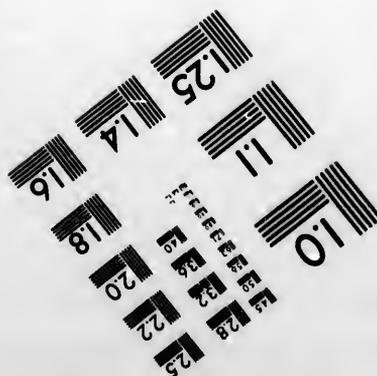
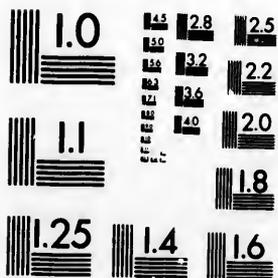


**IMAGE EVALUATION
TEST TARGET (MT-3)**



28
32
25
22
20

**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**



Canadian Institute for Historical Microreproductions

Institut canadien de microreproductions historiques

1980

01

Technical Notes / Notes techniques

The Institute has attempted to obtain the best original copy available for filming. Physical features of this copy which may alter any of the images in the reproduction are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Certains défauts susceptibles de nuire à la qualité de la reproduction sont notés ci-dessous.

Coloured covers/
Couvertures de couleur

Coloured pages/
Pages de couleur

Coloured maps/
Cartes géographiques en couleur

Coloured plates/
Planches en couleur

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Show through/
Transparence

Tight binding (may cause shadows or distortion along interior margin)/
Reliure serré (peut causer de l'ombre ou de la distortion le long de la marge intérieure)

Pages damaged/
Pages endommagées

Additional comments/
Commentaires supplémentaires

Bibliographic Notes / Notes bibliographiques

Only edition available/
Seule édition disponible

Pagination incorrect/
Erreurs de pagination

Bound with other material/
Relié avec d'autres documents

Pages missing/
Des pages manquent

Cover title missing/
Le titre de couverture manque

Maps missing/
Des cartes géographiques manquent

Plates missing/
Des planches manquent

Additional comments/
Commentaires supplémentaires

Blank leaves which were added during restoration may appear within the text. Whenever possible, these were omitted from filming.

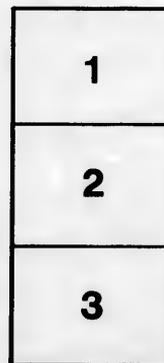
The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

The original copy was borrowed from, and filmed with, the kind consent of the following institution:

Library of the Public
Archives of Canada

Maps or plates too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ∇ signifie "FIN".

L'exemplaire filmé fut reproduit grâce à la générosité de l'établissement prêteur suivant :

La bibliothèque des Archives
publiques du Canada

Les cartes ou les planches trop grandes pour être reproduites en un seul cliché sont filmées à partir de l'angle supérieure gauche, de gauche à droite et de haut en bas, en prenant le nombre d'images nécessaire. Le diagramme suivant illustre la méthode :

Compliments of the Author

THE EFFECTS OF ALCOHOL

UPON THE

HUMAN SYSTEM.

AN ESSAY UPON THE CAUSE, NATURE AND
TREATMENT OF ALCOHOLISM.

BY

W M. CANNIFF, M.D.,

M. R. C. S., E N G.

AUTHOR OF "PRINCIPLES OF SURGERY," AND "SETTLEMENT
OF UPPER CANADA."

TORONTO :

ADAM, STEVENSON & CO.

1872.

1872
C 11)

P R E F A C E .

PORTIONS of the contents of the following pages were contained in a lecture delivered before the Young Men's Christian Association, Toronto.

B 2338

CONTENTS.

	PAGE
Alcohol as a Medicine.....	5
Stimulating Digestion—for a time only	6
Tolerance.....	7
Preventing “ wear and tear ” of the Tissues.....	7
Not required with plenty of nutritious Food, but becomes a Poison.....	8
A Violation of Nature’s Laws—Degeneration the Result.....	9
Physiological Difference between Water and Alcohol.....	9
Effects of Exercise upon any part of the Body ; also of Irritation.....	11
In spite of the Violation of Nature’s Laws—A Waste of Strength	11
Effects of Alcoholism upon Offspring.....	12
Effects upon the Brain.....	13
The term Tolerance.....	14
Benefits of Stimulants limited.....	14
A Medicine in Disease.....	15
As a Heat Generator.....	15
The Evils of Drunkenness of a Primary and Secondary Nature.	16
Adulterations.....	16
Inebriation	16
Secondary Effects.....	17
Not all alike affected.....	17
Ulterior and Indirect Results of Alcoholism.....	17
A State of Disease.....	18
Effects of Chronic Alcoholism not confined to individuals.....	18
Treatment of the Disease—Prevention.....	18
Statement of the Malady.....	19
Discontinue Alcoholic Beverages	19
Suppress Liquor Traffic—Prohibitory Law	19
Instrumentalities at Work.....	19
Appeal to Christians	20
Total Abstainers should be consistent.....	20

	PAGE
Elect Temperance Men to Office.....	20
Habits of Society	21
Treatment of Inebriates—Two Classes	21
Those who wish to be cured	21
Inebriate Asylums	22
The Basis of Inebriate Asylums..	22
An Asylum for Ontario.....	22
Treatment of the Vicious Inebriates—not by confinement in Jail.....	22
Reformatories.....	23
Legislation Necessary.....	23
Habitual Drunkards' Bill.....	23
A Patriotic Duty.....	24
The Future of Our Country.....	24
Conclusion.....	24

THE EFFECTS OF ALCOHOL UPON THE HUMAN SYSTEM.

