

own proper muscle; and he must be energetic and frugal, as well as fortunate, if he gets a comfortable house over his head, with forty arable acres about him, at the end of fifteen years' hard work. If he has brains and has been well educated, he may possibly shorten this ordeal to ten years; but should he begin by fancying hard work beneath him, or his abilities too great to be squandered in bushwhacking, he is very likely to come out at the little end of the horn, and straggling back to some popular settlement, more needy and seedy than when he set forth to wrest a farm from the wilderness, declare the pioneer's life one of such dreary, hopeless privation that no one who can read or cypher ought ever to attempt it.

A poor man, who undertakes to live by his wits on a farm that he has bought on credit, is not likely to achieve a brilliant success; but the farmer whose hand and brain work in concert will never find nor fancy his intellect or his education too good for his calling. He may very often discover that he wasted months of his school days in what was not adapted to his needs, and of little use in fighting one actual battle of life; but he will at the same time have ample reason to lament the meagreness and the deficiency of his knowledge.

I hold our average common schools defective, in that they fail to teach geology and chemistry, which in my view are the natural bases of a sound, practical knowledge of things—knowledge which the farmer, of all men, can least afford to miss. However it may be with others, he virtually needs to understand the character and constitution of the soil he must cultivate, the elements of which it is composed, and the laws which govern their relations to each other. Instruct him in the higher mathematics, if you will; in logic, in meteorology, in ever so many languages; but not till he shall have been thoroughly grounded in the sciences which unlock for him the arcana of Nature; for these are intimately related to all he must do, and devise, and direct, throughout the whole course, of his active career. Whatever he may learn or dispense with, a knowledge of these sciences is among the most urgent of his life-long needs.

Hence, I would suggest that a simple, lucid, lively, accurate digest of the leading principles and facts in geology and chemistry, and their application to the practical management of a farm, ought to constitute the reader of the highest class in every common school, especially in rural districts. Leave out details and recipes, with directions when to plant or sow, &c.; for these must vary with climate, circumstances, and the progress of knowledge; but let the body and bones, so to speak, of a primary agricultural education be taught in every school, in such terms and with such clearness as to commend them to the understanding of every pupil. I never yet visited a school in which something was not taught which might be omitted or postponed in favor of this.

Out of school and after school, let the young farmer delight in the literature illustrative of his calling—I mean the very best of it. Let him have few agricultural books; but let these treat of principles and laws rather than of methods and applications. Let him learn from these how to ascertain, by experiment, what are the actual and pressing needs of his soil, and he will readily determine by reflection and inquiry how those needs may be most readily and cheaply satisfied.

All the books in the world never of themselves made one good farmer; but, on the other hand, no man in this age can be a thoroughly good farmer without the knowledge which is more easily and rapidly acquired from books than otherwise. Books are no substitute for open-eyed observation and practical experience; but they enable one familiar with their contents to observe with an accuracy, and experiment with an intelligence, that is unattainable without them. The very farmer who tells you that he never opened a book which treats of Agriculture, and never wants to see one, will ask his neighbor how to grow or cure tobacco, or hops, or sorgho, or any crop with which he is yet unacquainted, when the chances are a hundred to one that this particular neighbor cannot advise him so well as the volume which embodies the experience of a thousand cultivators of this

very plant instead of barely one. A good book treating practically of Agriculture, or of some department therein, is simply a compendium of the experience of past ages, combined with such knowledge as the present generation have been enabled to add thereto. It may be faulty or defective on some points; it is not to be blindly confided in, nor slavishly followed—it is to be mastered, discussed, criticised, and followed; so far as its teachings coincide with the dictates of science, experience, and common sense. Its true office is suggestion; the good farmer will lean upon and trust it as an oracle only where his own proper knowledge proves entirely deficient.

By-and-by, it will be generally realized that few men live or have lived who cannot find scope and profitable employment for all their intellect on a two-hundred acre farm. And then the farmer will select the brightest of his sons to follow him in the management and cultivation of the paternal acres, leaving those of inferior capacity to seek fortune in pursuits for which a limited and special capacity will serve, if not suffice. And then we shall have an Agriculture worthy of our country and the age.—HORACE GREELY, (*N.-Y. Tribune*).

Prize Essay on Teaching Elementary Geography.

(Concluded.)

ENGLAND AND WALES.

Boundaries.—North by Scotland; east by the German Ocean; south by the English Channel; west by the Atlantic, St. George's Channel, and the Irish Sea.

Coast line 2000 miles. Greatest length from 300 to 420 miles. Greatest breadth 300 to 360 miles.

Capes.—Flamborough Head in Yorkshire; Spurn Head north of the Humber, South Foreland and Dungeness in Kent, Beech Head in Sussex. The Needles in the Isle of Wight; Lizard Point (the most southern), and Land's End (the most western) in Cornwall; St. David's Head in Wales.

Islands.—Isle of Man, Anglesea, Wight, Holyhead Lundy Island, the Channel Islands.

Wight, south of Hampshire, is about half the size of Dublin county. Ryde and Newport are its largest towns. The Queen has a favourite residence near Cowes, in the island, called Osborne House.

Anglesea is joined to the main land by two bridges. Holyhead is the port of embarkation for Ireland, and is only an island at high water.

The Channel Islands belong to Great Britain through the Norman Conquest, having belonged to William Duke of Normandy. These islands are much frequented by tourists from their mild climate and exemption from several taxes.

Isle of Man, about three-fourths of the size of Dublin county, has some lead mines and fisheries. Chief towns, Ramsay and Douglas. It too, enjoys peculiar privileges.

Mountains.—Pennine Range, Cambrian Range, containing Scafell, 3,166 feet high (the highest mountain in England) Cambrian Range to the west contains Snowdon (the highest in England and Wales).

Lakes.—Windermere, Derwent Water, and Bala Lake in Wales. The lakes of England are few and small. Their scenery, being situated among high hills, is very beautiful.

Rivers.—The Ouse, Thames, Severn Mersey, Dee. The largest is the Severn.

Climate.—The climate is moist, particularly on the west, but healthy. It is warmer west and south than east. Prevailing winds are west and south-west. East and north-east winds blow for some time in spring—these winds are cold and dry. It is warmer than the Continent of Europe in the same latitude.

Soil and Productions.—The soil is generally fertile. The grain crops are wheat in the east and south-east, barley in the centre, and oats in the north. Hops are grown in Kent.