

with substantial truth of the members of the evangelical sections of the Church of England itself. Hence to propose to subdivide the public schools on sectarian principles is to reduce the idea of denominational management under State supervision to the absurd.

But, to our thinking and, as we believe, to that of many who have pondered this great problem, the objection above hinted at rather than stated, insuperable as it would probably be found to be in practice, is not theoretically the strongest against any and every system of religious instruction in state-supported schools. We may suppose—and it should require no great stretch of Christian charity to do so—the representatives of all the great evangelical bodies consenting to hold in abeyance their distinctive sectarian views so far as to enable them to agree upon a method for imparting religious instruction in the schools which would not involve the minute subdivisions above assumed to be necessary. This would greatly lessen the practical difficulty in the way of establishing the denominational system. They might even become reconciled to the concurrent endowment of Catholicism for the sake of the introduction of extended religious teaching in Protestant schools. But the schools must be still state schools. All modern political economists are pretty well agreed that state-endowment must be inseparable from state-supervision and control. The Government which bestows the people's money must be responsible for its proper use for the purpose for which it is given. The Government which gives annually large sums of money for the teaching of religion in the schools is bound to see that religion is taught, that true religion is taught. This implies that it must be able to distinguish between the genuine and the spurious in religion. It is bound, therefore, also to see to it that the teachers who receive its authorization are qualified to teach religion as well as grammar or arithmetic. The impossibility of meeting the views of the many who regard religion as something experimental and vital, instead of a mere doctrinal or ethical system, by relegating religious teaching to the control of a Government some or all of whose members may not be religious men at all, in their sense of the word, some of whom may even be avowedly agnostic or atheistic, is sufficiently obvious.

Here, as before, we can but suggest the difficulty, leaving it to the thoughtful reader to follow out the idea until its full force and significance are realized. There is, of course, nothing new or original in these suggestions. We have endeavored merely to put some of the difficulties which beset this most abstruse problem afresh. To all who give the matter the consideration it merits it must be apparent that this question of national elementary education is as yet far from being solved. The only present hope seems to be in a great increase of

zeal and activity on the part of the churches, in the work of giving voluntary religious instruction to all classes of children.

#### ASTRONOMICAL REVIEW OF 1893.\*

The men of ancient Greece taught the fable of the Sphinx, a monster who lived on a mountain peak near the city of Thebes. She received from the Muses certain dark, mysterious riddles, which she propounded to wayfaring travellers whom she captured, and if they could not solve and interpret these riddles, then she fell upon them, as they stood appalled with their failure, and tore them to pieces. The Thebans, to rid themselves of this plague, offered the kingdom to the man who could guess her riddle, for that was the only way the Sphinx could be destroyed. *Œdipus*, a far-sighted, thinking man, though lame in his feet, inspired by so great a reward, took up the challenge and presented himself to the monster, who directly asked him, "what creation that was which being born four-footed, afterwards became two-footed, then three-footed, and lastly, four-footed again." *Œdipus* replied it was man, and explained his answer. He then slew the monster, and laying the carcase upon an ass, led her away in triumph, and so became king of Thebes.

In this fable the Sphinx is Science, throned on a towering height because hard to understand, a lofty and mysterious creature, looking down upon the uncultured crowd from a pinnacle, and a monster because looked at by the ignorant, and made by the gulf of distance a fearful wonder. The Muses of mere theory give their speculations to the Sphinx, that is, to the test of practice which incites to thought and action the minds of men, and thus staggers and harasses them. *Œdipus*, the lame and impotent man, conquers the Sphinx. Those who were conquered approached the solution of the problem with headlong haste and inexperienced zeal, but the conqueror, slowly, deliberately and thoughtfully. When the monster was conquered her carcase was laid upon an ass, for there is nothing so lofty or abstruse but, after being made plain and intelligible, it may be received by the dullest comprehension. The reward was a kingdom, and so he who conquers science acquires dominion and wears a diadem brighter than that won by arms. "The pen is mightier than the sword." It was so taught by the philosophers of that rude age—long before *Bulwer* created *Richelieu*; and thus the march of science and discovery was by these ancient men taught by this beautiful and ingenious apophthegm.

From century to century, from year to year, men ambitious for conquest and the dominion that knowledge gives, but with hesitating and humble approach, have solved the problems of the Sphinx—Science—and have presented the results to the less instructed and less gifted, and thereupon they have become stamped with the emblems of royalty.

The progress of Astronomy has been a progress of triumphs. The astronomer has ever lived; he never dies. The palaces of *Babylon*, the plains of *Shinar*, the temples of *India*, the pyramids of *Egypt*, the schools of

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Greece, the deserts of Arabia, the rude cloisters and roofless temples of Druidic and Scandinavian mythology, have been his observatories. From age to age the torch has been kept blazing. When *Copernicus* laid it down, *Tycho* picked it up and passed it to *Galileo*, who, in turn, gave it to *Kepler*, and then *Newton* took it, and so the light has grown until the hands that are reached out to grasp the torch circle the world. The watch towers of science now cover the whole earth, and the sentinels keep an unbroken vigil; they are under the shadow of eternity. No star or nebula can ever set; if it escapes the piercing gaze of one astronomer, it will meet the far-reaching scrutiny of another, and if any is so far buried in the depths of space that no human eye can reach it, then the eagle intellect of man has contrived means whereby the orb, or fiery haze, can record its own existence and measurement on a photographic plate. God's revelation of a Redeemer was complete nineteen hundred years ago, but the revelation of his wisdom and power as shown in the Bible of the heavens around us is not complete yet, it grows from century to century, and we read the hieroglyph more clearly blazoned on the sky as each January ripens into the following December.

We of the year 1894 are highly privileged. We stand on the crest of Science's continued accretions. Below us are the slopes that have led up to the apex through many a dark valley of disappointing theories, that once cast a rainbow glamour round about; o'er many a rock of brain-wearying problems, that yet have brought a noble fruition; across many a river that has swept down false but once cherished discoveries, and sifted the golden grains of Truth from the sands of error. Under the light of the first centuries we stand, while above us yet tower the unscaled heights, enveloped in the mists that the human mind is yet to scatter. The mass of accumulations is growing into order with every year; with every advance in knowledge some apparent disorder becomes orderly, the disjointed becomes jointed. No matter how exceptional a fact appear, when closely studied and mastered, it quietly takes its place as a link in the endless chain of law; it becomes at once the effect of some antecedent cause, and the cause of some subsequent effect.

The year 1892 boasted of the discoveries of the fifth satellite of *Jupiter* and *Nova Auriga*. The year 1893 has not had its remarkable discoveries, nor its prominent scientific events, but it has borne its share of interpreting those wondrous rhymes of the universe, which Nature sings to all her children. The arcana of the sky are still being searched and its mysteries are year by year being revealed.

I. The giant member of our system has been receiving much attention from Mr. W. H. Pickering at his *Arequipa Observatory* in Peru. The mighty *Jupiter*, presenting as he does a system within a system, invites constant study, and under the watchful eye of Professor Pickering, more of the Jovian secrets are being revealed. Laplace's "ring theory" of evolution, first enunciated, has under modern observations developed a series of exceptions, as "exceptio probat regulam," the theory has become more thoroughly established. As applied to *Jupiter*, the following positions are enunciated:—