IN the remarks I shall make upon the subject of alcohol and its effects upon the human system, the article in its unadulterated state will be referred to.

AS A MEDICINE

Alcohol may be regarded in a two-fold light; first as a medicine, secondly, as a supposed article of nourishment, or a sustainer of the system. It is not my intention to speak of it as a medicine, in the ordinary acceptation of the term, except to remark that it is a necessary agent in the treatment of many diseases; and that it is required to form many medicinal preparations. But it should, I submit, always be regarded simply as a medicine, no more to be used, unless definitely prescribed, than Opium, or Calomel, or Arsenic. Whether a substitute could not sometimes be employed for alcohol where it is now used in medicinal preparations, and whether alcoholic drinks are not sometimes unnecessarily recommended, are questions upon which the medical profession are divided in their opinions.

There are various drugs the active principle of which is abstracted by means of alcohol; but in many cases fluid extracts other than alcoholic might be obtained. There is, I fear, reason to believe that physicians oftentimes unnecessarily order, or recommend wine, beer, brandy, or champagne. Among some it is fashionable, and too frequently, as a matter of course, one or other of these is mentioned by the doctor. Sometimes he prescribes a stimulant because his patient asks him if he would not be better of something of the kind. I will now consider the question, 'to what extent can alcohol be called an article of food?'

It is an unfortunate fact that all physiological chemists do not agree, as to whether alcohol, when taken into the system, undergoes any change, whereby its constituent elements are enabled to enter into the nutrition and sustain the body. In other words whether it is altogether a poison or not. It will not advance the cause of total abstinence to ignore facts, nor should its advocates shut their eyes to the teachings of science. I believe that the cause of total abstinence is often injured, and its advancement retarded by injudicious advocates who are ignorant of scientific facts; just as Christian religion has suffered from the unwillingness of well-meaning Christians to recognise scientific truths.

STIMULATING DIGESTION.

Until it is fully established that alcohol is absolutely a poison and incapable of sustaining life, either in the way of nutrition or by preventing decay of tissue, it were much better to rest the cause of total abstinence upon other ground the stability of which cannot be questioned. I can, I think, put it down as a fact that alcohol is not an alimentary substance, that is it does not enter into the formation of tissue. Mainly, if not altogether, it is eliminated from the system in the same form as it enters. It cannot be converted into blood or tissue—it supplies to either no element for nutritious purposes. But this does not cover the whole question. May not alcohol when taken into the stomach stimulate the powers of digestion, and of assimilation of aliment, so that food received into the stomach will be more quickly and thoroughly made to undergo those changes which take place in nutrition? I am bound to say it may in certain cases, and in certain quantities, just as other drugs produce the same effect. The crude elements taken into the stomach, which are destitute of life, have to be converted into living blood. This process constitutes digestion, assimilation and development. Now alcohol may stimulate to more vigorous action; and if vigor be wanting it may prove beneficial. If, on the contrary, the organs engaged are sufficiently active, alcohol will cause too vigorous action, and will create disease by forming crude elements in the blood.

TOLERANCE.

Then, as a medicine or a drug, it should be administered with the same precaution and reserve as are observed with other drugs. A medicine continuously used for a length of time will cease to produce the original effect, but it may lead at the same time to the most destructive results—a tolerance is acquired. By tolerance is understood a condition of the system in which it becomes so accustomed to the presence of poison that no special effort continues to be made by nature to remove it, and which seemingly does not interfere with the functions of life.

PREVENTING "WEAR AND TEAR."

There is another way, however, in which it is thought possible that alcohol may prove serviceable. There is daily taking place in the human system what is called molecular decay, or the death of minute cells which in a variety of forms compose the structure of the body. It is this constant death—this "wear and tear"—which causes the demand for daily food. Each of these cells, which together compose the body, has an independent life, which may be of longer or shorter duration. The longer lived they are, the less food will be required to maintain the body; while, if their longevity be brief, more abundant food will be necessary.

It cannot be doubted that longevity of the cells may be increased or diminished by different circumstances. For instance, the greater the labor performed by the person, the more rapid the decay—there is more wear and tear. Again, a healthful condition of the nervous system and a tranquil state of the mind will promote longevity in the tissues of the body. And it must be admitted that certain agents, when taken into the system, seem to have the power to increase the vitality and the length of cell life. The minute cells are stimulated to a longer existence. Something the same as life in the dying body may be prolonged by means of stimulation. In this way it is possible that alcohol may sustain the vital properties of the tissues, rendering a less quantity of food requisite to support life. But supposing this theory to be true, it must not be forgotten that it is only when the quantity of

alcohol does not exceed a certain limit that it can be subservient in the way stated. If taken in excess, instead of acting as a conservator of cell life, it becomes a poison and produces most serious results of immediate importance as well as more remote magnitude.

