-

day purposes. Methyated spirit is a mixture of ordinary spirit with impure wood spirit, that is, methylic alcohol which has not been carefully distilled, and which in this impure state has combined with it some pyroligneous compounds, small in quantity but very nauseous to the taste. The impure mixture being free of duty, the ether-makers or importers of Belfast and Dublin, who supply the north of Ireland with the "new drink," are enabled to supply it cheaply, namely, at from one shilling and threepence a fluid pint, about five times less than the cost of pure ethylic ether as we buy it "retail" in London.

Mr. Draper very clearly points out that if the ether had not been marketable at the price paid for it in the ether-drinking districts it could never have been introduced as a new stimulating drink. Estimating the consumption of the ether at four thousand gallons annually, he shows that if whisky were taken in the same proportion the excise return from it would amount to £5,666 per annum. The excise authorities are in this way deprived of a considerable income, presuming always that the equivalent of whisky would be taken if ether were not taken. For my part, I do not think that whisky would be taken in substitution to the full extent, but more in all probability would be at this time, when the original effect of the temperance pledge is dying out. The result, in the long run, does not affect the wealth of the community. If more whisky were taken and more excise duty paid, there would be more than corresponding injury inflicted by poverty, loss of useful labour, and increase of crime.

We may now turn to the physical effects of ether-drinking on the life of the drinkers.

It will be gathered from what has been written, that the ether which is consumed is a mixture of ethers and of some other organic substances. It contains two ethers, some of the light methylic ether dissolved in the heavier or ethylic ether; a little ethylic alcohol which has not been separated in distillation, and some organic odorous compounds, or pyroligneous impurities which have also distilled over in the process of manufacture. This impure ether compound does not boil in the hand, as the best ethylic ether does; it requires a temperature of 108° for its perfect boiling until it is all dissipated. It dissolves in water more readily than the purer specimens; one ounce of it will dissolve in eight and a half ounces of cold water,—water at 50° Fahr. In considering the ether which the drinkers imbibe, we have then a compound of two ethers, a little alcohol, and the trace of hydro-carbons which gives the peculiar odour. But I learned that the effects of the fluid are due to the two ethers, methylic and ethylic.

I have already indicated what is the action of these ethers on the body of a living man or animal when their vapours are inhaled by the lungs. The same effects generally are induced when the ethers are swallowed into the stomach of the ether-drinker. The swallowing of a draught of from three to four fluid drachms is followed by quick excitement, flushing of the face, rapidity of the pulse, elevation of the mind, and rapid unsteady motion of the body. The same first and second stages of alcoholic excitement that are caused by wine are developed by the ether, but so rapidly, and running so sharply the one into the other, that the two stages, which are so very distinct in the process of alcoholic intoxication, become hard to distinguish. In these stages the ether-drinker is, as a rule, loquacious and "free of his mind," as one observer very tersely explained to me. "He is free of his mind and sometimes shows his teeth, but, generally, laughter like that of a person in hysterics is the sign of ether-drinking." The pugnacious are often inclined to fight in these stages, and if they do fight, they seem strong, and struggle a good deal, but without much sense or judgment. In these respects, again, the ether-drinker resembles the touchy alcoholic during the first stages of his mania. There is, however, a great difference between the action of alcohol and ether in another respect. Alcohol, steady in its action, soluble and slow of elimination, clings to its man, holds by him, keeps up his excitement a long time and leaves him depressed, melancholic, weary. Ether, on the other hand, rapid in its action, feebly soluble in the blood, quick in being eliminated, escaping in fact by all the emanations—by the skin, the lungs, the kidneys—speedily releases its victim, and, without causing any great strain on his physical powers, leaves him suddenly a sober if not a wiser man. They tell a story in the ether-drinking districts of a stranger coming to visit his brother, and asking his brother, who was suddenly roused into a state of great elevation by a large dose of ether, what nonsense that was! "Nonsense!" stammered the ether inebriate, in self-admiration; "what do you think of being got up to this for threepence?" After which admiration, he seasoned down to his rational state, and was himself again.

