



RURAL ARCHITECTURE.

It is our intention to furnish you occasionally with different designs of buildings. We now give you the above as a sample of a neat and cheap small house. We intend to furnish some of greater pretensions and of out-buildings, but the world was not made in a day.

FORMATION AND MANAGEMENT OF THE SOIL.

The soil, which has been cultivated by countless generations of men, did not come spontaneously into a rich and mellow condition of fertility.

Millions of years before animal life was imprinted on its bosom, geological science teaches us our earth was one vast ball of fire revolving through the heavens. In process of time, its glowing crust began to cool beneath the influence of atmospheric vapor. That crust thickened as the fire gradually retreated towards the centre, until the long pent-up forces burst through their vast confines, scattering the crust in millions of fragments, and casting the earth's form into something of its present agreeable diversity of hills and valleys, mountains and plains. These upheavals of matter, which were forged from the heat of the internal furnace, succeeded at near or remote intervals, bursting through or overlapping the former with a new and different deposit. In this way, science accounts for the different strata which now compose the earth. The entire surface of the earth must then have been fragmentary rock, on which no animal life could subsist. The new elements of air and water were now brought to bear upon this hardened matter, when the rock cracked and flaked into pieces and the stones were dissolved into infinitesimal particles. That crumbling and dissolving process laid the foundation of our soil, and began to develop the vegetable matter of the primeval world.

Then came the vast period of flood, swelling gradually up from the deep abyss of waters over the hills, till, in process of time, it swept the peaks of the loftiest mountains. Taking a course from east to west, with an irresistible momentum, whirling great rocks along its track, and rounding them to boulders or

grinding them to dust, this flood bore upon its bosom, the rank vegetable accumulation of an indefinite period of growth, and deposited the mass in those numerous localities, where the agency of fire converted it into fuel for future necessity. The same great carrier must have produced an intermingling of the various elements which compose the soil, thus mixing together and equalizing the whole with a rich fertility. We find that the same mixing of differ-

ent soils to day has the same influence on the growing crop that the original soil possessed.

When those waters subsided into the great courses prepared for them, the earth was developed into a fit abode for man.

The great work of creation has been progressing, is now going on, and will continue to go on while the elements endure. Elevation and depression occur in many portions of the earth's surface continuously. The elements of air, water and frost, are rending and dissolving the mountain ridges of stone, and thus bringing into action the material of future forests.

The same great chemical changes are taking place in the soil, and wherever the conditions are most favorable, there the changes are the most manifest and rapid. The earth has been cropped by the human and animal creation for some six thousand years, and so prodigal have they been of the great gift of nature, that we find, after the lapse of ages, many portions of the earth have become exhausted of its original fertility. Nor has the civilization attendant upon modern nations been instrumental in preserving the former wealth of the soil, as the impoverished condition of whole sections of abandoned land among Christian emigrants abundantly proves.

Some of the old nations of the East—the children of the Sun—who have occupied the same soil from primeval time, manage to retain the soil in its former fertility, though the population is more dense than any other portion of the earth. Nothing less than a thorough realization of the perpetual wants of a cultivated soil, has enabled the Chinese to multiply and maintain the population of that great empire. In agriculture, as in some other things, Christian lands may well borrow from the Pagans.

These lands, all through old and well-known sections, were once wonderfully productive in grass and grain. Many farmers who now connect us with a former generation, tell us what quantities of grain have been grown and sold at one dollar a bushel, where the earth will not now yield a paying crop. So, too, were the pastures rich in phosphates; but where ten cows once fed upon luxuriant grasses, two only can now find a subsistence. Then orchards planted out in the common field, flourished without culture, and produced

abundant crops of fair fruit annually. We see some of those orchards to-day involved in the same apparent ruin of the soil. Hence men, finding that the process of ever taking and never giving back anything to the cropped field, has been one of exhaustion and ruin, turn their attention to virgin lands, or abandon the soil for the shop, and the marts of city traffic.

But are these long cultivated acres really exhausted? Or do the same elements which rendered them once so productive still lie latent in the soil?

We shall assume the position that the soil is not exhausted. True, its mechanical condition may be such as to resist the operation of the fertilizing forces of nature. At best, only six inches of the surface has been brought into use, and so much only of the organic and inorganic elements have been put under contribution to man. The granite, which has been subject to the dissolving power of long centuries, is still pregnant with potash. The red sand and the limestone retain the choice stores of future fertility. The dissevered particles of sand, which make up the arid plain, are ready to be united with the accessible deposits of carbon and lime.

Through all the long past, the rich deposits of the primitive ages have been locked up beyond the reach of plow and hoe, or roots of vegetation. Its mechanical condition utterly precludes the circulation of atmospheric gasses through its pores, and the dews and rain are unable to penetrate it with carbon and ammonia.

That surface soil is no longer productive, by reason of the exhaustion of potash, soda, sulphuric acid, phosphoric acid, carbon, &c. The sand, clay, and oxide of iron, which always remain, may be rendered once more productive by the application of a small quantity of those constituents which analysis reveals in the natural plant.

But a restoration of these fertilizing ingredients to the surface, is not enough. We need to enter upon the practice of a more thorough system of cultivation. This widespread and too general practice of the farming community, of treading the time-beaten course of past generations, with little knowledge of the wants of the soil, and running the land with a single crop, year in and year out, is calculated to impoverish the country and bring the most honorable pursuit of man to disrepute. Many farmers hire help to grow crops on poor land, which can hardly yield enough to pay expenses. Diffusing their labor over a large field instead of confining it to a few manured and well-cultivated acres, the farm is all the time growing poorer and the labor consumes the profits. The next thing is to abandon the homestead and go to the poor house or emigrate. Another class of cultivators possess these farms, and