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SOME OF THE PREVENTABLE CAUSES OF
INSANITY.

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BY WALTER KEMPSTER, M. D.,

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The old adage, that an ounce of prevention is better than a pound of cure, appears to have taken forcible hold upon the thinking members of the community. Individual effort and advanced ideas in certain communities have given preventive measures an impetus unknown heretofore, and with results which could not have been predicted in the "good old times" when the adage was a proverb only.

To-day, the efforts of the advanced members of the medical profession the world over, are in the direction of the *prevention* instead of the *cure* of diseases; and the success thus far attending this departure is such as to warrant the furtherance of this object, if need be, by the power of the law.

Just where the line is to be drawn ultimately between those diseases which may be prevented, and those which may not, it is impossible to predict; but one fact is apparent and that is sufficient for our present purpose; it is, that wherever prevention has been thoroughly and completely tried, no matter whether the effort was directed against small-pox, diphtheria, scarlet fever, yellow fever or typhoid fever, there the disease has been stayed in its progress; these diseases *can not* find lodgment where there is no filth. The time has arrived in the progress of civilization, when it is necessary to impress upon communities the importance, and indeed the necessity, of keeping clean bodies, clean houses and clean cities, if they would enjoy freedom from disease; that cleanliness will yield healthfulness; that dirtiness will beget disease.

This much may be predicated of disease in general, but what has

this to do with the subject of this paper? Whatever diseases are to be ultimately considered non-preventable, insanity is certainly not to be so regarded.

Insanity is a disease which may be prevented in a large percentage of cases both by individual effort, by wise and wholesome laws by a proper training of the mental faculties, and a sound education.

To the proper training of the faculties, not so much perhaps in classic literature as in the laws governing mankind, and to individual effort, self control, etc., we are to look for the most perfect results to follow. Ignorance and apathy are the congeners which favor the spread of disease; these must be removed; the people must be made aware that either or both will spread misery and death in their wake, that universal cleanliness of body, home and town, and a close guardianship of health, will prevent insanity as well as other forms of disease.

Upon what facts are these statements based? If any one interested in the matter will turn to the statistics found in nearly every report issuing from hospitals for insane the world over, they will find in the table of causation a large proportion of cases of insanity caused by some circumstances which may be averted or controlled. Taking at random from among the reports of hospitals for insane for 1878, thirteen reports from as many states, it appears from the table mentioned that 1,236 persons became insane from causes clearly within the power of the individuals to have prevented, this being 28 per cent. on the whole number of admissions. And this is limited to causes, as before said, clearly within the power of the individual to prevent.

This estimate is too low, as the reports themselves indicate, for many were not included in the list who might have been placed there with propriety. Without entering further into a discussion of the general subject, let us for a moment examine some of the assigned causes enumerated and see whether they are preventable or not. The list of causes to which we refer are capable of indefinite division, but they can be just as well grouped and treated together. Among the most pronounced causes we may mention over-work; want of proper food; intemperance and dissipation, and disregard of the ordinary laws pertaining to health. Many cases of insanity may, and doubtless do, have as factors, several of the conditions enumerated above combined; thus, over-work and

want of nourishment generally attend each other perhaps as cause and effect; while intemperance, so far as it relates to the abuse of alcoholic stimulants and tobacco, may and often does lay the foundation for either or both the above named causes with many others, for the effects of intemperance are far-reaching, extending even to the third and fourth generations of the descendants of those who are addicted to the habit; not that each successive generation will be necessarily drunkards, but they will suffer the penalty which invariably follows the prolonged disregard of a general law. How does over-work produce insanity? Over-work of any kind, protracted for a length of time, may eventually produce insanity; but to avoid generalities and endeavor to benefit by the examples we meet with daily, let us examine briefly the kind of over-work that brings to our state hospitals those persons who have been been classified as insane from over work.

A large part of the population in the northern portion of this state is composed of persons who have sought a residence in the new world. Elated with the prospect of establishing a home and owning it, they settle in the forest. Ax in hand, their sturdy workmanship opens up a clearing in which crops are to be produced for the sustenance of life and for the accumulation of future wealth. Vigorous health, with prospects of emolument, lends strength to the arm of the young emigrant, and for a time he laughs at prolonged toil, frontier hardships and privations. Through wet and dry, cold and heat, from early dawn until latest dark, hard work, involving the active exercise of almost every muscle in the body, characterizes the laborious daily toil of a class of people who are unceasing in their effort to own the land they settle upon, at no matter what cost to the powers of physical endurance. The few hours of sleep snatched from the daily toil (and this begrudged) is not sufficient to rest the body from the fatigues of one day before another begins, and the process of wearing out exceeds the process of building up, long before nature intended that it should be so.

