

brighter lustre than the first. It is now upwards of twenty years since the venerable prelate at my side, on the opening of King's College, congratulated himself that he had lived to see the work of forty years accomplished. But clouds were already rising in the distance to obscure the glorious prospect, and a storm soon burst upon him, which swept that inheritance of the Church away for ever. Did our noble Bishop despond when he saw his cherished hopes in the dust? Did he give up his efforts to establish a Church University, because that endowment was taken away? No, with the energy and determination which have ever marked his character through his long life, he resolved at three score years and ten to buckle on his armor again, and in conjunction with our late Chancellor, those two great men, reflecting back light and lustre each upon the other, churchmen in Canada and in the Mother country contributed of their means, a Royal Charter was obtained, and the University of Trinity College arose from the ashes of King's. You have told me, Sir, how much success has attended this Institution: that in twelve years we had nearly three hundred students, and half that number of graduates; that thirty-seven men have taken Holy Orders directly from this College, while eleven more, I believe, who have been at the College, have entered the Ministry, making forty-eight in all. Our matriculants for the last three years have averaged twelve, which is not much inferior to the number in the separate colleges in Cambridge, with the exception of St. John, Trinity, and another. The attacks that have been made upon us have caused us pecuniary embarrassments. We are about to appeal to the churchmen in England to sustain our efforts, and we have every reason to hope that our appeal will be successful. We have claimed from the Government our share of the appropriation of \$20,000 per annum made by Act of Parliament for superior education. We have been refused a participation, because we keep up our distinctive character, and admit none to degrees who will not declare themselves to be honestly and sincerely members of the Church of England. As Chancellor of this University, I shall endeavor faithfully to fulfil my duty to it by doing all in my power to uphold the views which I have expressed, and I shall expect that each and all of those who hold office in it, or claim or hope to claim it as their Alma Mater, shall bear their part, both at home and abroad, within the walls of the College and without in the world, to establish Toronto as

*Pulcherrima, honestissima, optima*

The learned Chancellor resumed his seat amid loud applause.—*Leader.*

## II. Correspondence on School Matters.

### 1. RESTLESSNESS IN SCHOOL HOURS.

*(For the Journal of Education).*

Impelled by a sense of duty to advert to the subject of that restlessness and inattention of pupils towards the close of school hours, we shall make the attempt not so much in the expectation of throwing additional light on the nature of this evil and its remedies, but because military exercises have been proposed to occupy the place of study during this flagging season, with the intention of contending against not only their introduction at the period in question as a part of youthful instruction, but their entering at any time or in any degree as an element in the education of the youth of our land.\*

We may here notice, however, that this restlessness and inattention, are, to a considerable extent, influenced by the deterioration of the school room atmosphere, produced by the breathing of so many children, and that this circumstance has a considerable share in causing as well as adding to the evil.

In the process of breathing, very important changes take place in the blood and atmosphere. A portion of the vital fluid, at each inspiration, by yielding up to the air in the lungs the carbon it eliminates from the body through the venous system, and by the absorption of oxygen from the pulmonary atmosphere, is changed from black, venous, or carboniferous, to red, arterial, or oxygeniferous blood; leaving in the lungs a mixture of deoxygenized nitrogen and carbonic acid gas. The latter, a very deleterious and narcotizing agent, formed by a part of the oxygen of the atmosphere combining with the carbon evolved from the blood, together with the former, is expelled from the lungs by the subsequent act of expiration as being unfit for any useful purpose in the animal economy, nay, but as absolutely pernicious, and to make way for another inspiration of fresh air. This transformation of the blood from venous to arterial, is of vital importance in the animal economy, and remarkable results are thereby brought about. The blood rushes through the arteries, stimulating in its progress every part of the nervous system; but its effect on the brain is the most im-

portant, evoking therefrom the neurosity, nerve, or biotic force which is transmitted along the various nerves to the different parts and organs of the body, in which organ, (the brain) if black or venous blood circulated, the neurosity could not be evolved, and asphyxia and death would be the consequence; as that would be, however, an abnormal condition of things, a sufficient quantum of animal magnetism is usually supplied to every organ of the body, enabling the whole of them to perform their various functions with precision and vigour. Thus the whole man is revived, feels, thinks, and acts.