In this connection, another fact must be prominently presented, namely: that plenty of nutritious food will, in a healthy individual, render alcohol entirely useless. Although without positive information, I have little hesitation in saying that in the case of the expedition of the troops to Fort Garry last year, when no spirituous liquors formed part of the supplies, there was a larger proportion of food used than would have been had spirits formed part of the rations; and it is the experience of medical men that after an habitual use of alcohol there will, upon its discontinuance, be a demand for a larger amount of food, for which there will be a sharp appetite, at least for a time. There is another fact of great importance, which is this: Although wear and tear of tissue may be rapid, and a large quantity of food be necessary to make up for this, yet it is a normal process; whereas the use of any agent which makes food less necessary, by preventing rapid decay of tissue, cannot be regarded otherwise than as establishing an abnormal action. And it may be laid down as an incontrovertible principle, that conformity to natural laws will conduce to health and long life, while any departure therefrom will entail punishment sooner or later, unless perchance the evil is averted, which is possible, just as it is possible by medical treatment to avert the effects of other violations of sanitary laws or indiscretions.

I repeat, then, that alcohol, in order to afford the probable chance of sustaining the tissues, must be taken in limited quantities; that even then it is an unnatural process, and entirely unnecessary with abundant food; that if continued for a time it ceases to have the same effects, and may lead to disease. In any case, when the amount exceeds a certain limit, it constitutes a poison, and in no case, can it be recognised as a pabulum of the tissues. But in conceding that the theory is possibly true, that when introduced into the system in limited

quantities it may preserve the living tissues, so that the molecular death and degeneration, constantly taking place as a physiological action, will not be so rapid, and thereby rendering a less amount of food absolutely necessary to sustain the body; we must not lose sight of certain facts which bear with great weight upon the question. It can scarcely be thought possible that any one would seize the admission of this probable fact as a justification for indulgence in alcoholic stimulants; as I have clearly pointed out the unquestionable fact that a proper allowance of suitable food will at all times meet the wants of the system, and that a physiological condition must be regarded as healthful; while a departure therefrom, as in sustaining tissue by stimulants, cannot be looked upon otherwise than abnormal, and consequently unhealthy. Let us now examine the point more closely.

A VIOLATION OF NATURE'S LAWS AND DEGENERATION.

The laws of nature in connection with animal life may not be violated with impunity. It is natural that each cell in the body should, after having served its purpose, cease to exist; leaving offspring to take its place. Now, although cell life may be prolonged by unnatural means, it will be attended with degeneration. The offspring will be less vigorous, and possessed of less vitality. There will, in fact, be degeneration of the body in various organs; and if such palpable effects follow a free use, can we reasonably suppose that even a limited use produces no devitalizing effect?

By degeneration is understood a change from which living organisms assume a degraded state; a lower position in the scale of existence. It is the reverse of development and growth. Degeneracy is often exhibited in the offspring of parents who have violated some law of nature. In the same way degeneration takes place in the new-born cells of the physical system.

PHYSIOLOGICAL DIFFERENCE BETWEEN WATER AND ALCOHOL.

I have assumed the position in the foregoing remarks, that alcohol under certain circumstances sustains the tissues of the body; but with this important effect, that

it tends to degeneration and decrease in the efficiency of the body—an effect far more striking when alcohol has for some time been taken to excess. But there are other effects almost always produced, at least at the first, when alcohol is received into the body. It is not an aliment, and is not decomposed to any appreciable extent. According to experiment, almost as much alcohol is excreted from the body as enters it, always allowing for a certain quantity that may remain suspended for a time in the tissues. Well, the same may be said of water; it is not an aliment—and is not decomposed—it passes from the body as it enters it. What is the difference in the two physiologically? The difference is most important. Water is a natural constituent of the body. It constitutes the natural vehicle by which aliment is conveyed into the body, it is necessarily present when those mysterious changes take place which constitute nutrition in the various tissues, and it is the vehicle again by which worn out, *effete* material is carried out of the body through the several excretory organs. Without water life would be impossible, although it may undergo no change, nor ever form a part of any organism. Alcohol, on the contrary, is never found as a natural element of the body. But more than this, it acts, when taken, as a foreign body, not as an inert substance, which may flow in and out, producing only transient effects, but as a noxious foreign substance; which the body takes prompt and decided steps to remove. Among the wise provisions of Nature, is one by which every substance offensive to the body is expelled. The excretory organs are generally employed for this purpose,—as the kidneys, the lungs, and, in a less degree, the skin. Now, when alcohol is taken, what is the first result, apart from the stimulation? Why, almost immediately the excretory organs set to work to carry off the poison, and up to a certain point they will do this work efficiently. No matter how small the quantity, the organs of elimination will promptly set to work to expel it, and even where the amount is great they will faithfully labor to carry out of the system the obnoxious material. In the effort to discharge this extraordinary work imposed upon them they often become incapacitated by disease.

EFFECTS OF EXERCISE OF ANY PART OF THE BODY—ALSO
OF IRRITATION.

It is a law prevailing throughout animated Nature that exercise of a part or organ will tend to increase its growth. Increase the exercise and the growth will continue, and increase. But there is a limit to this. So long as the exercise is attended by growth, it is called a "physiological stimulus," but if the exercise amounts to an irritation, then it becomes a "*pathological irritant*;" and growth is no longer possible; nutrition is arrested and disease follows. Such is found to be the case in connection with alcoholism. For a time the excretory organs will endeavour to carry away the alcohol, just the same as they would another poison which had found its way into the blood, doing double duty, and more, until at last the irritation of the poison in the organs causes inflammation; or, tired out by long continued labor, they cease the useless work, and become the seat of chronic disease, consisting of disorganization and degeneration, which will impair the general body, and result finally in premature death.