For a while all is well, and the draught upon the system is not noticed; but slowly, quietly, this drainage of strength, this over-work, begins to make its mark; the subject not being acquainted with the troublesome hindrances which prevent him from accomplishing as much work as usual, ascribes the difficulty to something else, and keeps on his way until, at last, when his farm is cleared

and paid for, he finds, alas! that he is broken down, and his incessant hard work, his disregard for the laws of health, his long defiance to the needfulness of rest, of sleep, now deprive him entirely of the latter, and he sinks into a profound melancholy or hopeless dementia, in which unhappy state he ends his days.

If to this condition we add want of the absolute essentials for the proper maintenance of healthy bodies, by lack of nourishment, another element enters into the case, an element which is even more potent for harm than hard work, and the break down will be more certain and the wreck more complete.

This is not an overdrawn picture — there are now many men and women in our hospitals whose history corresponds almost identically with the conditions above enumerated, who have been brought to their present state by over-work, and want of proper rest and food. It may be asked why this should be so, considering that the life of a farmer is regarded as the healthiest of occupations. Doubtless the farmer's life, so long as it is pursued in accordance with the laws governing life, is one of the very healthiest of occupations, but pursued as described, without proper rest, with no regard to the requirements of the body, disregarding wet and cold, no wonder that rheumatic affections attack the individual and prepare an easy way for the advance of other diseases usually connected with impaired circulation of the blood. It is not the occupation, but the ignorance of how to preserve health, that breaks down the individual.

Each individual is endowed with a certain amount of power; that power or force is maintained by properly balancing all the bodily functions, and this condition is maintained by performing no more work than can properly be done without making a draft upon the system. As surely as the force called upon to accomplish a certain object no matter what, exceeds the amount the individual can properly yield, just so sure does it take away from the power to resist encroachments of disease; indeed, it hastens disease, and hence shortens life.

The power possessed by each individual is a limited quantity; if the demand exceeds the limit, by just so much is health impaired and life shortened.

Exposure to cold and wet, to excessive muscular strain, and pro-

tracted hard labor, predisposes the individual to diseases of the circulation, to "heart disease" and to "nervous diseases," which frequently ends in insanity of a chronic type. The laws governing health and life are immutable and can not be ignored. Every one who imagines himself possessed of greater powers of endurance than his fellow man, deceives himself — he has already opened the door through which disease shall soon stalk, and his boasted prowess makes him an easy prey. Eight hours of hard muscular labor is as much as can be borne properly out of the twenty-four without damaging health. Eight may be spent in light work and amusement, and the balance must be spent in sleep. He who seeks to set aside the rule which time and experience both proclaim to be the best, does so with the positive assurance that he is shortening his own life, by bringing upon himself disease in some form.

Nature is a strict accountant. You may draw upon her resources, if you will, but she will demand back everything she gives; if she is not paid in regular installments the demand will come in bulk, and then only death will satisfy her.

With over-work of body there is usually another troublesome difficulty; it is worry of mind. Although seed time and harvest have continued almost uninterrupted since the world began, there is, nevertheless, among a large class of people a feeling that, perhaps, it will fail this year; if the worry is not about the crops it is about something else. Indeed, there seems to be a growing tendency to worry about everything that concerns life in any of its phases, no matter whether in the walks of the husbandman, or in the departments of commerce or the professions. Worry and fret, needless anxiety irritate every fibre in the brain and prevents nature from accomplishing her usually even course, so that her work can not be smoothly done; the result is always detrimental to healthfulness, inducing "nervousness," loss of sleep or horrible dreams, and in the end melancholy and insanity.