The greater part of those who indulge in ether as a drink are content to stop at the first two stages of intoxication: but some go further, and, passing into a third stage, become at first extremely violent, and after a while quite insensible. They fall dead drunk, lie breathing heavily for half an hour or more, and afterwards wake suddenly quite sober. A few exceed this extreme limit and indulge in a poisonous measure. Dr. Morewood, of Draper's

Town, who gave me a most careful description of the symptoms produced, told me that a short time before my visit he was called to a man who had taken a large dose of ether, probably after having also taken some whisky, and who suddenly fell and ceased to breathe. Before Dr. Morewood reached this man he was dead. In three other instances in Dr. Morewood's practice an all but fatal result followed the taking of a large dose of ether, but by artificial respiration the life was sustained until the ether had time to eliminate from the body; recovery thereupon occurred, but the danger was deathly imminent. Mr. Draper, in his paper, refers to a case in which the vapour of ether, in the breath of an ether-drinker, caught fire. The drinker, in this instance, was reported to be always taking ether, when one day, after swallowing a quantity, he went to light his pipe, and the fire caught his breath. A person near held the burning man down, and poured water quickly into his mouth, by which the flame was put out, and no great harm was done. I did not hear of this escapade myself in the district, but I have no reason to doubt its truth. A medical friend of mine who was using ether spray to extract a tooth late at night, unwittingly brought a lighted candle to the mouth of the patient to examine if the whole of the offending molar had been removed. To the operator's dismay, as the patient exhaled a breath of air from his lungs charged with vapour of ether, the vapour caught fire, and but for prompt attention a serious accident might have resulted. As it was, great alarm and some superficial burning of the lips were experienced by the sufferer.

I gathered from my inquiries that, taken as a whole, the symptoms of intoxication caused by ether-drinking are identical with those produced by alcohol, but are of slighter duration. From the flushing and surface warmth of the first stage of intoxication to the pallor and surface coldness of the last stage, all is the same. I learned also that the taste for ether-drinking is speedily acquired, and that when it is acquired the craving for ether is as strong as ever it could be for alcohol.

It will occur to the reader, perchance, that the action of ether on the animal body is more deplorable than the action of alcohol, and that for the benefit of the sufferers from ether-drinking the practice ought if that were possible to be put down with a firm hand. I should quite agree as to the suppression of the practice; but I am bound at the same time to state the truth that ether intoxication is actually far less injurious socially, morally, and physically than is the alcoholic intoxication.

In the first place, the ether-drinker as he comes more readily

under the influence of his indulgence, is the sooner rendered incapable of continuing the indulgence. He falls before he is hurt and before he has much time to hurt others. For a few minutes he does, or, more correctly speaking, he may become a savage, but he never becomes a sot, existing for hours at a time, or even for, days a helpless, morose dog, unable to help himself and determined to help no one else, however rightfully they may claim his assistance. Neither while he is a savage does he retain for any long period the power of doing mischief. His violence of temper is brief and is mingled with outbursts of crying or laughing, like the wildness of the hysterical rather than the furiousness of the mad. Indeed, the intoxication produced by ether may be compared to alcoholic intoxication, as the hysterical representations of some diseases are comparable to the same diseases in their reality. The fury of the ether aberration is therefore fitful, and, better still, it is short. It is a volatile fury, volatile as the fluid which produced it. When a man is raging from strong and fiery alcoholic drink he wanders about, often for hours, exercising a kind of reasoning unreason, irrepressible in what he does as a whole, yet with flashes of directing reason which lead him to carry out evil acts and purposes with a design, skill, and intention which to the bystander may look in every particular like intelligent purpose, but which the drunkard is really doing without being himself fairly conscious, and which when he has become sober he has utterly and absolutely forgotten, if it can be said that what he did was ever implanted on his memory. For a moment the ether-drinker may imitate the alcoholic in some of these respects, but it is only for a moment. Before he has time to plan and carry out his miserable scheme he is liberated from the devil that possesses him, or at the worst falls, for a season, into complete insensibility, harmless, unconscious, and ready soon to return to the realities of life, sober and in his right mind.

I was specially anxious to ascertain whether under the influence of ether intoxication crimes of violence extreme, prolonged and plotted, were carried out, in the affected districts. I could hear of none such. I heard of blows being struck during the short fury, and of foolish things that were half said and done; but the description was tempered by the explanation that under excitement from ether there was not time for continued violence nor for the carrying out of a matured design of evil. This experience tallies precisely with that which I have learned in observing the effects of the administration of ether vapour on men and on animals. When ether was originally introduced as an anæsthetic, and the medical students, to the great

body of which much maligned class I had then the honour to belong, were busy making experiments of administration on themselves, many amusing and short struggles occurred. Nor were the same scenes altogether confined to the students. I remember a grave assembly of learned doctors, with the gravest of its grave in the chair, losing his equanimity. An American student, short, powerful, and excitable, who was made the subject of experiment of ether-intoxication, rose during the stage of his excitement, and after bursting from his captors, and giving, with an eloquence remarkable for its passion and a candour equally remarkable for its completeness, the prevailing student views as to the various professorial and moral qualities of his teachers, finished off by going up to the grave and astounded president, to astound him still more by a deliberate double box on the ears which for many a long day was solemnly remembered. But the excitement was over in a few minutes, in minutes as compared with hours had alcohol been the exciting agent instead of ether.

