

plants, from their containing a great quantity of carbonic acid, which is one of the most essential ingredients to vegetation. Soils are therefore usually improved by chalk or carbonate of lime.

But we find that different kinds of vegetables require different kinds of soil. Thus rice, a moist retentive soil; while wheat, a firm, rich soil; and potatoes, a soft, sandy soil. Forest trees are said to grow better in fine sand than in stiff clay, and in fact, light furiginous soil is said to be the best adapted to fruit trees.

But what is going to be the object of manuring? says one.

We find that manure consists of all kinds of substances, whether animal or vegetable origin, which have undergone the putrid fermentation, and are completely decomposed, or nearly so, into their elementary principles. Now the great object of supplying the soil with those decomposed substances seems to be, to furnish vegetables with the substances which enter into their composition. For manures are found not only to contain carbon, hydrogen and oxygen, but their decomposition supply the soil with those principles in their primitive and elementary form. And I might add, that it is doubtless for this reason that the finest crops are produced in fields which were formerly covered with woods; as this soil is said to be composed of a rich mould abounding in those principles; and also accounts for the fruitfulness of the crops produced in this country immediately subsequent to its being covered over with unbroken forests.

But again. It seems to be a query with some, why animal substances are deemed superior to others for manures. Indeed, it does appear the most natural, far, that the decomposed elements of vegetables should be the most appropriate to the formation of new vegetables. But the addition of a much greater proportion of nitrogen, which constitutes the chief difference between animal and vegetable matter, renders the composition of the former much more complicated, and consequently much more favourable to decomposition. The use of animal substances is chiefly to give the first impulse to the fermentation of vegetable ingredients that enter into the composition of manures. The manures of the farm-yard are of this description. But there is scarcely any substance susceptible of undergoing the putrid fermentation that will not make good manure.

The heat produced by the fermentation of manure is another circumstance which is extremely favourable to vegetation, but this heat would be too great if the manure were laid upon the ground in the height of fermentation—it is used in this state only for hot-beds.

Since all organized bodies in the common course of nature are ultimately changed and reduced to their elementary state, they must necessarily then enrich the soil, and afford food for vegetation. Now, then, it is not fully understood by many how it is that agriculture, which cannot increase the quantity of those elements that are required to manure the earth, can increase the products so wonderfully, as is found to be the case in all cultivated countries. We find that it consists chiefly and simply in suffering those of these principles to remain inactive, but to employ them to the best advantage.

This object is attained by a judicious preparation of the soil, which consists of her in fitting it for the general purpose of vegetation or for that of the particular seed which is to be sown. Thus, if the soil be too cold, it may be warmed by slack lime upon it; if too loose and sandy, it may be rendered more consistent and retentive of water by the addition of lay or loam; if too poor, it may be enriched by calcareous earth or chalk. On soils thus improved, manures may act with double efficacy, and if attention be paid to spread them over the ground at a proper season of the year—to mix them well with the soil, so that they may generally be diffused through it—to destroy the weeds that might appropriate these nutritive principles to their own use, to remove the stones which might impede the growth of the plants, we may obtain a produce a hundred-fold more abundant than the earth would have spontaneously produced.

In conclusion, then, we find agriculture to primarily consist in thus preparing the soil for the growth and development of the plant—in discovering the radical method of obtaining the several principles, either from their grand original sources, air or water, or the decomposition of organized bodies, and in appropriating them in the best manner for the purposes of vegetation.—*See of N. E. Farmer.*

## Literary.

Judge Marshall's Concluding Letter,  
TO THE PEOPLE OF NOVA SCOTIA.

REMEDIES AND CONCLUSION.

*Total Abstinence greatly assists Religion.* In the concluding part of the *Teeth* of these letters, which treats of the state of religion in the United Kingdom, several remarks are offered, and facts and testimonies given, to which the reader is referred as being appli-

cable, in support of the position here taken, that "total abstinence promotes religion." A few other facts and authorities, on the same subject, may be appropriately added. One valid work, already frequently cited, contains the following instances.—In Preston, one church became so famous for the number of reclaimed characters who attended it, as to acquire the name of The Reformed Drunkard's Church. In Cornwall, the church has reaped richly from the spread of total abstinence. The Wesleyans alone, between the Conferences of 1837 and 1839, were joined by above 5000 persons. Every denomination of Christians, that displayed activity, at the time of sowing, reaped abundantly the religious fruits of the temperance seed. The Rev. H. G. Graham, a vicar at a place near the Land's End, after mentioning his former distress, at his church being almost entirely deserted, through the drunkenness of the parishioners, goes on to say:—"By the formation of a total abstinence society, how has the scene been changed, within a few months! Now, there is scarcely a drunken man to be seen. The church is crowded with attentive and well-clad hearers."