With many in our community over-work is attended by another fertile cause of insanity; that is, underfeeding. By this term (underfeeding) we not only understand want of sufficient food but also improper food, no matter what quantity is eaten; or, again, improperly cooked food, which was originally good and wholesome. It may appear paradoxical to say that there are many instances of a break down in physical and mental health, occurring

among people who live on farms, because they do not have enough to eat, but such is nevertheless the fact; among a certain portion of the community, the haste to get rich leads to little less than starvation in the household. I speak from actual observation, in asserting that insane people are brought to this hospital from large farms which they own, who have denied themselves the requisite nourishment to sustain a healthy body; living upon the most parsimonious diet, that the last grain of wheat may be sold. This is not true of the entire community, but there are people in the community who are accounted "well fixed," of whom it is true. Such cases not unfrequently recover at once, by simply supplying that which they have been deprived of—good food. Food, again, spoiled in cooking is not much better than a limited supply; indeed, is not so beneficial as a limited supply of good food well cooked.

The average stomach in an agricultural community is treated with little respect; it is often made to do duty which would ruin a grist mill or a soap vat, and it is made the receptacle for morsels never intended by nature for the human economy. "Hard bread," and salt pork fried till it is as tough as sole leather, and swimming in clear fat, which is used as a lubricant to the throat, making swallowing a possibility, the only apparent object being to get the mass into the stomach as rapidly as possible; and this continued three times a day, year in and year out, is not a method likely to strengthen the digestive apparatus, and it certainly does not supply all that the system needs to maintain health. Pork requires a longer time to digest than any other meat when cooked in a proper manner, and when floated into the stomach, a cinder on a wave of fat, the fact is that it does not digest.

Fried meat of any kind is less easily digested than broiled or boiled—but it will not do to digress from our subject, although a chapter might with propriety be introduced on the part played in the production of insanity by unwholesome and improperly cooked food.

A single fact may be mentioned upon this subject, which is, that the great majority of insane people, when brought to the hospital, have some difficulty with the stomach—generally called dyspepsia by the friends, but it often yields to the kindly influences of a generous diet of well cooked food.

It is no unimportant part that this matter of improper diet plays in the production of all diseases. When badly nourished muscles are called upon to do an amount of work which the well fed would fail to do, another element enters into consideration; an element which a little effort, a little knowledge rightly applied, would exclude entirely from the list of causes. No engineer would expect his engine to do full duty upon a half supply of fuel; then if his fuel was green it would seem hopeless to expect any result. Yet there are men, engineers of their own bodies, who require results just as impossible from the human economy, and wonder when the machine breaks down; the wonder is, that it should hold out so long.

To properly sustain all the functions of health, there must be a variety of healthy foods — the bones require one kind of nourishment, the muscles another, and the nervous system still another, and each will deteriorate unless it obtains the particular kind of food adapted to its wants. Some years ago, a very severe form of "nervous fever" broke out in Massachusetts, and afterwards in Michigan. It was fatal in its effects, the fatality apparently being due to severe spasms; for a long time the cause of this nervous fever baffled every one; but at last it was traced directly and unmistakably to the use of flour made from grain which was spurred, and from what is sometimes called "musty" grain, both unmarketable products — hence used in the household; a disposition of unsalable farm products not unknown at this time.

It is not supposed that the persons who used this kind of flour knew what the consequences would be, but unfortunately ignorance does not exempt mankind from the penalties attached to broken laws. It is our duty to know how to avoid the causes which lead to unfortunate results. Pork often contains the germs of diseases which are loathsome to contemplate; mealy pork is another name simply for pork containing tape worms; and the deadly trichina finds within the muscles of pigs a lurking place, waiting only until it reaches the stomach before beginning its work of destruction and death. These latter conditions are not perhaps direct precursors of insanity, but they are precursors of forms of diseases which, if they do not kill outright, leave the system in a condition which favors the development of any disorder which may seek entrance, ending sometimes in insanity.

There is no necessity for this to be so; that it is, can be made apparent to any person sufficiently interested to make personal examination.

We come now to the consideration of a cause which, for wide-spread energy, must be regarded as the great cause of insanity. I refer to the habitual use of intoxicants. Without entering into a discussion of the moral considerations pertaining to this subject, it is sufficient to say that the habitual use of intoxicants has caused more wide-spread misery, more revolting crime, more disease and wretchedness in every form than any other agent; without moralizing, however, it becomes us to consider the question in a candid manner, unbiased by personal feeling, and accepting results based upon scientific deductions in precisely the same manner as we receive demonstrations on any other subject, and for like reasons; that is, because they are true.

To start with, it may be necessary to ask whether the prolonged use of alcohol really does have any effect upon the various organs of the body; if so, upon what organs, and how they are affected.

