

THE ABSTAINER.

ORGAN OF THE GRAND DIVISION OF THE
SONS OF TEMPERANCE OF NOVA SCOTIA.

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Fidelity,--Union--Perseverance.

JAMES BARNES,
PUBLISHER.

VOLUME I.

HALIFAX, N.S., DECEMBER 15, 1856.

NO. 3.

Essays, &c.

THE SCIENTIFIC BASIS OF PROHIBITION.

BY PROFESSOR YLOMANS.

This admirable Tract is in the form of a letter to E. C. Delavan, Esq. of Albany. It will be concluded in our next number:—

DEAR SIR:—I take the earliest opportunity which multiplied and pressing engagements will allow, to comply with the request contained in your letter, and prepare a statement of some thoughts which seem to have an important bearing upon the present aspect of the Temperance movement, and which (I think) have not been sufficiently pressed upon public consideration. The question presented is, "Shall Alcoholic Liquors as common beverages, be commercially outlawed?" and we are required to determine what there is about them in relation to the human constitution which demands that their sale shall be prohibited. I propose to show that there is a part of man's physical organization upon which his mental nature depends, and which is therefore the real foundation of all society and government; that Alcoholic Liquors, when drunk, seek out this portion of the bodily system in preference to all others, and so disorganize it as to disturb the mind, pervert the conduct, and invade the responsibility; that their properties in these respects are so peculiar and remarkable as to separate them widely from all other substances in nature and art, and confer upon government a right of control over them which is necessary, fundamental, and absolute.

Of Alcohol itself, little need be said. Its scientific history has been thoroughly canvassed, and no question is better settled than that of its origin and nature. It comes into existence through the chemical destruction of food, and is that common and active principle of all fermented and distilled liquors which gives them the power of producing intoxication. It is hence both customary and proper to employ the term *Alcohol* when its various mixtures are referred to.

Before considering the way man is affected by this agent, it will be necessary that we direct attention to certain fundamental facts concerning the nature of his constitution. Before we can understand how a machine is acted upon by any foreign influence, we must first have a somewhat distinct idea of the mechanism itself. In this case it is of extreme importance, and I may, therefore, be pardoned for first calling attention to certain facts and laws of the human structure.

If we ideally take the human system to pieces, we shall at once discern the uses of its lead-

ing parts. The bony framework is designed to support it in firmness and strength, and the elastic muscles to throw it into movement. As the production of force involves waste of matter, or decomposition of the parts in action—a gradual perishing of the living atoms—there is needed a circulatory system to distribute new matter to all parts, and to take up and carry away the products of change which are constantly formed. This requires a digestive system for the preparation of nutriment. A heart is needed to impel and regulate the vital current, and lungs to supply air to the body, its oxygen being the motive power of animal life. In addition to these organs, there is still another part of the fabric, the specific purpose of which is not at first so obvious.

The upper portion of the head is occupied by a mass of matter which differs in aspects and qualities from all other parts of the system. It is not hard and resisting like the bones, nor firm and contractile like the muscles, nor hollow and receptive like the stomach, nor spongy and porous like the lungs. It is clearly different in nature and uses from all other parts, and yet it is evidently of the first importance. Situated at the summit of the body it overlooks all the other and subordinate portions; superior in position, we suspect it is also superior in consideration; surrounded and guarded by a strong bony case, its protection is apparently a matter of the first necessity; connected with all parts of the body by a complex and curious system of minute threads or lines, it is in some way intimately associated with the general action of the mechanism.

I refer to the brain, which is enclosed within the skull. It consists of a large sheet of nervous matter, which is packed within the bony cavity so as to crumple it, and cause folds and convolutions, and consequently hollows and furrows. Anatomists say that, when taken out and soaked, it may be unfolded or dilated out, so that the convolutions disappear; and that then it has a surface of more than six hundred square inches. The weight of the brain in the adult male ranges usually from forty to sixty ounces, the average being about fifty ounces, and the lightest about thirty ounces, although in idiots it sometimes falls as low as twenty ounces. The brain, like all other parts of the system, contains innumerable circulatory vessels, and is filled with blood; but it differs from them in this, that it receives a very much larger share of blood than any other equal portion of the organism. Although its average weight is to that of the body but as one to thirty-six, it receives, according to different authorities, from one-fifth to one-tenth of all the blood which is sent from the heart. An arterial torrent rushed into it, and a venous stream flows out of it continually. Those de-

compositions or changes in the blood, therefore, which give rise to force, go forward in this organ with rapidity, so that, whatever may be its uses, it is evidently an engine of power.

The brain is well known to be the centre of bodily sensations, the seat of the will; the residence of the intellectual and moral attributes of man; the point at which the spiritual and material worlds blend and unite. The soft, pulpy sheet, so curiously folded away in the cavity of the skull, and which is kept constantly flooded with bright arterial blood, is the material structure that God has prepared as the organ of thought. How mind and matter are joined—how the immortal spirit during the life-period of its being dwells, and can only dwell, in the ever changing cerebral fabric, is an inscrutable mystery. Nevertheless such is the fact. We know nothing of mind except as bound up with matter in the brain, and in this alliance there arises an intimate dependence of the former upon the latter—of the mind upon its material organ. Bodily conditions exert a powerful influence over mental feelings, conceptions and states, independent of the will. In fainting, there is a transient suspension of the circulation, and hence a temporary pause in the flow of blood through the brain, and the mind disappears in unconsciousness. Sir Astley Cooper checked the vital current in the arteries that led to the brain of a dog, when the animal fell senseless; as the circulation was restored, it revived. Bichat showed that the influence of the scarlet or arterial blood is necessary to the due performance the cerebral functions. If dark colored or venous blood be substituted for it, and transmitted to the brain by the arteries, the animal falls into a state of total insensibility. If, when a portion of the skull is removed, slight pressure be made upon the brain, mental paralysis instantly follows and continues until the pressure is removed. A case is recorded where consciousness, which had been extinguished for six months, was restored by removing a small portion of the skull which pressed upon the brain. In fever, the blood acquires a diseased condition, and so disorders the brain, as to replace the normal course of thought by the ravings and phantasms of delirium. Unusual rapidity of the flow of blood through the brain, undue pressure within it, as in "determination of blood" or "congestion," disturbs the mind's action. Nitrous oxide gas respired, so affects the brain as to arouse the mind into preternatural violence of action; while the respiration of carbonic acid gas, even in the small proportion often found in unventilated apartments, depresses and stupefies the mind in spite of the utmost effort of volition. The opinion is now generally entertained by the most eminent physio-