Let us now turn to the changes undergoing in the air of the school room. It is observed that a portion of the life supporting element is withdrawn at every inspiration, and a portion of azote or nitrogen, said to be an innocuous dilutant of oxygen, along with a portion of carbonic acid, a very deadly narcotic gas, is thrown out by the lungs into the air of the school room at every expiration; this process constantly going on, would soon deprive the room of all its oxygen, and fill it with an atmosphere not merely wholly incapable of supporting life, but decidedly pernicious in its tendency, and were fresh supplies of wholesome air prevented from entering the room, consequences as disastrous as witnessed in the black hole of Calcutta, where so many persons perished during one night's confinement, would certainly be the result.

Thus we see that, while the whole system requires its usual supply of oxygen, and the brain, from its increased labour by study, has a greater demand for it, the proper quantity for healthy and vigorous action is not so likely to be duly supplied from the air of a school room which is depleted by every act of inspiration, and diluted and vitiated by every successive expiration—and more especially in such as are badly ventilated. It is to be regretted that in the construction of very many school houses, ventilation is very little attended to, or altogether neglected. This, we conceive, arises from a want of knowledge of its importance, and therefore of a proper estimate of its value. It might be here observed, that, although the expired gases from their difference of gravities have a tendency to separate themselves from the unrespired air—the nitrogen to ascend, the carbonic acid to descend—they mingle to some extent even in well ventilated houses, but of course to a less serious amount.

The deleterious nature of carbonic acid is evinced in a striking manner in the instance of the man in the well, or in the man in the valley of death, asphyxia immediately takes place, and were the subjects of exposure not quickly removed, inevitable death would speedily supervene.

Some might perhaps reply that a spasmodic contraction of the epiglottis, in these cases, produces suffocation, and that the asphyxia and death are the result of this, and not the consequence of the poisonous effects of the carbonic acid gas. Allowing this, as some say, what would it avail if the glottis did remain open for the admission of a narcotic gas, not only incapable of yielding up to the blood any of the biotic stimulant, but decidedly deadly in its character? We contend that it is the want of oxygen and the presence of carbonized blood in the brain, that asphyxia and death are produced. For it is by the neurosity or life force, which is only evoked in sufficient quantity by the action of a full supply of properly oxygenized blood upon the neurine mass, that the healthy and vigorous action is kept up.

Such an amount of vitiation as above alluded to, we readily admit is never reached by the air in the school room so as to cause asphyxia and immediate death, yet we firmly believe it frequently becomes sufficiently so as seriously to tell upon the present studying powers of the pupils as well as upon their future of life. But how much more materially must it bear upon the health of those devoted men who plod on, year after year, in their noble but arduous toil of teaching the young idea, till at length nature succumbs to the confinement, anxiety, toil, and care, and daily inhalation of the impoverished and vitiated atmosphere of a school room.

We would here suggest the idea of the Educational Department furnishing the plan of a model school house, the best that could possibly be devised for health, convenience, and, consistent with the two foregoing requisites, cheapness. That it be made obligatory on all common school trustees in future erecting school houses to build after the prescribed plan, varying the size only to suit the greater or less number that might be in different sections, which would not only be in harmony with the uniformity of our common school system, but prove a boon to teachers and to succeeding generations of pupils.

With regard to the exhaustion consequent on continued application to study, we would say that a judicious timing and changing of the lessons would tend greatly to ameliorate the condition of the pupils, and delay the period (say usually an hour and a half previous to dismissing school), when it would become necessary to discontinue the forced action of the brain by a cessation from the usual course of instruction.

\* We would direct the attention of the reader to Mr. Roebuck's remarks on this subject, which will be found on page 2.