The Rev. Mr. Reid's "Temperance Cyclopædia," which has been already cited, contains the following, among numerous other testimonies to the same effect:—"The Rev. Mr. Burns, the minister of Kilsyth, says,—the revival was considerably helped by the introduction of the temperance principles into the parish." "Mr. McDonald, after stating that the increase of members of society, in the Cornish district, among the Wesleyans, during one year, was 1130, adds, 'I have made careful inquiry, from those competent to form a judgment, and the result is, a firm conviction in my mind, of the fact, that many hundreds of the new converts, have been led to serve God, from an abandonment of strong drinks.'" "The Rev. Dr. Geo. F. Ryan says:—Not a few who were once infidels in principle, and who have entered our societies as total abstainers, have been won by the truth,—have sought the long forsaken sanctuary of God, and have become 'new creatures in Christ Jesus.'" Some such, are even now, in happy and honorable connection with the churches of Christ, and will, I trust, be the crown of our rejoicing in the day of God."

"The Rev. Newman Hall, A.M., of Hall, says:—Several members of my church were formerly plunged in the worst kind of inebriety,—the inebriety of habitual profligacy, until grappled with by total abstinence. Having thus become sober, they are now, also, through the grace of God, living a righteous and godly life."

"The Rev. Wm. Bell, of Edinburgh, says:—I have not cases too numerous to record, of persons formerly utterly indifferent to their spiritual interests, not only made sober, by the adoption of abstinence principles, but led from the higher platform to which they have been elevated, to recognize the rank designed for them in God's moral kingdom; and give to spiritual things, that attention which was, in vain, solicited during the day when they were wedded to their cups; and some few of them, have afforded no dubious evidence of a radical change of heart."

In America, similar, and, it is believed, still more extensive good effects have flowed from the temperance movement. One pastor, in commenting on the addition of 120 to his own church, remarks:—"Temperance and religion go hand in hand. The most abandoned to intoxication are reclaimed; church members see the light, acknowledge their errors, and espouse the cause of temperance, and witness that they experience a new and blessed enjoyment; and that their feet stand in larger places than before."

Various other social advantages of lesser importance than those which have now been enumerated, might be specified, as having every where followed from the progress of the abstinence reform; but those which have been explained, ought to be quite sufficient to convince the most adverse and sceptical, that more than all other means combined, the prevalence of that reform will ensure the entire removal of some, and the extensive alleviation of others, of the manifold evils now oppressing and afflicting the labouring and poorer classes of the United Kingdom. It is, indeed, as acknowledged by all who have fully investigated the sub-

ject, the only adequate and available remedy for effecting those greatly needed and desirable purposes. If the blessings described, have been secured in so very many instances, by the progress of that benevolent work, why not in more? If in so many communities and religious denominations, why not in all; and if in communities, why not in nations? As regards this remedy, there is no reason applying in the one case, which does not apply in the other, with equal propriety and force. That the social embarrassments and evils of the labouring classes, generally, and partially also of the middle orders, in the United Kingdom, are particularly severe and complicated at the present time, all who have investigated and reflected on the subject, with any good degree of attention and candour, among writers and others, very readily admit. They have not been exhibited in the course of these letters, with any degree of exaggeration; and the writer may safely assert, that he has not offered any remarks, as pointed and expressive of the afflicting nature and the extent of those evils, as those contained in several of the extracts he has given from the writings of some, among the most respectable and truthful authors, within the Kingdom itself. It must, surely, be admitted, that the prosperity and happiness of a country, or its opposite circumstances, are to be ascertained and determined, by a reference to the bulk or masses of its people; and not from a view of its more favoured or privileged classes.—How, then, it may be asked, can the population at large, of any Empire or Country, be said to be prosperous, comfortable, or happy, one-fifth of whom are either in absolute pauperism, or public burthens; or in deeply depressed and impoverished circumstances, which, at present, is certainly the case in the United Kingdom;—and while such vast numbers, are annually fleeing away from it, and greater multitudes of others would follow, if they could find the means for escape? How can any people be said to be generally *prosperous and comfortable*, among whom, notwithstanding increasing religious means and appliances, crime has increased more than *five fold* within 50 years past; and, therefore, to beyond their numerical increase;—while so much drunkenness is still prevailing; and while juvenile depravity, female profligacy, and general immorality, in every form, have, also, in recent years especially, been rapidly increasing; and now so greatly abound? How can they be said to be even generally *happy, comfortable, or contented*, while the before-mentioned evils, and others described in these letters, are so extensively prevalent, as have already been fully exhibited and explained? How can they be said to be *intelligent*, or at all *affordingly advanced in literary instruction*, while there is so much ignorance among the masses of the people, as has also been described? Finally, how can the population be characterized, as generally *religious*, when such vast numbers of them, as has been seen, never enter a place of worship, or ever cleave any of the forms of devotion; but are, and, in *practical* *piety*, *probity*, and the most *debauching and ruinous* *vice*; and, probably, as many more, are either *grossly superstitious*, or *careless, hypocritical, or fanatical*; and like those first alluded to, are involved in vice or sensuality, pride and folly, and innumerable other evils, contrary both to the spirit and letter of *Christianity*. They may be, and most probably are, as a people, comparatively, less *immoral, profane, and immoral* than those of most, if not all of the other civilized nations of the earth, but brought to the test of truth and righteousness,—the only reliable one, they are demonstrably wanting and defective.