Thus it is seen that alcohol is not only incapable of sustaining the system as a food; but that it is a poison none the less deadly because its effects are not always immediately manifested. Here are two distinct effects from the use of alcohol; one due to the actual presence upon tissue exposed to the contact of the poison, the other due to the increased and unnatural work imposed upon certain organs.

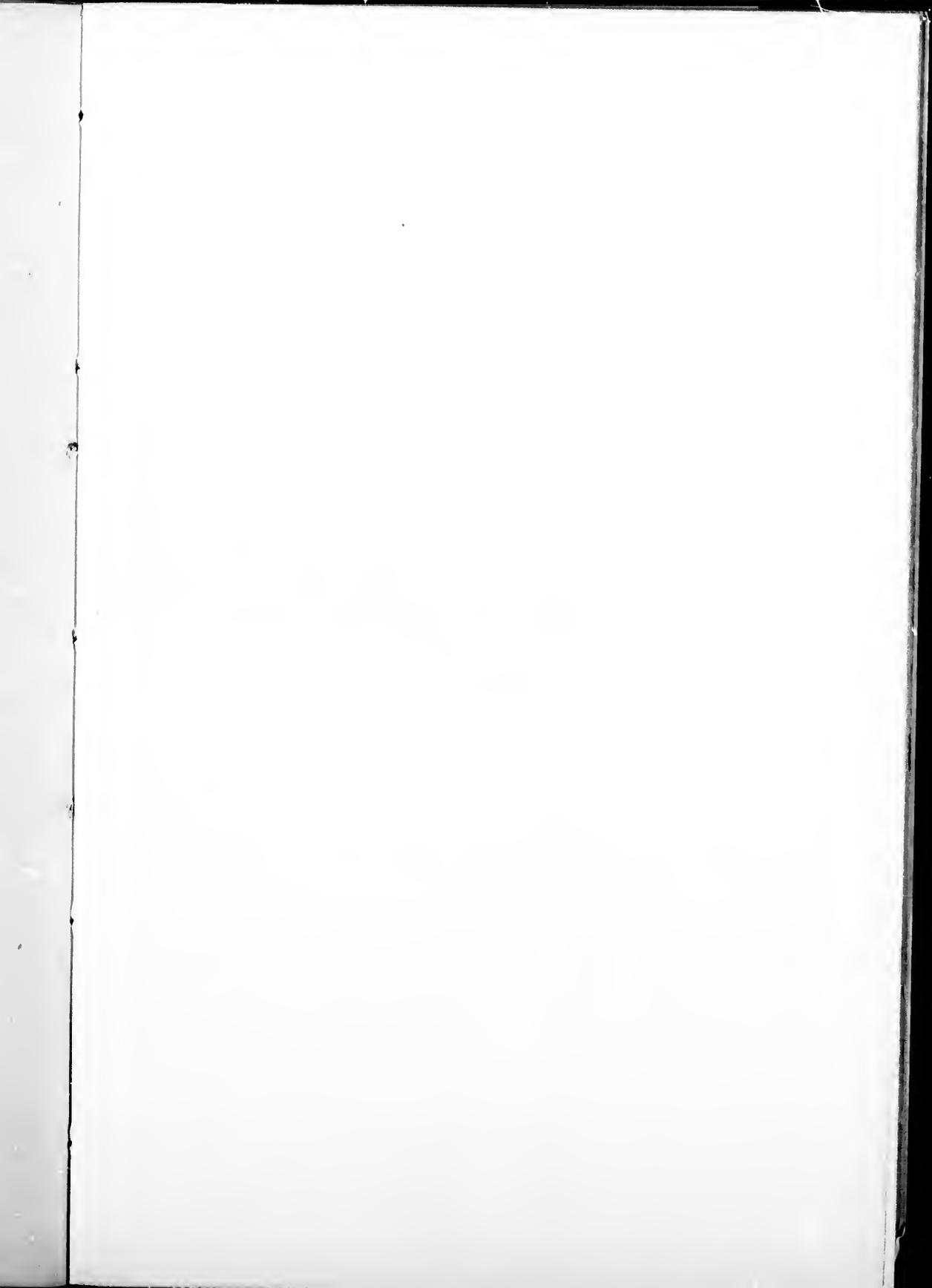
IN SPITE OF THE VIOLATION OF NATURE'S LAWS—A WASTE
OF STRENGTH.

The conclusion at which I have arrived, that alcohol, in however small a quantity taken, is not only useless as an article of nutrition, but poisonous in its effects upon the system—that it exhausts the powers of life by imposing unnatural duties, and that its presence in the body causes disease, may be questioned on the ground that many persons, among many nations, daily or frequently consume it without being incapacitated for the duties of life, and who attain to a good old age. I reply: The statement requires proof; while it is submitted that a certain number of per-

sons may, although in the constant use of the poison, continue to enjoy seemingly good health, and live to a good old age, *in spite of the violation of Nature's laws*. Perhaps the individual has a strong, elastic constitution; in whom the vital powers are robust; who, in the plenitude of his power, casts off unaffected that which would, in one less vigorous, crush the vitality. In some nomadic tribes of Indians, all the adults are strong, vigorous, and long-lived. At first thought, it might be supposed that a race thus vigorous must have strong healthy children, or that their mode of life was such as to foster the young. But no; the matured Indians are mostly rugged because their mode of life is such that none but the most vigorous children can survive it. The mortality among their children is very great, destroying the weaklings; hence those who grow up are generally healthy. So a man, in consequence of great strength, may with impunity violate a law of nature, especially if in other respects he adheres to hygienic rules. But is such a person guiltless? Apart from the evil effects example may have upon those less strong, who can measure the amount of force and energy thus wasted, which might have been employed for some noble purpose. Still more; although the violator himself may not suffer for his sins, the penalty has in many cases to be paid by his children. They may suffer not only in want of vital force and strength, but they may bear about with them the seeds of an unnatural appetite, which only require certain circumstances to germinate and grow. The parent was strong enough to resist the worst effects of his sin; but the offspring is weak in all except appetite, and in time he is overcome. The parent lived to be old—he was a moderate drinker; the child died early, a drunkard, although he consumed less alcohol than the parent.

