

Journal of Education, one of the best educational papers published in the United States, or elsewhere. The *Journal* is commenting on a proposition made by President Eliot of Harvard, in a recent lecture before the Saturday Afternoon Schoolmasters' Club of Boston. The learned President is said to have advocated "the European practice of bringing the clergy of different religious creeds into the public schools, at stated intervals, under pay from the State," to attend to the department of religious instruction. In order to do justice to the *Journal's* vigorous mode of dealing with the question we must make a rather lengthy quotation:—

"Seriously, this proposition seems to imply a singular lack of reflection on the two pivotal points upon which our American system of public schooling depends. A nation with a church establishment and toleration for dissenting churches, may logically adopt some method of ecclesiastical connection with its schools. But it has the power to decide what bodies shall be admitted, and how many varieties of religious teachers beside 'Catholic, Protestant, and Hebrew,' shall be permitted to instruct the children. But in the name of confusion, who can seriously think of letting loose the clerical or secular representatives of the score or dozens of religious and 'anti' and 'extra' religious creeds, and organizations found in every considerable community, upon the children of the schools? Each sect has its 'body' and two 'wings,' to say nothing of occasional tail feathers liable to be shed at any hour. And, beyond church limits, the numerous schools of 'liberal,' 'ethical,' 'agnostic,' even anti-religious belief, are equally persistent in their demand for recognition. What a spectacle would be a Boston school committee attempting to select those religious teachers! What 'examinations,' 'black-looks,' intrigues, and dire contentions, would beset the unfortunate conclave of twenty-four! If a more ingenious scheme for planting a chunk of dynamite under every church, and mining the whole school system for a perfect Hell-gate explosion, could be conceived, we confess ourselves unable to compass it."

These two able writers, in common with the majority of thoughtful students of this question, are agreed on the main point, the utter impracticability, under American and Canadian conditions, of establishing by State authority any system of religious instruction in the schools without serious danger of its becoming either a solemn mockery or a baneful travesty of true religion. Both agree, too, that what is wanted in all our schools and colleges is masters and professors of high moral character. The *Journal* points out, as we have before pointed out, that the power of selection is in the hands of the local trustees, or rather of the people who elect them. If the people in any district are really anxious to have the best possible moral influences pervade their school, let them have a care to appoint trustees who will, in their turn, attach greater importance to the moral than even to the intellectual qualifications of their teachers, not those who will sacrifice both for the sake of saving a few dollars in salaries.

We have spoken of "moral" influences and "moral" qualifications only. The *Week* thinks that "the chief difficulty to a proper understanding of the respective spheres of religious and secular education seems to be that the word 'religious' has been given a meaning which properly belongs to the word 'moral.'" The *Journal* says that the wisest teacher will find difficulty in introducing even oral instruction in morals, to say

nothing of the use of either a moral or a religious text book, and adds.

"But he can so organize, discipline, and generally work his school as to cover the ground of all the fundamentals that go to the training of character, and so interfuse his school with his own highest manhood that it shall become the most powerful instrumentality for good."

While on the practical question the arguments of our contemporaries seem impregnable, and we heartily concur with them, we are inclined to go a step further. We, and we have no doubt the majority of our readers, are firmly convinced that the only relative basis of sound morality is the religious basis. We do not believe it possible, as the *Week* suggests, for the teacher to discharge his ethical functions, teach "the value of right and wrong," and point out the "true principles of conduct generally," without the aid of "doctrine or dogma." We are unable to conceive of a principle of conduct not based upon a doctrine or creed. Laws of conduct must rest upon sanctions of some kind, and in order to give these laws their proper primacy over all others, the very highest sanctions, those of religion, alone are sufficient. But this need give no great trouble. We can scarcely imagine that the most pronounced agnostic would object to have his children's conduct formed upon such a doctrine as that of The Golden Rule, or of "Thou shalt love thy neighbor as thyself," albeit such doctrines will generally be admitted to be of purely religious origin. But for many generations to come, at least, the great religious doctrines which lie at the base of the loftiest laws of conduct may be safely assumed as known and accepted. The main point is that the teacher should not only "interfuse his school with his own highest manhood" but that that manhood should be a manhood of the very highest type—a true, reverent, Christian manhood.

Special.

ELEMENTARY CHEMISTRY.

CHAPTER IV.—Continued.

The Relation of the Volume of Gases to Temperature.

From Experiment 19, Art 18 we learn that gases increase in equal volume when heated and decrease in equal volume when cooled. If we begin with a given volume of gas at 0°C. and measure the gas as we raise its temperature at a definite rate, we find that for each increase in the temperature of 1°C. the gas expands $\frac{1}{273}$ rd. of its volume at 0°C., for example, 273c.c. of a gas at 0°C. expands to 274c.c. when the temperature is raised 1°C. or to 280c.c. when the temperature is raised 7°C. Conversely 273c.c. become 272c.c. when temperature is cooled 1°C. That is, a gas diminishes by $\frac{1}{273}$ rd of its volume for every degree of temperature, travelling down the scale. If the same ratio of volume to temperature were maintained, it follows that if a given mass of gas were cooled down to the temperature of -273°C. it would be reduced to a mathematical point, that is, all the molecular motion would cease and so the