In the next place, it must be admitted that, as a rule, the dream of the ether-drinker, while he is under the spell of his enchantress, is far more refined and light than the dream of the alcoholic, as that is usually described by those who have felt it. Sir Humphry Davy, in his memorable, perfect and original work on nitrous oxide or laughing gas, strikes a contrast between the action of that gas and of alcohol on mind and body. For the sake of experiment, Sir Humphry subjected himself systematically to an intoxicating draught of alcohol. He drank a bottle of wine in large draughts in less than eight minutes. Whilst he was drinking he felt a sense of fulness in his head and throbbing of the arteries. After he had taken all the wine the sense of fulness in the head remained, objects around him became dazzling, the power of distinct articulation was lost, and he was unable to walk steadily. At this moment his sensations were rather pleasurable than otherwise; the sense of fulness in the head soon, however, increased so as to become painful, and in less than an hour he had lapsed into a state of insensibility, in which situation he remained for two hours or two hours and a half. He was awakened by headache and painful nausea. The nausea continued even after the contents of the stomach had been ejected. The pain in the head every minute increased: he was neither feverish nor thirsty: his bodily and mental debility were excessive, and his pulse was feeble and quick.

In most precise terms the acute effects from alcohol are here faithfully depicted by one of the finest observers of natural

phenomena. The description reads in a still more striking form when it is compared with that of an intoxication produced by nitrous oxide gas in the same observer.

The description of the intoxication from nitrous oxide is taken again from a direct experimental and personal observation. Sir Humphry breathed nitrous oxide for a long time in a closed chamber, and felt some effects, which he has chronicled ; but it was not until afterwards that the full realisation of his new life was experienced. After leaving his " box " in which he had been breathing the gas, he began to respire twenty quarts of the pure gas, and thereupon the change of life began. He felt a sense of tangible extension in every limb ; his visible impressions were dazzling and apparently magnified ; he heard distinctly every sound in the room, and was perfectly aware of his situation. By degrees, as the pleasurable sensations increased, he lost all connection with external things : trains of vivid visible images rapidly passed through his mind, and were connected with words in such a manner as to produce perceptions perfectly novel. He existed in a world of newly connected and newly modified ideas. He theorised : he imagined that he made discoveries. When he was awakened from his semi-delirious trance by his friend Dr. Kinglake, who took the inhaling bag from his mouth, indignation and pride were the first feelings produced by the sight of the persons about him. His emotions were enthusiastic and sublime, and for a minute he walked round the room perfectly regardless of what was said to him. As he recovered his former state of mind, he felt an inclination to communicate the discoveries he had made during the experiment. He endeavoured to recall the ideas, but they were feeble and indistinct : one collection of terms, however, presented itself, and, with the most intense belief and prophetic manner, he exclaimed to Dr. Kinglake, "*Nothing exists but thoughts ! the universe is composed of impressions, ideas, pleasures and pains !*"

In this narrative we have a description of an intoxication refined to the extremest degree, from which recovery was rapid, with pleasurable sensations. It too is an intoxication the habit of which is easily acquired and craved after.

Sir Humphry Davy was a strong-minded man, by nature brave, resolute, wise, self-sacrificing. Yet, after he had become somewhat habituated to the taking of nitrous oxide for experiment's sake, he was led to make confession that " a desire to breathe the gas was always awakened in him by the sight of a person breathing, or even by that of an air-bag or gasholder."