EFFECTS UPON THE OFFSPRING.

It must not be forgotten in this connection that both sexes are equally liable to inherit from the parent the seeds of a depraved appetite. We have sad instances in which lovely and accomplished females have become slaves of this overpowering desire for strong drink. Not unlikely the transmission of this malady may, as in other forms of disease, not be immediately to the children, but instead to





the grand-children. These remarks apply more particularly to the children of what are called moderate drinkers. The effects upon the offspring of drunkards are manifested not only in this depraved appetite, but in physical and mental degeneration.

EFFECTS OF ALCOHOL UPON THE BRAIN.

In the remarks I have thus far made, reference has only been indirectly made to the effects of alcohol upon the nervous system. My object has been to examine the question, whether alcohol can be regarded as food in any sense. In doing so I have found that instead of being a food it is a poison to the tissues, and that cases which appear to be exceptional are only seemingly so. If we undertake to consider the effects of alcohol upon the nervous system, we find ourselves entering a large field. The questions which will be raised are many of them purely medical, and might not be quite suitable for the general public. I place alcohol alongside opium as a medicine, only that opium is the more valuable of the two, and less injurious to the system. They are both, under certain circumstances, stimulants, and under other circumstances sedative and narcotic. The study of the properties of opium and its effects upon the human system, although necessary and interesting for the medical man, may not be useful generally. Likewise it might be said of alcohol; but unfortunately the prevailing use of this drug as a beverage makes a consideration of its effects and properties desirable.

Alcohol is a stimulant of the brain. The time required for it to be absorbed from the stomach, pass into the blood, and find its way to the brain is very brief. The degree of stimulation is not always the same, even in the same person. Taken upon an empty stomach, it at once enters the circulation, and acts quickly and decidedly upon the nervous system. But if there be food in the stomach it cannot so rapidly enter, and when it does so it is in a more diluted form, and is less liable to produce effects. The man who sits at his evening dinner, eating heartily, can quaff glass after glass it may be without intoxication; whereas a clear drink of spirits, without

partaking of food, becomes essentially fire-water to the brain. It is an old saying, that "what is one man's meat is another man's poison." I do not say that alcohol can by any means become man's meat; but I do say that some men are so constituted that they can imbibe seemingly to an unlimited extent without becoming intoxicated. The tolerance of a poison is a physiological anomaly, and indicates a disordered, not to say depraved, organization.

THE TERM TOLERANCE

must not be misunderstood, nor its significance falsely comprehended; it implies sufferance, and the tissues of the body do suffer, more or less, although the individual may for the time being escape distress; but on the contrary even feel exhilaration. Now anything which affects the welfare of the living tissues will impair their vitality. There is a waste of strength; the vital powers are taxed; the energies are exhausted. This cannot take place without detracting from the sum of the whole individual power, a sacrifice for which man is accountable to the Giver of life, who requires that the powers of life shall be rightly expended.

BENEFITS OF STIMULATION LIMITED.

In consequence of the enlivening and exhilarating effects of alcohol upon the brain and mind, and also the body, it not unfrequently is employed to arouse the flagging organs, laboring under fatigue, or depressing circumstances, so as to enable the individual to perform an increased amount of physical or mental labor.

By a limited use of alcohol the individual may be, undoubtedly, sustained when undergoing unusual toil of body or mind. But it is contrary to nature, there is a violation of her laws, and sooner or later retribution will follow the transgression. The physiological strength is stimulated to perform that which by nature is impossible. When fatigue of body or mind overtakes the individual there is but one healthy and proper course to take which is in accordance with natural laws; and that is to abstain from labor until rest brings a physiological restoration of strength.

AS A MEDICINE IN DISEASE.

There are certain low conditions of the system when alcohol fails to cause intoxication easily, the drug tones up the nerves to the natural standard. Here is a state of disease, however, which none but a physician can discover, and who alone should prescribe. Even in such cases it is often a question whether time, rest and other medicines would not more effectually and safely accomplish the same end. In cases of prostration, as from low fevers, where there is a contest between a deadly poison in the system and the molecular cells of the body, alcohol is often useful as a stimulant; but we fear that cases are too common where it is given, not merely unnecessarily, but to such an extent that it adds to the burthen Nature is laboring under. She has to contend with both poisons, the fever and alcohol. She is called upon to eliminate both,—a double work under which she may sink.