To those familiar with the literature of this subject, it is "thrice to slay the slain," to assert that the prolonged use of alcohol has a direct effect upon the organization, and that its effects are deleterious; indeed, it has been called the "genius of degeneration," so marked are the pernicious effects of the continued use of alcohol in any of its forms upon the organs of the body.

Alcohol is the base upon which all intoxicants in ordinary use rest; no matter whether the beverage is beer, wine, or whisky, it is only a mixture in which alcohol exists in a greater or less quantity according as it is diluted with more or less water.

What, then, are the effects produced by the introduction of alcohol into the system?

We will suppose a healthy man who has never used alcohol in any form. The first symptom noted after the introduction of alcohol, is more rapid action of the heart; this fact has been established over and over again, both on man and the lower animals, and up to a certain extent the rapidity of the heart action increases proportionately with the increase of the quantity of alcohol drunk. As a result, the heart is overworked, and when the alcohol is withdrawn the heart flags — does not beat as fast or as forcibly as in health, and exhibits signs of weakness. When the heart beats fast the

blood is sent more forcibly through the blood vessels, giving color to the cheeks, indicating that the blood vessels have been filled up fuller than usual; the condition observed in the cheek is only an index of what is going on elsewhere; if it were possible to see the brain and spinal marrow, the same appearance would be noticed, that is, all the vessels are distended beyond their usual size, and by the process they are to a certain extent impaired. This effect is not brought about by the direct action of the alcohol on the heart or blood vessels, but because of its influence on the brain and nervous system first; and the brain being, so to speak, excited by the stimulus, causes the increased action of the heart. So that, (and this is the particular point to which direction should be called), alcohol exerts its power first upon the nervous system. This is well established, and has been confirmed over and over again by repeated experiments; it is a scientific fact, and stands apart from all moral bearings of the question.

The fact being established that alcohol acts directly upon the nervous system, it remains now to ascertain what results from its continued use. Without attempting to show the successive steps by which the brain and nervous system are affected by alcohol, it is sufficient to say, because of easy proof, that with every potation of alcohol the blood vessels within the brain, and they are to be numbered by the thousand, are distended; this distension continued, causes the vessel to lose its naturally elastic condition and it becomes permanently enlarged, and in time its walls are thickened. After a longer time the tissue of which the wall is made changes into a fatty state, which renders it comparatively soft and easily torn, and it then happens that we have apoplexy and death, or life long paralysis.

Not only does it affect the walls of the vessels, but it changes the very fibre of the brain itself and in much the same way, that is, by rendering the nerve cells fatty, or by shriveling them and wasting away the brain substance.

It must be admitted by every candid mind not biased by a preconceived idea, that an agent, no matter what its name, capable of producing such effects must give rise to disease of some kind.

What those diseases are can be shown by statistical evidence. Still further proof that alcohol enters into the nerve tissue directly, is found by experimentation upon lower animals; the brain being

subjected to examination during life, while the animal is under the immediate influence of alcohol. The conditions already enumerated so far as they relate to the circulation of the blood in the brain, then become visible; in several instances the same condition has been observed upon the human subject. Dr. Richardson, a celebrated English authority, once had an opportunity to examine the brain of a man within a short time after death. He says: "A man in a paroxysm of alcoholic delirium cast himself under the wheels of a railway carriage. The brain, instantaneously thrown out of the skull by the crush, was before me within three minutes after the accident. It exhaled the odor of spirit most distinctly, and its membranes and minute structures were vascular (full of blood) in the extreme; it looked as if it had been recently injected with vermilion injection. The white matter of the cerebrum [the large brain] studded with red points, could scarcely be distinguished when it was incised, it was so preternaturally red; and the pia-mater or membrane covering the brain resembled a delicate web of coagulated red blood, so tensely were its fine vessels engorged."

When large doses of alcohol have been given to animals and then the animals killed, the brain has been found saturated with the alcohol. Dr. Maurice Perrin says that "thirteen ounces of the brain tissue of dogs killed during alcoholic intoxication, triturated with seven ounces of water and submitted to distillation, gave nearly a drachm of alcohol. The same quantity of the blood submitted to the same experiment gave rather less." These experiments of Dr. Perrin confirm researches originally made by Dr. Marcet in 1860 and 1862. Another proof, should more be needed to establish the fact that alcohol acts directly upon the brain, is the condition known as delirium tremens, in which the affected individual sees sights and hears sounds, when there is no cause for either sight or sound except in his own disordered brain—disordered because of the presence of alcohol in the nerve tissue, creating hallucinations of the senses.

