and Greek were not altogether fitted for those who were destined to a mercantile life. Uneducated men who had pushed their way to fortune and honour generously resolved to do something for their own class; and thus we come to see in every town not a free grammar-school, but a free-school, over whose gates was generally set up the effigy of a boy in blue or green, with an inscription betokening that by the last will of Alderman A. B. this school had been founded for 20 poor boys, to be clothed, and taught reading, writing, and arithmetic.

With a comparatively small population, these free-schools were admirable beginnings of the education of the poorer classes. While the grammar-schools were making divines, lawyers, and physicians, out of the sons of the professional classes and the wealthier tradesmen, the free-schools were making clever handicraftsmen and thriving burgesses out of the sons of the mechanics and labourers; and many a man who had been a charity boy in his native town, when he had risen to competence, pointed with honour and pride to the institution which had made him what he was, and he often loosened his pursetrings to perpetuate for others the benefits which he had himself enjoyed.

Thus we see that what the grammar-schools had done for the higher and middle classes, the free-schools did for the lower, in a different measure. They were the prizes for the poor boy, who had no ambition, perhaps no talent, for the struggles of the scholar; they taught him what, amongst the wholly untaught, would give him a distinction and a preference in his humble career,—and he was unenvied by the less fortunate, because they knew that there was no absolute bar to their children and their kindred running the same course.

In a few cases, we owe public-schools to some providential deliverance of the founders; as in the instance of Dame Alice Owen, who, in 1613, founded and endowed in St. John-street-road, London, a school for 30 poor scholars, in memory of her having escaped "braining" by a stray arrow upon the site, then called Hermitage Fields; the arrow having passed through Dame Owen's high-crowned hat.

The originator of this charity-school movement is by some stated to have been William Blake, a woollen-draper, "at the sign of the Golden Boy," Maiden-lane, Covent-garden, who founded the Hospital at Highgate, (1) called the Ladies' Charity School, before 1685, and who purchased Dorchester House for that purpose, expending 5000*l.* in his benevolent project. Blake had for his coadjutor Alderman Cornish, who, in 1685, was tried and executed as having been concerned in the Rye-house plot. It is generally stated that Charity Schools were first erected in the parish of Aldgate, and St. Margaret, Westminster; and a slab in front of the Aldgate school house, adjoining the Royal Mint, bears an inscription to the purport that it was the first Protestant Charity School, and was erected by voluntary contributions in 1693.

Westminster has, to this day, four of these schools, distinguished by the colour of the clothes worn by the scholars. First is St. Margaret's Hospital, established and endowed in 1633; the master's house bears a bust of Charles I. and the royal arms, richly carved, coloured and gilt; adjoining the school-house is a quaint old flower-garden; the boys wear a long *green* skirt, and a red leather girdle; hence St. Margaret's is known as the *Green Coat Hospital;* the grace used here, attributed to Bishop Compton, is the same as that said in Christ's Hospital. Then there is the Westminster *Blue Coat School,* instituted 1688; and next *Grey Coat Hospital,* founded in 1698, and reconstructed in 1706, when the school-house was built: the centre bears the royal arms of Queen Anne, with the motto *Semper Eadem,* flanked by a male and female figure in the olden costume of the children—dark grey dresses, the girl's bodice open in front, and corded. In 1686, Sarah, Duchess of Somerset, bequeathed 100*l.* to support six fatherless boys in the school, to be distinguished by wearing *yellow* caps. The fourth and last is Palmer's School, the boys of which wear *black coats.*

A school was commenced about this period at Kensington, by a bequest in 1645, to establish "a free school for poor men's children to be taught reading and arithmetic;" which was extended to clothing and instructing boys and girls "in all needfull learning and work, and the principles of the Church, and to dispose them to useful trades." Queen Anne and Prince George of Denmark contributed to the fund, and in 1713 a new school-house was built, west of Kensington Church, by Sir John Vanburgh: this is a fine specimen of brick work; in the front are costumed statuettes of a charity boy with a pen and scroll, inscribed, "I was naked and ye clothed me;" and a charity girl presenting a prayer-book; in the old school-room is a vellum list of subscribers to the school from 1701 to 1750.

Among the oldest Charity Schools in the metropolis are those of St. Clement Danes, Strand, established in 1700, on the principles then first propagated by the Society for Promoting Christian Knowledge. The School-house is in the neighbourhood of Clare Market, formerly Clement's Inn Fields, where theatres and taverns, and other low haunts of dissipation, held out their baits, and for neglect of Christian education lured many a soul to early ruin.

Another of these early institutions is the Ladies' Charity School, which was established in 1702, at King-street, Snow-hill, London, and was there kept 145 years, when it was removed to John-street, Bedford-row. Mrs. Thrale and Dr. Johnson were subscribers to this school; and Johnson drew from it his story of Betty Broom, in the *Idler.* In the school minutes, 1763, the ladies of the committee censure the schoolmistress for listening to the story of the Cock-lane Ghost, and desire her to "keep her belief in the article to herself." The 150th anniversary of this School was celebrated with a public dinner at Stationers' Hall, in 1852.

(To be continued.)

(1) There was already at Highgate a Grammar School, founded by Sir Roger Chomeley in the reign of Elizabeth; the first statute ordering that the schoolmaster should "teach young children their A B C, and other English books, and to write, and also in their grammar as they should grow up thereto;" but the foundation dwindling to a mere charity school, by the neglect of the governors, the school was restored, and is now in active operation as a Grammar-school under a scheme of the Court of Chancery. The income is about 777*l.*, and the School is free to 40 boys, nominated by Governors from the neighbourhood.

Suggestive Hints towards Improved Secular Instruction.

BY THE REV. RICHARD DAWES, A. M.

XI.

NATURAL PHILOSOPHY.

(Continued from our last.)

Air as a vehicle of sound.

A bell under the receiver of an air-pump when exhausted, is not heard.

Bodies which produce the sensation of sound on the ear are in a state of vibration, as in a bell—the running a wet finger along the rim of a common drinking-glass, etc.

Here having to do with the instruction of children engaged in country occupations, I have called their attention in this, as in other subjects, to things coming under their observation, in a way something like the following:

Did you ever observe a woodman cutting down a tree at a distance; you could see the hatchet fall, and some time after that the sound of the blow came to your ear. Do you know the reason?

Teacher. Light travels so fast that the time it is in coming from the hatchet to you is so small that it cannot be reckoned; so that when you see the hatchet fall, that is the instant the blow is given; but sound, coming at a very slow pace (1,142 feet in a second), takes as many seconds to get to your ear as when multiplied by 1,142, would give the number of feet between you and the man cutting down the tree.

For instance, if it were 2", his distance would be 1142 ft. × 2, If 3", 1142 × 3, and so on.

Did you ever see a man firing a gun at a distance, and, after seeing the flash, wonder why you did not hear the sound, or that you were kept considering how long it would be before the sound came? Do you know the reason—can you explain it? Because sound lags behind, and the flash takes up no time in coming to the eye.

Supposing you were 5" before you heard the sound after seeing the flash, how far would you be off?—5 × 1142; 6", how far?—6 × 1142, and so on.

When we hear the Portsmouth guns here, if you could have seen the flash, do you think you could find out the distance betwixt this and Portsmouth?

Supposing a man was standing where you could see him a mile off, and you saw the flash of his gun, how long would it be before you heard the sound? A mile in feet divided by 1,142 would give the number of seconds before I could hear the sound.

Teacher. How do you think the sound gets to your ear? The air in the gunpowder suddenly expands and disturbs the air immediately about it, or the hatchet causes a vibration or tremu-