We have said that alcohol stimulates the brain; but this term is not perhaps altogether appropriate. Where taken as a medicine to support the flagging powers, the term is correct enough, but in health, when taken as a beverage, and it causes intoxication, it is not really a stimulant,—that is say, it does not increase the natural powers of the human brain and nervous system generally; although it does up to a certain limit stimulate the heart and muscular system. The effect on the brain is rather to weaken its power. There may be exhilaration and flashing thought for a time; but correct judgment and well-balanced thought are more or less impaired. As intoxication proceeds to inebriety, all semblance of stimulation disappears, and narcotism supervenes. This is a condition—which we presume no one will deny—of hostility to all the functions of the body.

AS A HEAT GENERATOR.

But there remains one other question to be referred to. Does not alcohol supply to the system elements for the generation of animal heat, so that in cold climates, especially in the absence of heat-forming food, or perhaps protection from the cold, it is beneficial. Without entering into the subject minutely the statement may be made,

that proper supply of food renders the use of alcohol unnecessary, even supposing it to supply heat-forming elements. But actual experience satisfactorily answers the question. Dr. Shaw, in his Arctic experience, found total abstinence preferable to stimulation.

THE EVILS RESULTING FROM INTOXICATION OR DRUNKENNESS
ARE OF A PRIMARY AND SECONDARY NATURE,

also of a more remote character. A certain quantity of alcohol introduced into the system deranges it mentally and physically. The amount necessary to establish derangement will, as we have seen, vary, depending upon the condition and circumstances of the individual at the time. At all events, enough of alcohol is imbibed whereby exhilaration of the mind passes into incapacity to exercise the mental faculties; exalted muscular power merges into paralysis. For a time after intoxication commenced, nature struggles to maintain her power; but sooner or later king alcohol dethrones reason; weakens or destroys the moral nature for the time being; reduces the strong intellectual man to a drivelling idiot; the muscular giant under his power becomes helpless as an infant, or, on the contrary, a wild lunatic—a raving maniac; or he may be prostrated senseless and powerless at his feet. He is dead drunk. In waging this warfare against mankind alcohol has called to his aid many agents; and his weapons of war are of various kinds, some of old and some of modern manufacture. Alcoholic beverages are offered in an infinite number of forms, in order to please the varied tastes of mankind.

ADULTERATIONS.

But the most destructive means employed are those forms of adulteration by which intoxicating drinks only increase the thirst, and stupify the senses. How sad it is thus to see man, created in the image of his Maker, debased to a condition even lower than the beasts of the field.

DRUNKENNESS.

It is impossible to draw the line between intoxication, during which the person retains to some extent his consciousness, and that condition when he loses self-control

of body and mind ; it is also impossible to draw the line of demarkation between the effects of alcohol upon one who is regarded as a moderate drinker, and one who drinks to excess.

THE SECONDARY EFFECTS

of intoxication and drunkenness are by no means of a pleasant nature. They vary from a slight headache and general indisposition to a state in which the *debauchee* is completely incapacitated for either mental or physical effort ; until nature has had time to rally from the effects of this deadly poison. It is the usual custom of a confirmed toper, after his orgies, to seek artificial relief from his distress by again partaking of alcohol to stimulate the system to renewed action, instead of waiting for nature to do the work. It is unnecessary to say that this is an additional tax upon the powers of the individual. Both in this case, and where stimulants are taken to enable the person to continue labor when nature calls for rest, there is a burning of the candle at both ends.

NOT ALL SIMILARLY AFFECTED.

The effects of alcohol, immediate and secondary, vary exceedingly : no two will be affected exactly alike in manner or degree, much will depend upon the constitution, the temperament, whether a tolerance has been acquired, and to what extent the person continues to take food. Not a few enjoy the reputation of being correct in their habits with respect to alcoholic beverages, who, nevertheless, consume a great deal more than others whose constitution cannot tolerate it, and whom they often at the same time loudly condemn.

ULTERIOR AND INDIRECT RESULTS OF ALCOHOL.

I will now proceed to speak of some of the more ulterior, or indirect results of the protracted use of alcoholic stimulants. A profound, and to some extent, a mysterious effect is produced upon the nervous system ; while various organs and tissues of the body become the seat of disease. This condition has received the cognomen of Chronic Alcoholism. One of the characteristics of this state is a want of power of the patient to resist the desire to partake of alcohol. It matters little to him in what form he

gets it, so long as it is alcohol ; and he will endure any taste, however noxious, so long as the morbid desire is gratified. This overpowering appetite is always present with some, with others it is of a paroxysmal nature, and occurs at intervals of a few days, or weeks, or months, and occasionally of years. This abnormal state of the nervous system is now rightly regarded as a disease involving the brain. As the liver, the kidneys, and other structures of the body become changed from a physiological to a pathological condition, so in like manner does the brain ; at least it is functionally deranged. Under these circumstances, gradually acquired, the individual loses self-control, and will rush to the use of alcohol ; and will devise all kinds of means to obtain it, to satisfy the morbid craving, just as the lunatic is sometimes impelled to commit certain acts which in his sane moments he will shrink from with terror. It is impossible to tell precisely where this state of *disease* begins ; when an individual no longer *voluntarily* seeks the inebriating cup ; but is carried headlong by a power he is impotent to resist. It is, however, a well established fact that many inebriates would gladly abstain, but who, at certain periods, are overtaken with a paroxysm during which they are utterly regardless of everything—of sacred promises, of solemn pledges, of their own character, of the welfare of their families, of the requirements of decency, and who will deliberately, often covertly, sometimes without intermission use the cup, and with perfect abandon give themselves to drunkenness.

EFFECTS NOT CONFINED TO PERSONS.