Methylic and ethylic ethers produce effects which contrast with

alcohol and compare with nitrous oxide. Methylic ether when inhaled is to my mind more pleasurable in action than nitrous oxide. I experience a sense of suffocation from nitrous oxide which I do not from methylic ether; and certainly I can never forget the dream which once followed upon inhalation, not to complete but to all but complete insensibility of methylic ether gas. It seemed to me as I came under the influence that periods of time were extended illimitably. It seemed to me that the space of the small room in which I sat was extended into a space that could not be measured and yet could be grasped and threaded; as if my powers, mental and physical, adapted themselves, for the moment, to the vastness of the space. It seemed, to me that every sense was exalted in perceptive appreciation. The light was brilliant beyond expression, yet not oppressive; the ticking of a clock was like a musical clang from a cymbal with an echo; and, things touched felt as if some interposing gentle current moved between them and the fingers. When the inhalation ceased at my own instance,—for, as my friend, the late Mr. Peter Marshall of Bedford Square, who was present, told me, I was sufficiently conscious to know when I had breathed long enough,—when the inhalation ceased, the return to the natural state of existence was imperceptibly rapid. As in a dissolving view I seemed to pass from one state into another by a solution of states; the dreams faded gradually giving way to the realities of the present, so that for an instant I had to ask which was real and which was unreal, until the mind was steadied and was once again fixed in its old abode. They who have felt this condition, who have lived, as it were, in another life, however transitorily, are easily led to declare with Davy that “Nothing exists but thoughts! the universe is composed of impressions, ideas, pleasures and pains!” I believe it is so, and that we might by scientific art, and there is such an art, learn to live altogether in a new sphere of impressions, ideas, pleasures and pains. But stay: I am anticipating, unconsciously, something else that is in my mind. The rest is silence, I must return to the world in which we now live and which all know.

The action of ethylic ether is in some degree similar to that of nitrous oxide and methylic ether, but in a grosser sense. The dream is not so refined, the insensibility is more prolonged after the fluid ceases to be received by the body, and in every stage the state produced more closely resembles that produced by alcohol. Sometimes, indeed, nausea and even vomiting follow on the effect of the ether after the consciousness has been restored. In plain terms, we have in ethylic ether a heavier substance than we have in the two gases.

The nitrous oxide gas and methylic ether are eliminated from the body in the same form as they enter it, as gases. Ethylic ether, condensable in the body into its fluid form, is less rapid in its diffusion and is less easy of extrication from the body. It passes all away as ether, leaving the body free of its presence without combining with any of the tissues, or more than temporarily interfering with the functions of the vital organs ; but, as the prolonged odour of it in the breaths of those who have taken it shows, it clings longer than its subtler allies do to the body.

The person under ethylic ether has often a furious dream, or a foolish dream, or a perturbed sleep of the dreams of which he remembers little or nothing when he re-enters the world. He very rarely experiences ecstasy even when he takes ether that is perfectly pure.

The ether-drinkers who imbibe an impure ether, a mixture of methylic and ethylic ethers with a trace of alcohol, and with a trace of the hydrocarbons which are so unpleasant to smell and taste, experience a rapid but not ecstatic intoxication. I have shown already how this intoxication differs, objectively and subjectively, from the alcoholic intoxication in those who take ether by inhalation ; that it causes a sharp and intense drunkenness, so sharp that the four stages can hardly be individualised, and so short that recovery is all but immediate. Ether has this luxurious advantage over alcohol as an intoxicant that under it a man may get intoxicated and sober some half-dozen times in the twenty-four hours, and may start off again for the next twenty-four, suffering less than he would suffer from one intoxication, equally deep, induced by alcohol. There are some in the ether-drinking districts who do really consider this to be an advantage, an advantage all the greater because the process is not only brighter and sharper, but very much cheaper. A good threepennyworth of ether is a perfectly satisfactory potation for one luxurious intoxication. The economy of ether-drinking, by those who like it, needs no further exposition.

There is one more advantage from ether-bibbing over wine and spirit-bibbing, which is most important of all. Men and women who steadily indulge in the use of alcoholic drinks quickly and certainly attain one or other stage of the "alcoholic constitution." They may call themselves moderate drinkers, but as soon as ever they begin to feel that alcohol is a necessity and that they cannot abandon it without a struggle, they are under its ban, and are to some extent physically impaired by it. Their blood vessels are easily congested ; their digestion is readily deranged ; their spirits are quickly depressed ; their muscular power is very rapidly prostrated ; and, they grow, almost

without exception, prematurely old, dying in the early years of the third term of life, that is to say, soon after sixty, from kidney disease, heart disease, lung disease, brain disease, or some other of the degenerations of the vital tissues, which in healthier persons need not appear until the closing part of the third term, that is to say, until between eighty and ninety years, according to the present fulfilment of human life.