Again, the blood which carries the life-giving particles selected for the nourishment of the brain is disordered and disorganized by the use of alcohol, so that it can not supply the brain with proper food in proper quantities. The blood of confirmed drinkers, examined by the microscope, shows that it has undergone changes in its make-up which renders it to a certain extent incapable of prop-

erly performing its duties; hence the brain suffers doubly—first from the fact that the alcohol finds its way directly into the nerve tissue, and secondly, because it is not properly nourished by the only agent capable of conveying nourishment to it, the blood which is impaired by the alcohol.

Another fact, based upon strictly accurate data, concerning the susceptibility of those persons who habitually use alcohol, to all forms of disease, is found in a series of figures taken from "Neison's Vital Statistics," where it appears that intemperate persons have much greater mortality from head and digestive diseases than any other class of people, while the influence upon life itself is very great. Thus the average duration of life in a temperate person

At 20 years of age is 44 years.

" 30	"	"	"	36	"
" 40	"	"	"	28	"
" 50	"	"	"	21	"
" 60	"	"	"	14	"

While in the intemperate the chances of living are as follows:

At 20 years of age it is 15 years.

" 30	"	"	"	13	"
" 40	"	"	"	11	"
" 50	"	"	"	10	"
" 60	"	"	"	8	"

These deductions are based upon observations made on 357 persons, and is all that is necessary to establish the fact.

It is correct, then, to state that the intemperate use of alcohol is a continued process of degeneration, affecting primarily the brain and nervous system and disorganizing the body, and that it directly shortens human life by many years, through the disorganization it produces of bodily organs.

The organs it disorganizes most rapidly and effectually are the brain and those concerned in the circulation of the blood, the stomach, liver and kidneys, the latter all intimately connected with the proper nourishment of the body, and when diseased they become active agents in the production of disease oftentimes resulting in insanity.

What are the statistics of institutions for the care of insane persons as to alcohol being a cause of insanity? Upon consulting the

tables, it will be seen that quite a percentage of yearly admissions are attributable to the habitual use of intoxicants.

Bucknill & Tuke, who are regarded as good authority the world over on the subject of insanity, in their last treatise on this subject give a series of statistics gathered with great care, relative to the causation of insanity from the habitual use of alcoholic drinks, and they quote from the reports of institutions in different places, thus: In York, England, Dr. Needham reports 22 per cent. of the ascertainable causes of insanity among men due directly to intemperance; Dr. Clouston, a high authority, gives 22 per cent. for men; Dr. Kirkbride, Philadelphia, gives 22 per cent.; Dr. Earle, Massachusetts, gives 20 per cent., but the most remarkable statistics remain to be given.

M. Lunier published an article in 1872 embodying the results of his observations in the several departments of France, showing how insanity increased with the increased production of alcohol. He states that, "while the consumption of alcohol has nearly doubled between 1849 and 1869, the cases of insanity from intemperance have risen 59 per cent. with men and 52 per cent. with women."

In some of the departments where the proportionate increase in the manufacture of alcohol is known, and where accurate statistics are kept, the showing is remarkable. Thus, in those departments which produce alcohol, and where the annual consumption has increased in twenty years from four quarts per head to seven quarts per head, insanity from this cause has risen from 9 to 22 per cent.

In another department, where the annual consumption of alcohol has risen from six pints per head to three quarts per head, insanity from this cause has increased from 7 to 10 per cent.

In one department, where the annual consumption of alcohol has risen from one pint in 1849, and now (1872) is one quart per head, alcoholic insanity has only increased from 7 to 11 per cent.

In the department of the Somme, where but little alcohol is drunk, and scarcely so much in 1869 as in 1849, the number of cases of insanity from this cause has remained almost stationary.

M. Lunier also asserts that the increased number of suicides everywhere in France followed the increased consumption of alcohol.

