

determined numbers of the length of undulations to complete a paper on light. The subjects in which M. Arago may be said to have most distinguished himself are Magnetic and Rotatory Polarisation, Magnetism by the action of Currents, and Magnetism by Rotation; and to him we owe the invention of the Polaroscope.

The following is a list of the principal memoirs of M. Arago, which, it is to be hoped, will be collected into a single work:—*Mémoires sur les Affinités des Corps par la Lumière, et particulièrement sur les forces, réfringentes des différents gaz*—*Mémoire sur une Modification remarquable qu'éprouvent les Rayons lumineux dans leur passage à travers certain corps diaphanes, &c.*—*Mémoire sur l'Action que les Rayons de Lumière polarisés exercent les uns sur les autres*—*"Recueil d'Observations géodésiques, astronomiques, &c."*—*"Sur les Chronomètres"*—*"Sur les quantités de Pluie qui tombent à diverses hauteurs au dessus du sol"*—*"Tables des Températeurs extrêmes observées à Paris et dans d'autres lieux"*—*"Sur la Lune rousse"*—*"De la Rosée"*—*"Sur les Explosions des Machines à Vapeur"*—*"Sur les Etoiles multiples"*—*"Notice historique sur le Pôle voltaïque"*—*"Sur les Puits forés, connus sous le nom de puits artésiens"*—*"Sur la dernière Apparition de la Comète de Halley"*—*"Sur les Hiéroglyphes égyptiens"*—*"Sur le Tonnerre"*—*"Notice sur Herschel," &c., &c.*

After the Revolution of 1830, M. Arago was denominated Director of the Observatory of the Bureau des Longitudes; and he succeeded Fourier, whose *éloge* he pronounced, as Perpetual Secretary of the Academy of Sciences. The "Annuaire des Longitudes" was under his direction; and he founded, in conjunction with Gay-Lussac, the "Recueil des Annales Physique de Chimie." In 1834, M. Arago visited this country and attended the meeting of the British association at Edinburgh. As a mark of special distinction on that occasion he was presented with the freedom of the city; and at the meetings of the sections, where he took part in some of the discussions, his remarks were listened to with the deference due to his reputation.

To the political career of M. Arago we need only refer for the sake of noticing the services which he rendered to science as a member of the Chamber of Deputies. On all questions relating to subjects connected with his scientific or literary pursuits his remarks had great weight. It was owing to his advocacy that the chamber voted a sum of money for printing the works of Laplace and of Fermat, and for other similar purposes. He was a brilliant orator, and always firm and independent in his principles. In his earliest youth he refused to vote for the elevation of Bonaparte to the Consulship and the Empire, and on the memorable *coup d'état* of the present Bonaparte he refused to take a vote of allegiance, though threatened with the loss of his appointments, his only means of subsistence. He was the *beau idéal* of a Republican, and many will remember his activity as a member of the Provisional Government that existed for a brief period on the downfall of Louis Philippe. The French critic Timon, speaking of him as a parliamentary orator, says, "when Arago ascends the tribune, the chamber, attentive and curious, becomes silent. The spectators in the public tribunes lean forward to look at him. His stature is commanding, his hair curling and flowing, and his fine head in the southern type denominates the Assembly. The muscular contraction of the temples shows firmness and meditation, which mark him out as a superior man. Unlike most of our orators who speak on anything and everything, and three times out of four know not what they say, Arago only speaks on profound questions, which add the attraction of science to the interest of the occasion. He addresses himself at the same time to the interests and the passions of his auditory. He consequently masters it. Scarcely has he entered on his subject than every eye is fixed upon him. He takes, so to speak, science in his hand, strips it of its asperities and technical formulæ, and renders it so easy that the most ignorant are charmed and astonished at finding they understand it."

M. Arago was a thoroughly honest man, and greatly respected in Paris by all classes. He was buried on Wednesday in the Cemetery of Père-la-Chaise, and though it rained incessantly, the funeral procession was followed by two or three thousand persons. The Emperor was represented at the ceremony by the Grand Marshal of the Palace.

AN OBSTACLE TO IMPROVEMENT.

"Small knowledge we dig up with endless toil."—*Young.*

REGULARITY and punctuality of attendance are in the highest degree desirable. The reports of some schools within our knowledge are exceedingly favorable in this respect. The names of many pupils are reported, who are never absent, never late. This reminds one of a millennial age in teaching. But such cases are rare. People now-a-days are so anxious to obey the apostolic injunction and "prove all things," that frequently we must not expect to have the same pupils under our care longer than a few months, and perhaps a few weeks. This is eminently true of many of our higher seminaries. It seems to be not less so of many of our common schools; for although the pupils may not change, the teachers do; which is productive of even more disastrous effects.

Not unfrequently every successive term brings a new incumbent to office. Whether this be done because the former teacher is deemed unfit, or because

the committee-men have a diffidence about retaining a good teacher, and so depriving the rest of the world of his services, does not plainly appear.