The ether-drinkers are not subjected to this same strain. Mr. Draper reports that he has heard of some whose minds have become affected under ether after long and free indulgence in it, and he also refers to an example of supposed loss of sight from the same cause. I am unable to confirm these rumours. I do not think anyone could have had a better authority on the subject than I was favoured with, and the testimony I received, drawn from a skilled experience and observation of twenty-five years, was, that in ether-drinking districts the dangers induced by ether are invariably the dangers incident to a sudden over-dose of the agent. The special organic diseases of the body, some of which so invariably follow upon the continued taking of alcohol,—such as gout, fatty degeneration, discolorisation of skin, cirrhosis, phthisis, albuminuria, general or local paralysis,—these, and other conditions of disease, different as affecting different organs, but similar in respect to producing modification of vital function, and all inducible from alcohol, are not induced by ether. It is true that some few ether-drinkers are affected by these diseases as if they derived them from the practice of indulging in that fluid; but on inquiry it is always found that, the indulgence in ether is combined, in these examples, with indulgence also in some form of alcoholic drink, usually in whisky.

The worst physical evils which seem to attend indulgence in ether-drinking are dyspepsia and excitability of mind, producing, in combination, a condition closely resembling true hysteria. When the short intoxication from ether is over, the person who has suffered from it is subject to flatulency, to depression and inactivity, and to hysterical disturbances, for which the remedy, too frequently sought, is another draught of the ether itself, by which the craving for it is much intensified.

The practical experience thus related is fully explained by the physiological readings of the action of ether, and is confirmed by them to the letter. A fluid so comparatively insoluble in the blood and other animal fluids, as ether is, is comparatively negative in its action. It enters into no durable physical combination with any part or structure: it undergoes no chemical decomposition in the body:

volatile as well as insoluble, it is easily liberated from the body; and, after a short time, it leaves the body without infliction of permanent injury.

We know, however, that it is a part of the physiological action of ether to disturb the stomach even when it has been administered by the process of inhalation; and we know further that in some persons it leaves hysterical nervous states which may, after one prolonged inhalation, remain for several hours. In the case of the experimentalist of whom I have spoken, who learned the habit of inhaling the vapour of ether daily, this hysterical commotion was a marked attendant symptom, and was urged, as is so commonly the case, as a reason for continuing the practice, because of the relief which was so immediately afforded by a few breaths of ether. The same reason, in nearly every instance, is assigned for the use of alcohol by the alcoholic community. The alcohol keeps up a constant malaise, which nothing so effectually removes, at a moment's notice as alcohol. Thus the vicious circle of evil is continued in fatal operation.

Taking it all in all, the history of the ether-drinker compares favourably with that of the alcoholic. We are so accustomed to witness the action of alcohol in our daily life; we see so many thousands making the physiological experiment of its use; we hear so constantly the story of its effects; we have grown up so familiar with the praise of its virtues, and so callous, if not ignorant, of the reality of its vices; we are so imbued with the idea of its necessity, and so ignorant of the fact of its being no necessity at all until it makes the necessity for itself; we are so impressed with the favoured protection it affords, and so blinded to the open secret of the incalculable danger it is ever imposing on the world; we are so disposed towards alcohol in all these points,—that when we hear of a practice of indulgence in some new intoxicant we are led to pity the wretches who are so deluded as to resort to that which seems to us so unnatural.

I doubt not most alcoholic tasters will pity and criticise the ether-drinkers of the north of Ireland. I dare say they will feel that the good priests of those parts are performing a noble work in their endeavours, which are incessant, to exclude the ether bottle from their parishes. With that sentiment I as candidly concur, I rejoice to hear and to know that the efforts of the priests are being successfully rewarded. If, however, by these efforts the whisky bottle begins again to replace the ether bottle; if, instead of indulging in the light delirium of ether, the converts are to resort to the heavy delirium of alcohol, then the conversion will be simply from one evil back to another evil that is greater and more inflicting in its sins and its

penalties both to the individual and to the community. I mean that in proportion to the physiological wrong done by the agent used, the physical and moral wrongs will multiply and increase.

Let not this view, however, be accepted as an apology for ether-drinking, or as an excuse for it. It is a bad practice, though there may be others that are worse. The ether-drinker is recurrently an irrational being incapable of perfect trust, and in so far as his indulgence is indulged, is demoralised. He also is exposed to personal danger, for the dose that proves fatal is easily reached, and if he were to become the representative of the millions of society, sudden death from ether would be an every-day phenomenon.

The grand object of the true reformer should be to suppress all sources of physiological wrong—the lighter as well as the heavier, the whisky bottle and the ether bottle, and all other similar bottles that lead to similar physical and moral inaptitudes for moral and healthy life—with equal promptitude and decision.