Dr. Sheppard, the author of a work upon the subject of insanity,

says of causes: "Without doubt the most frequent of these is intemperance." In his report for 1876, he says: "It is painful again to allude to the large part which alcoholic intemperance plays in the production of insanity. A careful analysis of the history of the year's admissions clearly establish a percentage of more than 28 as due to this cause. And I am persuaded from the character of the individuals and the form of their malady in other cases, where the causation is not assigned or can not accurately be traced, that an addition of 12 per cent. may directly or indirectly be attached to the same origin. Thus we have an approximate record of 40 per cent. of the madness of Middlesex as due to a preventable cause, and that cause the growing passion for strong drink."

In a little work by Dr. H. Tuke, published this year, entitled "Insanity and its Prevention," the author states that among the causes intemperance unmistakably takes the lead. This is one of those facts which, amid much that is open to difference of opinion, would seem to admit of no reasonable doubt. "Some years ago I calculated the percentage of cases caused by intemperance in the asylums of England, and found it to be about twelve. This proportion would be immensely increased were we to add those in which domestic misery and pecuniary loss owed their origin to this vice. Although tax-payers grumble about the building of large lunatic asylums, it is amazing how meekly they bear with the great cause of their burden, and how suicidally they resent any attempt made to remove by legislation the area of this widespread and costly mischief."

With what singular force these words of Dr. Tuke apply to the same state of affairs in our own country. From the facts I have been able to gather, and from personal observation, I am satisfied that the average as stated above is low enough; that is, for the direct effect of alcohol in the production of insanity. Statistics of the kind are not easily gathered, because the friends of those who are the victims are not always willing to tell all the facts about the intemperate habits of the patient. A curious confirmation of statistics related to this subject is found in the report of Dr. Yellowlees, superintendent of the Glamorgan asylum, Wales. In a recent report, he says, that during the second half of the year 1871 the admission of male patients to that institution numbered twenty-four, while there were forty-seven and seventy-three in the pre-

ceding and succeeding half years. In 1873, during the first quarter, there were ten admissions, while in the preceding and succeeding quarters there were twenty-one and eighteen.

During the same period an experience precisely similar was noticed in the local prison; a less number of persons were admitted as criminals than there had been hitherto or subsequently in the same period of time. In seeking for the cause of this exceptional period, it was found that at that time the population, who were largely employed in coal and iron working, were engaged in a general strike, and that the miners and others having no money to spend for drink were obliged to be temperate, and there was a marked decrease of insanity and crime.

Maudsley says, that if it were possible to strike out at once all insanity from off the earth, it would certainly be reproduced by intemperance in the use of alcohol. I cannot close the remarks on the influence that alcohol has upon the production of disease in a more fitting manner than by a quotation from Dr. B. W. Richardson, in his *Diseases in Modern Life*. He says:

“There are times in the life of man when the heart is oppressed, when the resistance to its motion is excessive, and when blood flows languidly to the centers of life, nervous and muscular. In these moments alcohol cheers. It lets loose the heart from its oppression and lets flow a brisker current of blood into the failing organs; it aids nutritive changes, and altogether is of temporary service to man. So far alcohol may be good, and if its use could be limited to this one action, this one purpose, it would be amongst the most excellent of the gifts of science to mankind. Unhappily the border line between this use and the abuse of it, the temptation to extend beyond the use, the habit to apply the use when it is not wanted as readily as when it is wanted, overbalance in the multitude of men, the temporary value that attaches truly to alcohol as a physical agent. Hence, alcohol becomes a dangerous instrument even in the hands of the strong and wise; a murderous instrument in the hands of the foolish and weak.”

From the foregoing we are enabled to determine from scientific data without appealing to the sympathies, or dwelling upon the moral side of the question, that a large percentage of the cases of insanity are avoidable from this one factor alone. Now combine this with the conditions which almost invariably follow the

continued intemperate use of alcohol — domestic distress, poverty, want of food, unkindness, and, indeed, misery of every description, and what a sea of wretchedness is created in which mankind sinks, drowned in the depths of his own creation. Did it end here, it would be bad enough, but it does not; the habitual drinker invariably stamps his offspring with some form of bodily degeneracy. And so on, the widening stream gathers within its murky waters the unhappy multitude, swept onward to inevitable death of body and soul.

Another preventable cause of insanity is that of heredity. It is asserted upon the highest authority, based upon the statistics of years, that insanity is transmittible from parent to child. Statistics, gathered in all parts of the civilized world, confirm the general statement. England, France, Germany, Austria and America, each and all, have instituted enquiries of this kind, and each have arrived at the same results, although the percentages are not the same in each country, being modified by causes not necessary to explain here.