Of all the maladies that affect the human race no one can be accounted more sad, more destructive to happiness and comfort than alcoholism. Its effects are not confined to those diseased. Wherever it comes or goes it carries, like a flood, misery, wretchedness, and woe, to all in any way connected with the inebriate, especially to the wife and children.

THE TREATMENT OF ALCOHOLISM—PREVENTION.

The question naturally presents itself to the philanthropic christian, "can nothing be done to cure this dis-

ease, or to control it?" Before, however, speaking of the treatment of this disease it will not be out of place to consider the question of prevention. Recognizing the nature of this affection of the brain and mind, it requires no argument to set forth the desirability of preventing so dreadful a malady. The importance of the subject cannot be exaggerated. The disease is a potent one; it is often incurable; it involves body and soul in its destructive development. The life is impaired—nay, it is wasted. Believing the Bible to be the Word of God, it is known that no drunkard can inherit the kingdom of Heaven. The disease is wide-spread—millions have succumbed to it, and thousands are now under its terrible influence, with but little or no hope of cure. The seeds of the disease now lie latent in the system of many of the rising generation, requiring only certain favorable circumstances to become developed with far more virulence than any Asiatic cholera possesses. It will be inherited by generations yet unborn. Surely there is no danger of magnifying the importance of the question—"Can anything be done to prevent the disease?"

DISCONTINUE ALCOHOLIC BEVERAGES.

To prevent it, the use of alcoholic beverages must be discontinued; the customs of society must be reformed; the liquor traffic must be suppressed; the manufacture of spirits properly and sternly controlled; there must be Prohibition by legislative enactment. To accomplish all this requires time, earnest workers, persistent advocates of the necessity of total abstinence, and consistent adherents to the cause.

INSTRUMENTALITIES AT WORK.

To secure the end desired Temperance and Total Abstinence Societies have been engaged for many years. It is a warfare—a contest of great magnitude; and forces of various kinds have been called into the field and furnished with diversified weapons. But so far the struggle has been an unequal one; nothing daunted, however, the valiant army of Temperance men have been, and are fighting on—now with varying success, then with substantial gain. Everywhere they are obtaining recruits for

the ranks. All honour to the Temperance Army. They deserve and I believe will, by the blessing of God, achieve brilliant success in their efforts to benefit the human race.

TREATMENT OF INEBRIATES.

But the full consummation of this happy event is in the future, and before it comes to pass the sad effects of drunkenness and moderate drinking will continue to be developed in depravity and destruction in its widest sense. Inebriation as a disease will demand the most earnest attention and consideration of the philanthropist.

APPEAL TO CHRISTIANS.

Before proceeding to speak of the treatment of alcoholism or habitual inebriation, I desire to appeal to the young men of this Association, and as a member, the remarks I make are addressed to myself as well as to you. I would urge you young men as Christians, to regard this matter from a religious stand-point. If anyone who takes the name of Jesus is in doubt about the matter, it becomes him to deeply and prayerfully consider the question. It is a great responsibility to stand in the way of the Temperance movement. Be fully convinced, therefore, in your own minds—minds which have been enlightened by the pure Spirit of the Master, and sanctified by the grace of God. Remember that he who doubteth is damned, while he who converteth the sinner from the error of his ways shall save a soul from death and hide a multitude of sins. The Total Abstinence work will more likely succeed when it is engaged in as a religious duty, and superintended by men with clean hands.

TEETOTALLERS CONSISTENT.

All teetotalers should be consistent. It is a great hindrance to success when Temperance advocates are found wanting in any one of the essentials of a good man—a Christian. Then, you should all be workers. Your efforts must be directed to overcome the evil at the beginning—to strike at its foundation. Lay the axe at the root of this upas tree.

ELECT TEMPERANCE MEN TO OFFICE.

Legislation is required, and Total Abstainers must see to it that consistent temperance men, and pledged tem-

perance reformers are sent to our Legislative Halls. municipal action is required to limit the number of liquor-licenses; then select men whose principles are unquestionable on the subject of Temperance, for Municipal officers.

HABITS OF SOCIETY.

The habits of society are yet of such a character that wine-drinking forms a part of fashionable entertainments, whereby the taste for stimulants is often formed. Is it not the duty of Christians to discountenance such customs, and be willing to forego the pleasures and the status which in some cases can only in such society be obtained?

TREATMENT OF INEBRIATES—TWO CLASSES.

I come now to speak of the treatment of individual cases of alcoholism.

Inebriates may be divided into two classes: firstly, those who desire to be cured of the unnatural appetite; and secondly, those who are destitute of any feeling of regret—who are wedded to their idols, and who persistently and often viciously live a life of drunkenness.

In some respects the same treatment is suitable for both; in other respects each class requires treatment quite different from that demanded by the other. If inebriation is looked upon as a *disease* then the subject of the disease ought not to be classed with those who are guilty of crimes and violations of the law. When the individual, commits an act deserving of punishment, while under the influence of alcohol, he cannot be held guiltless, yet his guilt is not so great. If a person from the effects of disease of the brain, although he may have brought that disease on himself, commits an act which he would not, if free of disease, think of committing, certainly he is not accountable, in the same way and in the same degree, as if he did it in the full possession of his healthy mind. In most cases a drunkard is to be pitied rather than punished. Indeed, punishment generally has the effect of intensifying the disease.

THOSE WHO WISH TO BE CURED.