We cannot be held responsible for impossibilities. We think that six months, or even a year, and that of uninterrupted attendance, is short time enough, (nay too short,) to make deep and lasting impressions upon the mind of the scholar. What shall be done in every case we cannot tell.—Certainly the teacher, as the first thing, should earnestly desire to have it otherwise. His most earnest efforts should be turned in that direction. If, as in many of our higher seminaries, it results from the shortness of the terms and the changing nature of the school, he can do little. He must heat the iron as hot as he can in a short time, and strike hard and fast.—Perhaps he will appear to lose all his labor: and it may be, on the other hand, that impressions of surpassing beauty will be made even in that short time, which will be to his praise and honour hereafter. That teacher has much need of faith. He may well for his encouragement remember the words of Scripture, "In the morning sow thy seed; in the evening withhold not thy hand; for thou knowest not whether shall prosper, this or that."

If the difficulty we speak of proceeds from frequent change of place in the teacher, we of course can suggest no remedy, so far as it is the fault of others. It is truly sad that any of our calling should be so much like certain observances in the Episcopal Church, called "moveable feasts." A rolling stone gathers no moss; so a teacher that is constantly moving, has little prospect of benefiting others or enriching himself. But we should not be blind to the fact that quite a large portion of the schools of New England are still taught in this way. We would not say a word to discourage teachers thus employed. Past experience proves that much can be done. Such persons have *some* advantages; they have no antipathies in pupils to conquer; they do not usually commence their labors after a vacation, the weeks of which have been hardly sufficient to recruit an exhausted frame. He is a poor teacher who, when brought in contact with a group of pupils, for a single term even, with all the disadvantages suggested, does not accomplish much, and erect a monument more lasting than stone.

But there is another difficulty; it is a great irregularity and want of punctuality in pupils. Even these short periods of attendance we have spoken of, are broken by many a long parenthesis for genteel amusements, and for housework. How many cases of comfortable sickness! How pressing is the labor of the farm! What long errands to the shoemaker or store!—How tardily the Congress of youthful delegates from the kitchens and barns of the village, assemble on a winter's morning! The truthful parent fancies that a delay of a few minutes can make but little difference. And alas! he reasons too correctly; for if his child is habitually late, it makes indeed little difference whether or not he is there at all.

What can be done? The teacher has no authority to command attendance. He has no magnetism to quicken the lingering footsteps, and draw in the reluctant pupil to his task. What can he do? The evil is a great one; no school, no pupil can prosper, if habitually tardy or irregular.—Every late footstep is giving a lesson to future life; tardy scholars will certainly make tardy men. But what course shall the teacher pursue?

In the first place let him deprecate the evil. Again, let him *not worry* over it, or indeed over any thing else; worrying shortens more lives than intemperance or the sword. Let him be invariably prompt himself; actions speak louder than words. Let him keep a careful record of all tardiness and absences, and call the attention of the school to them. If circumstances permit him to exercise authority, let him do it. At least let him keep a careful record of these matters and show the offenders how they look on paper. One prevailing fault of teachers is a neglect of keeping an account with their school. A fair and well-kept record of all irregularities of attendance, and of the character of recitations, will be of as great service in school-keeping as a system of maps in geography.

Let the teacher, if possible, kindle some *ambition* to be punctual among the members of the school; the cure is nearly effected then. If this be not attainable, let the matter be referred to the parents, at their homes, or on a meeting of the district. Show them that this is a question in "loss and gain." Show them that an absence of one day in the week will take away one half the benefit of the term. Show them that a tardiness of one half hour each session, will in an ordinary term make eleven or twelve days, and result in a loss of eleven twelfths of the expected gain, besides entailing upon them the odious habit of being forever a little after the time.

We doubt not that with such representations you would rouse at home a disposition to co-operate with you. Can you accomplish this, and effect a reform, you may reckon it one of the noblest fruits of your labor for your pupils. Punctuality is the life of business. Lord Nelson remarked that he owed much of his success in life, to the fact, that he had made it a rule to be always fifteen minutes before the time.

But if scholars, after all, will be transient, and your pupils and their parents cannot be reformed, "fret not thyself in any wise to do evil." We know not what others may advise; but we recommend that such pupils be referred at once to the "committee on unfinished business," and as soon as possible to the "committee on foreign relations!"—*Massachusetts Teacher.*

WHAT IS DONE, HAVE WELL DONE.

"Work once well done, is twice done."

Much of our instruction lacks that vigor of discipline, and the nerve, and *persistence*, that will entitle us to future remembrance.

Would you, O teacher, be long remembered? Then do this day's work well. Are you employed with the youngest class of pupils? Then so much the more important your work; for on the solidity of the foundation depends the permanency of the whole. Are you daguerreotyping the numer-