Should any person object to the plain and pointed exposures made in these letters, as being unbecomingly, and improper, the first point to be determined, is, as to their *truth*. If any of the statements or remarks can be refuted, or explained away, *let it be done*, but the writer is *perfectly at ease*, as to any attempt of the kind; being fully assured of their *truth and accuracy*. He can sincerely assert, that in composing these letters, he has not been actuated by any feeling of hostility, aversion, or unkindness, towards authorities, or institutions of any description; or religious sects or denominations; or political or other parties, either in Church or State; but was, all along, of service of a cer-

taining the truth, and the whole truth, on every subject; and of exhibiting it without any concealment or improper colouring. The truth, on every subject, worth investigation, or inquiry, is always more or less valuable, and, on every such investigation, should be candidly and diligently sought after; and if requisite, be *fully and faithfully* declared without any subserviency to *evil customs*, or habits, to *pride*, or *prejudice*, *corruption*, or *selfishness*; or that "*fear of man which bringeth a snare*."

In essaying to write on the social condition of the United Kingdom, especially as regards the labouring or poorer classes, composing the bulk, and, in reality, the most important part of the population, it was essentially requisite, that he should give particulars, on the subjects of *wages*, *crime*, and *depravity*, *pauperism*, and other important points, affecting that condition. It is deemed, also, to be especially appropriate, or even requisite, to exhibit and explain, the leading or principal causes which have produced, and are still continuing those embarrassing and afflicting evils; and further, it cannot, surely, be thought exceptionable, that he should have endeavoured to suggest, and to enlarge upon, some of the principal remedies or means to be applied, for the removal or mitigation of those evils, by removing or diminishing their causes. If pointed and faithful exposures of public corruptions, oppressions, or abuses, had not from time to time been made, in Great Britain, as occasions required, there would have been no "Magna Charta of Liberties;" no "Bill of Rights;" no abolition of "Star Chamber," and other oppressions; no civil rights declared and secured, as in the time of William and Mary; no commencement of religious reform in the time of Wickliffe; and, notwithstanding the courageous labours and exposures of Luther and Melancthon, Calvin and Beza, and others, there would have been no completion and establishment of that reformation in Britain, had not our own Cranmer, and Latimer, Hooper, Ridley, and Knox, with many other zealous and determined advocates of the truth, made similar exposures, and with similar boldness, zeal, and energy. Those who object to plain and faithful exhibitions of predominating evils and corruptions, and wilfully shut their eyes to their existence, or refuse to assist in any way to remove them, cannot be considered as genuine patriots, or possessed of a spirit of enlightened benevolence.—They may, rather, be regarded, as either narrow-minded, selfish, or servile; or having "the fear of man," which is scripturally condemned; and as being but little regardless of the several distinctions between good and evil. As with individuals afflicted with any bodily disease, the first, and one of the most important particulars, in order to a prescription and a cure, is an accurate knowledge of the symptoms, and primary, or principal cause of the disorder; so with the body politic, the first step towards the removal of any public oppression, or grievance, is, its *pointed and faithful exposure*. If it does not immediately answer the purpose intended, most probably, it will assist in doing so, at some future period; and may, also, serve, in the way of warning and restraint, on other occasions; and with reference to other public characters, and other communities or nations.

It has been already intimated, that the facts and remarks contained in these letters, are to be understood as being of a *national*, or more or less *general* description and application. A *national* population, like *individuals*, are prone to compare and measure themselves with the people of other countries; and, of course, making the comparison the most in their own favour, indulge in a complacent satisfaction, with their own zeal or fancied superiority; and thus, partially, if not entirely, overlook, extenuate, or deny, their own vices or defects. It is probable enough, that because the English and Scottish people, on some such comparisons, may either truly find, or boldly conclude, that irreligion, and superstition, vice, and immorality, sensuality, and selfishness, vanity, and dissipation, are not so prevalent among them, as among the people of some other countries, that, therefore, their religious and moral condition is not so very defective as it is in reality. But, a reference to the *available* standards of truth and righteousness, will readily show, that such a *comparative* mode