Let us now consider the first class, that is, those who would like to be free from the irresistible desire to use alcohol.

The experience of medical men is that a large number of inebriates have a frequent or occasional desire to reform, and will be willing to endure any course of treatment whereby the thirst for alcoholic beverages will be removed. For the benefit of this class *Inebriate Asylums* should be established. Abundant evidence of the usefulness of these institutions, based upon the principles I have enumerated, is afforded by the Reports and Statistics from several Inebriate Asylums in the United States, now of some years standing. No one can read the Reports which have appeared, and examine the statistics furnished, without being fully convinced of the salutary effects of the course of treatment pursued in these Asylums, voluntarily entered by inebriates; and without being satisfied of the soundness of the principles upon which these institutions are based. Some of the letters written by those who had been restored to health, mentally, physically and morally, are touching in the extreme; and put to shame the thoughtless who feel no sympathy and have no charity for the immoderate drinker, and the drunkard; but who are ever ready to spurn him. Let it not be forgotten that a kind word, or even look given unostentatiously, in due season, might turn many a one from the brink of ruin.

ONE FOR ONTARIO.

It is earnestly to be hoped that another session of our local Parliament will not pass without some provision being made for this class of persons which it is to be feared is on the increase.

A few years ago I was instrumental in having petitions presented to the Government asking for legislation in this direction. Now that other unfortunate classes of society, as the deaf, dumb and blind, have been provided for, it may not be unreasonable to hope that the inebriate will be likewise attended to by a Government whose Treasury is not by any means empty.*

TREATMENT OF SECOND CLASS.

There is the second class, the vicious drunkards, who never, or rarely feel a desire to reform, whose depraved

* Since the meeting of Parliament numerous petitions have been presented, asking the Government to establish Inebriate Asylums, one numerous signed by the medical men of Toronto.

natures constantly impel them to the indulgence of their sensual tastes. But it may be remarked, with some who are seemingly thus abandoned, there remains a dormant feeling of self-respect; there comes an occasional regret at the deep degradation into which they have fallen. Perhaps this spark of lingering humanity might be kindled into life. Will Christian charity allow us to decide that even the lowest might not, by the blessing of God, be restored to a state of health? But as a class they require special treatment. The jail is not a proper place for them, in which are confined the worst of criminals. A lunatic may be thus incarcerated without injury to himself, as he is ignorant of the character of his associates; but an inebriate, when he comes to consciousness and finds himself among the worst offenders, experiences feelings oftentimes of extreme shame until repeated associations so debase him that he no longer cares. If inebriation is a disease the subject of it should *not* be *punished*. The customary three dollars or thirty days, inflicted at the Police Court, is unjust, or if just it is inadequate. Still the habitual drunkard requires confinement. The important point is that he should understand he is not confined to punish him, and he ought not to be confined with those who are suffering punishment. Let him know that he is detained and deprived of his liberty because he has manifested symptoms of disease; a form of insanity which makes it necessary for his own welfare that he should undergo a certain course of medical treatment.

To meet the requirements of this class of cases legislation is necessary. An Act for Habitual Drunkards; and then institutions specially established or in connection with Lunatic Asylums, would be required. It would be manifestly injudicious to confine these wilful drunkards in an Inebriate Asylum, the inmates of which voluntarily seek the treatment and protection it affords.

This question is receiving some attention in Great Britain. During the last session of the Imperial Parliament a Bill was introduced, entitled *The Habitual Drunkard's Bill*. This Bill describes an habitual drunkard as "one who, by reason of frequent, excessive, or constant use of intoxicating drinks, is incapable of self control, and

of proper attention to and care of his affairs and family, or who is dangerous to himself or others.”*

Let us as individuals, and as an association, endeavour to obtain Inebriate Asylums for those who will voluntarily become inmates; and Houses of Detention for the habitual drunkard; and let us in our demeanor to these two classes manifest that charity which becometh christians.

THE DUTY TO OUR COUNTRY.

I have appealed to you as christian young men to consider your duty with regard to the evils of intemperance. I would press the matter upon you on the ground of patriotism. We each and all owe a duty to the State as well as to our individual families, to the community in which we live, and to the Church. I would appeal to you as Canadians by adoption as well as by birth. In our New Dominion we have a vast, magnificent, and goodly heritage. Do we wish well to its future? Do we desire to see laid foundation stones of a new nationality, which shall be immoveable and imperishable? Do we desire to see erected a superstructure which neither time nor tempest will have power to disturb? Do we wish to have that edifice beautiful in design, in proportion, in symmetry, and chaste in ornament? Do we hope to have the structure within so arranged that the comfort, the happiness, the prosperity of all will attain to the highest possible point of excellence? If so, then never forget that the principles of Temperance must prevail among all classes, high and low, among those in power and those who place in power.

In conclusion, gentlemen, I beg to invite anyone present not a pledged total abstainer to come and enrol his name on the book kept by this association for the purpose. I am not a very old total abstainer myself; but let me urge one and all to come with me that we may together assist in the great struggle against the greatest curse to the human race. Remember that total abstinence is the only position of safety against inebriation.

* While this is in the press Mr. Bethune has introduced a Bill into the local Legislature entitled "To Interdict Habitual Drunkards."

v,

ur
y
t-
o

r-
e.
of
as
n
co
r
y
re
h
co
st
at
y,
c-
re
of
of
v,

nt
re
I
ne
e.
of

al