I showed at the opening of this article that the lower animals can be taught to drink alcohol, and not only to drink it, but in time to crave for it, and to take it preferentially to natural food. I may add in this place that, in a similar manner, the lower animals can be taught to take ether and to crave for it.

Some years ago, when I was giving lectures on the action of anæsthetic vapours, I had a pigeon which would walk into the anæsthetising chamber of its own accord as readily as it would go into its cage or climb on to its perch, and which would compose itself to the anæsthetic sleep at once with the most perfect equanimity. To the lookers-on this proceeding of the bird was a cause of astonishment and sometimes amusement. The truth, however, was that the animal in question had acquired a liking and craving for the anæsthetic vapours. Like all regular toppers, it had its particular tastes, and preferred the vapour of methylic bichloride to that of ethylic ether or amylene. But in the absence of one vapour it would always put up with another; and whenever it was brought near the etherising box it would fly to it and get into it as quickly as it could, and the more eagerly if any odour of vapour were diffused in it. I give this as one illustration because it was so distinctly marked, and will be so well remembered by many who attended my demonstrations. It is, nevertheless, only one of its kind, and it is not exceptional beyond the novelty of first seeing it or hearing of it. There is no domestic animal, I believe, that could not be taught to acquire the craving for intoxicating vapours and intoxicating fluids.

Haply some hoary-headed swain may say that these facts about craving for intoxicants are proofs direct that all the living creation

craves for stimulants, and that stimulants, therefore, are a part of the necessities of life. The argument in its application to men is often used because it is rather a convenient argument than a logical. If the craving were really a natural act, "the interpretation of an instinct," as one wise man has defined it, then it seems to me that natural law in this matter is an exceptionally confused and contradictory law, something nearer human than anything else that can be found in other parts of the domain of nature. If it be natural to crave for these things, why does not the craving begin before the things are known, and why should the craving be extended towards substances which none but persons advanced in knowledge could ever possess? The craving after ether, for example, when it has once been excited, may be as urgent in an unlettered peasant who does not even know that there is such a science as chemistry, as it would be in a learned chemist who knows that in order to produce an ether he must first produce an alcohol, a strong acid, and an elaborate apparatus, for the discovery of which some centuries of research must needs have intervened between the craving and the realisation of it. Nay, the craving when it has been excited may be as urgent in a lower animal as in the unenlightened peasant or the wise philosopher.

All things that are truly natural are naturally provided, and there is not a single natural necessity that is not naturally and bountifully supplied. We can modify all these and create a craving for the modification. We can modify the air so that what we breathe produces a different mode of existence; and for that very modification we can create such a craving, that the greatest of philosophers and the poorest of lower animals may long for the new life, and feel such an irresistible desire to breathe the new life, that whenever the mere means for accomplishing that desire are suggested, even by the sight of the means, the desire is all aglow. To my mind the evidence is conclusive that this craving, whenever it is indicated, is the crucial sign of aberration from nature; that it has no connection with the truly natural life, but is the interpretation of a morbid habit, acquired by man out of his own inventions, and communicable by man to other men and other animals lower than himself; incomparable with the divine schemes which he did not invent, and as far apart from them and out of harmony with them, as it is far apart from his good and out of harmony with it. Whoever craves beyond his wants is aberrant. Whoever makes craving the object of his life is mad and no longer in the ranks of the survivals of the fittest. In fine, to crave at all is to pray for death.

The history of ether-drinking which I have narrated is a singular

phase of social life in this century, and as such alone is worthy of record. It is still more worthy of record as a study of life under aberration; of the extent to which man can indulge in the freedom of his own inventions; of the desires he can gratify by his own inventions, and of the end and result of the gratification. It, with much more that is akin to it, tells us that, free as we are when we are running in concert with Nature, we are stopped when we try to go our own way; that so soon as we strive to make a nature of our own, or to alter the bases of Nature, so soon are we landed on the impossible; that if we try to invent no more than a change of dreams, fascinating as may be the attempt, we must, in the process, either become unintelligible one to the other or sink into the universal silence.

This is an old story. It is a story often told, and day by day illustrated. Yet never was it so well told, after all, as in the oldest of the old chronicles respecting those wise and powerful men who, in the vanity of their desires, said: "Go to, let us build us a city and a tower, whose top may reach unto heaven,"—and who tried the experiment.

BENJAMIN WARD RICHARDSON.