The statistics of Bethlehem hospital show that thirty-two per cent. of the admissions had hereditary predisposition. In what is known as the Retreat in York, England, hereditary predisposition was traced in one-third of the admissions. Baillarger gives the results of his observation in France as nearly seventy per cent.

Dr. Stewart, of Scotland, places the percentage of cases of heredity in the institution over which he presided at forty-nine per cent. The statistics of the Northern hospital at Oshkosh show that the percentage of cases admitted up to this time, who have inherited insanity, averages thirty per cent.

There is not a shadow of doubt that heredity plays a most important part in the causation of insanity, the least calculation placing it at from 25 to 30 per cent. on the whole number of persons admitted, and there are some excellent authors who make the percentage much greater. The chances of insane offspring resulting from the union by marriage of persons who have been insane, or who inherit insanity directly, is as great, if not greater, than the certainty of transmitting almost any other disease.

Cases almost innumerable may be cited, going to show evidence of transmissibility, if it were needed, but it is unnecessary; the facts are generally known, the difficulty that presents itself is,

how to make mankind heed them. It seems to be well established, that the mother's influence in the propagation of this disease is greater than that of the father; hence, when men select wives it behoves them to be careful whom they select, at least so far as this terrible malady is concerned. I know it is the lover's notion, that matches are made in Heaven; that is poetic, it sounds prettily; but there are those who believe that falling in love is a matter of taste; and depends upon the judgment (or want of it) of each of the contracting parties. The importance of securing, each for the other, a sound, healthful companion would be a great advantage to the world, and save a vast amount of sorrow and distress; but such things are unfortunately not often thought of. Just where society may attempt to regulate this matter it is impossible to say, and, indeed, with this subject we have nothing to do. Our duty is to lay the facts before society, then if they suffer they do it intentionally; they do it in the face of experience, and must abide the consequences.

To a reflecting mind one phase of modern civilization is peculiar. An unusual epidemic disease appears from some cause, probably filthiness, in some part of the country, which operates virulently for a time, and carries off a fifth part of all its attacks. At once assistance in the shape of money, sympathy, all that kindness and consideration can do, is done freely. Every device known to art or science is employed to stay the ravage; laws are passed, state and national legislatures make haste to establish strict rules, hoping to "stamp out" the scourge. This is as it should be. At the same time a scourge more terrible, a malady more dreadful, is fastening its fangs deeply in the vitals of the people; it progresses slowly but irresistibly; it is not confined to one locality, it is wide-spread as the earth, and where the scourge strikes down its tens, this malady strikes down its thousands, yea, its tens of thousands, and the stream is ever widening, ever deepening, and no strong hand of law is raised to stop its progress or make the attempt to keep it within bounds; the disease is *insanity*, of which it may be said that one-half the causes are apparently preventable.

There are causes of this dire malady which may not be reached by law—the passions of men allowed full sweep, anger, vicious life, faulty education, hope deferred, ambitions crushed, all aid to bring about those states of body and brain which end in madness;

these the individual must battle with alone, and conquer or be conquered as God gives him the strength; these must be made the subject matter for individual education, of individual self-government and discipline. It must be made a part of that universal human reason which Carpenter tells us is progressive, and by which we may hope to secure that watchful self-discipline which will benefit not only ourselves but those who are to come after us, by establishing an intellectual and moral constitution which our children and our children's children will inherit.

There are, however, some things which it would seem might be done by legislatures to help stay the onward march of this disease.

Intemperance in the use of alcohol gives us certainly 25 per cent. of all the cases of insanity; this is a low estimate, much lower than my experience would dictate. Heredity gives us, at the very lowest computation, as many more; there are then from these two causes alone, 50 per cent. of the cases admitted to hospitals for insane which might be prevented. Add to this the insanity induced by other causes, which we have not time to consider now, but which are certainly within the power of individuals or communities to prevent, and the aggregate would soon roll up a mighty army of men saved from a bitter experience. Who can compute the anguish spared; who can estimate the misery, distress, sorrow and desolation avoided; or the wealth accumulated, the happiness, peace and prosperity that would follow the prevention of any considerable part of the number made insane annually by preventable causes.

To remove only a portion of the trouble, would cut away the roots of untold sorrow, would confer a boon upon mankind to be estimated only by Him who holdeth the destiny of the people in the hollow of his hand.

