If then it be desirable to educate boys—not indeed in style, but in a power of expressing themselves in their own language—then, instead of encouraging verbal imitations, and cramming their memory with classic tags, let us adopt the incomparably truer and better method of requiring a careful description of natural phenomena and scientific experiments,—a process which, while it teaches them a terse and lucid use of their own language, will, at the same time, fire their imagination with some of the grandest and noblest objects of human thought. If taste and style be a fine appreciation, and a masterly power of producing beauty of form in the expression of thought, will it best be created by making boys write in languages which they do not know, about things for which they do not care, or by making them express carefully in their own language their natural observations and their genuine experience? With the examples before our eyes of scientific men who wrote as Sir Humphry Davy and Dr. Whewell wrote, or as Mr. Darwin and Professor Owen are writing now; and with men who speak with the power and eloquence of Professor Tyndall and Professor Huxley, we need have little fear that our boys will lose in "taste" or "style," by substituting a more solid and scientific training for the time which they are now wasting, or worse than wasting, over Greek and Latin verse.

(*To be concluded in our next.*)

Model Schools in Connection with Normal Schools.

We are indebted to the St. Louis *Journal of Education* for a report of the following paper read, by Mr. Richard Edwards, President of the Illinois Normal School, at the annual meeting of the Teachers' Association, held in St. Louis on the 22nd August last, at which twenty five States were represented by about five hundred delegates:

The first consideration is, to what extent will we be benefited by a Model in connection with a Normal School? Is it worth the labor and time which must be bestowed upon it? Will the results likely to be achieved be a sufficient reward? While it is true that there are many Normal Schools of a high degree of excellence which are without a model department, it is also true that they would be more successful in its possession. It is plain that logic favors it. Teaching is a practical art, and should be preceded by a practical apprenticeship. In all other arts in life, the applicant, to be successful in securing a position, must be able to say that he can perform the work for which he applies.

What is meant by a model school? Some mean by it a school perfect in its action; others regard it as a school for the practical experiments of teaching. In the former the pupil is taught to reproduce, in every particular, the model teacher; in the latter originality is secured. The science of education is not fully understood, and in subordinate schools theories and methods are subjected to trial, and results noted.

There are three uses sought by the model school. First, good teaching and government; second, to furnish apprentice work; third, opportunity for experiment. Shall we attempt to accomplish all these in one school, or shall we divide them? Can a school be model, and at the same time present opportunities for experiment? He believed that a combination of the two is possible, and that a school can be conducted in a model manner, and yet afford means for practice to the pupil; that all these objects can be better accomplished together. Every young teacher needs the inspiration that comes of seeing things well done—needs the stimulus to improvement in his own work—and needs them side by side. The work which the pupil undertakes in the model school must be of the same nature as that which is to come after. The young teacher must be left *alone* with his pupils; only suggestions should come from the principal.

The elements of naturalness are not well enough observed in our schools. Permanency is a prime element. It is impossible to judge of the ability of a teacher by the method of substitution. He needs time in which to show forth his powers. When he has taught for six months, and has acquired the respect of the pupils, he has a right to all the strength that respect will give. Practice in the model school is to furnish ability, and to test it. Neither can be accomplished in a short time.

How shall the model school be adjusted? First, let it be graded, from the lowest departments to the high school; second, let each grade be under the charge of a competent teacher, who will furnish proper instruction; third, at the beginning of each term, let such pupils as are fully prepared be assigned to the grades as teachers. The class should occupy the time of the pupil-teacher for about forty-five minutes in addition to the time allotted for the preparation of lessons; fourth, let the work of the pupil-teacher be under the supervision of the principal of the grade; fifth, let there be a stated meeting every few days to discuss the different modes of teaching; sixth, let there be an exhibition once a week of the different methods, in the presence of the entire normal school; seventh, let every fault be privately pointed out to the one committing it, with the understanding that it is to be at once corrected; eighth, let the status of the class be taken at the time it is placed in the hands of the pupil-teacher, and also at the end of the term, to ascertain the progress made; ninth, let four such terms of teaching be required of every pupil; tenth, let the senior class of the normal school be a visiting committee, and required to report on the grades visited.

Practical Geometry.

Geometry, very generally, is supposed to be some abstruse branch of theoretical mathematics, which a venerable ancient, one Euclid, had a good deal to do with in his day, but which, as a science for study by every-day practical men, is neither intelligible nor valuable. Perhaps in early days the reader had to prove why the angle A B C equalled the angle F G H, or why it did not: and his present immunity from all such alphabetical abstractions is contemplated with relief, if not delight.

Boys at school never made a greater mistake than when they believed that geometry and algebra were useless. These studies have a direct value, and a much greater indirect value, as developing the reasoning powers, the ability of analysis, construction, and inference.

That geometry does not deserve to be considered an unpractical study, we hope to show in a few examples.

The law that like solids have cubic contents as the cube, and surfaces as the square, of their like dimensions, may have a somewhat abstract sound, but its practically demonstrated value is seen in the economy which attends building large houses, ships, engines, etc. The larger a house, the less wall has it; the larger a ship, the less resisting surface does it present to the water; the larger an engine, the less surface is there for loss of heat by conduction and radiation, and the less surface of cylinder and bearing is there for friction.

Bounding lines increase as the square root of the surfaces they bound, so the larger a field the less fencing it wants, and so on. This law of the economy of aggregation, theoretically defined 2,000 years ago by the Greek mathematician, finds a practical manifestation in modern times in the marked disposition towards larger stores, factories, farms, hotels, and steamships.

The great obstacle in the way of balloon success is the resistance of the air on the large surface necessary to a balloon of any considerable buoyancy; but if its size be increased, its resisting surface increases in a less ratio than its buoyancy. We think this law will help the coming aëronaut.

To come down in our Euclidic voyage from the big bag of silk in the clouds to the common paper bag on the store counter, we remark that our geometry is as useful as ever. Certain forms of parcels economize covering more than others, the impracticable