PLEASANT HOURS

A PAPER FOR OUR YOUNG FOLK.

VOL. XIV.] TORONTO, JANUARY 20, 1894. [No. 3.

THE RIVAL SCHOOLS.

WHEN I was a boy there was great rivalry between the Toronto Academy, which I attended, and the Upper Canada College. The college was supposed to be a good deal more aristocratic and "toney" than the Academy. The latter was the democratic institution. It was a kind of wing of Knox College, and several of its teachers were students or ex-students of that excellent school of the prophets.

The picture before us recalls vividly the scenes which frequently took place during the winter. The rival schools used to prepare an ample supply of ammunition in the way of nicely rounded snow-balls, and almost every afternoon have a friendly "set-to" while the snow lasted. There was a good deal of unreasonable prejudice, perhaps, on both sides, as there is apt to be when young or old maintain a controversy which has no very good foundation. But I do not know that the boys thought any the worse of each other in after life when they remembered that they had exchanged the somewhat cool amenities of the snow-ball season.

THE RIVAL SCHOOLS.

WORLD'S WHITE RIBBON.

SWEET GRAPES.

WHAT kind of fruit do you like best? Most boys and girls like nearly all kinds.

Good, ripe fruit is a necessary part of our daily food. It is much better to spend our money for fruit than at a candy-store.

Men sometimes squeeze out the sweet juice of good fruits and make it into poisonous drinks. It is a great pity to have the fruit that is good for our use spoiled to make drinks that do us harm. A harmful drink called wine is made from grapes.

To make wine men crush grapes in a press and squeeze their juice into a big tub or vat that is put under the press to receive it.

You have often seen upon the skins of grapes a kind of dust that you could easily rub off. When grapes are being pressed the juice that flows from them washes off some of this dust and carries it into the vat.

In this dust are some very tiny things called ferments. They are so small you cannot see them unless you look at them through a glass called a magnifying glass or microscope. A microscope, as you may know, makes things look many times larger than they really are.

If you should look at a ferment through a microscope you would see a very tiny speck without much shape or colour. You might think it too small to do any harm; but many ferments together can do a great amount of mischief. They quickly spoil good grape juice after it has been pressed out of the grape. How do you think they do this?

The juice of grape is sweet, as you know, because there is sugar in it. No one puts the sugar in the grape, it forms in them while they are ripening. Just how this is done we do not know.

The ferments change this sugar of the grape juice after it is pressed out, into a gas and a poison. They cannot do this while the juice is inside the unbroken grape, for they do not get inside the fruit while it remains whole.

But when the juice is squeezed out of grapes and is left standing in the vat, the ferments that were on the stems and skins of the grapes begin to work upon the sugar of the juice. Other ferments, too, get into the vat from the air. Ferments are so small and light that they are easily carried about in air.

How can we know when ferments are turning the sugar of grape juice into a gas and a poison? We can know by the little bubbles of gas we see rising up through the juice. This gas passes out into the air, but the poison remains in the wine and makes the wine poisonous.

The name of this poison is alcohol. There is no alcohol in a sound, ripe grape.

No one should drink wine, for there is alcohol in it.

All poisons do not at once kill those who take only a little at a time; but a man could easily take enough alcohol to kill him at once. The man who takes a little alcohol every day is seldom as strong a man, as wise a man, or as good a man as he would be without alcohol. The alcohol hurts his body and his mind.

Alcohol may make a father cruel to his children and to his wife. It sometimes makes a man tell falsehoods and do other bad deeds.

One of the most dangerous things about alcohol is, that it can make those who take it want more alcohol. If you should begin to take wine, the alcohol in it might make you want to drink more wine until you cared for nothing but drinking wine.

It is the nature of alcohol to make those who take it want more alcohol.

HOW LARGE IS THE UNIVERSE?

To form some idea of the largeness of this earth, one may look upon the landscape from the top of an ordinary church-steeple, and then bear in mind that one must view 900,000 similar landscapes to get an approximately correct idea of the size of the earth. Place 500 earths, like ours, side by side, yet Saturn's outermost ring could easily enclose them. Three hundred thousand earth-globes could be stored inside of the sun, if hollow. If a human eye every hour were capable of looking upon a fresh measure of world-material 14,000 kilometres large, that eye would need 55,000 years to overlook the surface of the sun. To reach the nearest fixed star one must travel 33,000,000,000 of kilometres, and if the velocity were equal to that of a cannon-ball, it would require 5,000,000 of years to travel the distance.

On a clear night an ordinary human eye can discover about 1,000 stars in the northern hemisphere, most of which send their light from distances we cannot measure. How large they must be! Round these 1,000 stars circle 50,000 other stars of various sizes. Beside single stars, we know of systems of stars moving round one another. Still, we are but a short way into space as yet! Outside our limits of vision and imagination, there are, no doubt, still large spaces.

The Milky Way holds probably at least 20,191,000 stars, and as each is a sun, we presume it is encircled by at least 50 planets. Counting up these figures, we arrive at the magnitude of 1,000,955,000 stars. A thousand millions of stars! Who can comprehend it? Still this is only a part of the universe. The modern telescopes have discovered more and similar Milky Ways still further away. We know of some 3,000 nebulæ which represent Milky Ways like ours. Let us count 2,000 of them as being of the size of our Milky Way, then 2,000 x 20,191,000 = 40,382,000,000 suns, or 2,019,100,000,000 heavenly bodies. Suppose these bodies parading before our mental eye, one per minute, it would require 3,840,000 years to finish the march, in all of which time we would have to look upon them unceasingly. Suppose a human being migrating from globe to globe and spending fifty years on each, he would require 100,955,000,000,000 years for the round. If he stayed only one hour, he would save much time, but still need 230,400,000 years for the task. Yet, these nebulæ are only a part of the universe! Outside the nebulæ limits we know of other nebulæ not resolvable into stars. They appear to be primitive nebulæ, pure, usable worldstuff—matter for new creations. Some of them occupy a space as large as the orbit of Uranus. Some are still larger. The one in "Orion" is estimated to be 2,200,000,000,000,000,000 times larger than our sun. Are we come to the uttermost limits? Who dares say yes? We are probably come to our limits. But the future with new instruments and scientic devices, may push those limits so much further out into space.

THE only source of help is in God.