

Rural Economy.

DEGENERACY OF WHEAT.

E. S. Todd, in the New York Times, combating the idea that there is, as asserted by some writers, a natural tendency in some varieties of wheat to run out or degenerate, says:—
"On the borders of the River Nile, in Africa, one of the finest regions in the world for the production of excellent wheat, the same varieties are grown from year to year, without the least deterioration, that were cultivated three thousand years ago. And the same thing may be done in this country by exercising the same care in the selection of the seed that is observed by the farmers in that part of the world.
It is a well-established fact that wheat will hybridize when different varieties are allowed to grow in close proximity. Of course, the product would be a mixture of seed, in which the purity of the variety is gone. Consequently, with a mixture of seed, a farmer would find himself in the same circumstances with reference to the improvement of his wheat that he is when he undertakes to improve his domestic animals by breeding from mongrels or from grade stock. It is well understood that such animals—grades and mongrels—when employed as breeders, never transmit the desirable form and symmetry to their offspring with reliable certainty, while pure-bred animals never fail in this respect.
The same facts hold good in the vegetable kingdom, with seed wheat in particular. When different varieties are sown in close proximity, and the product, which will be an impure grain, is again employed for seed, a pure variety of choice wheat may be run out most effectually in a few years, so that intelligent farmers who were only superficial observers would be ready to affirm without hesitation, that wheat does degenerate. The cause of degeneracy, and the remedy, may all be expressed in a few words. We have hinted at the cause, namely: sowing different varieties near each other, so that the grain will hybridize; threshing several kinds together, and continuing to employ such grain for seed from year to year. Herein lies the whole secret of the degeneracy of varieties. If a pure variety be kept by itself with suitable care, and cultivated on good ground, and the grain never threshed with other wheat, the purity of a variety of wheat, with all its excellent characteristics, may be maintained intact as long as wheat may be cultivated. There is no uncertainty about this suggestion. The idea is in perfect keeping with the established laws of vegetable physiology. Cultivating any variety of grain in a slipshod, slack and perfunctory manner, will cause the best variety of wheat the world ever knew to degenerate and run completely out in a few years. On the contrary, if the seed be selected every season with the same care that the originator of the Weeks wheat observed for a decade of years, generations unborn would cultivate the same varieties that our fields now produce, without the least deterioration in either yield or quality of grain."

REMEDY FOR BOTS IN HORSES.—Mr. D. Wood, Venice Centre, N. Y., writes that a veterinarian has been trying experiments with bots in horses; and he found that bots died sooner when put into strong tea than in spirits of turpentine. The conclusion is, that cold tea is more efficacious when a horse has the bots, than some other remedies.

THE HEN CHOLERA.—Mrs. J. E. Burns writes to the 'Club.'—"Soak wheat head in sharp vinegar, and feed the fowls two or three times a week. This is an excellent preventive. An ounce of preventive is worth a pound of cure. Having tested the remedy, I can recommend it with confidence."—N. Y. Farmers' Club.

Miscellaneous.

REPORT TO THE EVANGELICAL ALLIANCE.

BY HENRY B. SMITH, D. D.

[CONTINUED.]

We believe that no external power, be it ecclesiastical or secular, has a right to invade the sacred province of religious freedom. We also believe that Christianity does not need the support of the State. As faith in human rights is at the basis of our republican institutions, so, and with still stronger emphasis, is faith in Christianity at the basis of our religious growth and order: we are willing to trust its inherent truth and power against all the assaults of its foes, against an infidelity born of passion or an infidelity born of speculation, being well assured that the State cannot repel those; if the Church cannot. Such religious liberty is necessary to true civil freedom; the latter has ever followed the former: where there is no religious, there cannot be a fully developed civil freedom; and where religious and civil liberty are fully and equally recognized, there will also ensue a separation of Church and State. Not that we claim to have fully solved the vast problem of the relation of the Church to the State; but we allow all the elements of the solution free and full course, in this transition stage of human history; confident that we are approaching the solution nearer than is possible where either of the elements is unduly restrained. It is an unsolved problem, the greatest problem of history; and we are trying to work it out in the sphere of freedom—freedom both in Church and State; and this is, at least, as reasonable as to try and work it out by means of external fetters and restraints. Our separation of Church and State may be provisional; but its union any less so? Our apparent confusion of sects is, in one aspect, a sign of the fullness of a growing life; as it is also, in another aspect, an indication that we are at work on a problem not yet fully solved and reduced to scientific order. But the science will follow the experience. Both

in Church and State, we have great questions and trials before us; but we are beyond the complications which come from that union of the ecclesiastical with the secular power, which underlies so many other questions of modern history, and

"twilight sheds Perplexes monarchs."

On half the nation, and with fear of change

And the separation itself may be well, and needful, to bring about that better time, which we can now only dimly imagine, when the two shall be really one, because animated by the same spirit—when the State shall be penetrated in all its laws and acts by the vital principles of the Christian system. This separation does not imply indifference, still less opposition. Legally it means simply the non-recognition of any form of Christianity as established by the State. But the State still guarantees to all our churches their legal rights. The General Government also recognizes the Christian religion in various ways; it administers oaths of office; honors the Christian Sabbath; both Houses of Congress are daily opened with prayer; it appoints chaplains for the army and navy;—500 were under appointment, at one time, during the late war; President Lincoln issued an army order for the observance of the Sabbath, and he repeatedly appointed days of fasting, and supplication and thanksgiving, which were solemnly observed by all our churches. A movement is now on foot to procure a more express recognition of the Christian religion in our Constitution. The individual States, too, aid in various ways institutions and objects, not only of a benevolent, but also of a specific Christian character. And as society is more and more penetrated by the Christian system, the laws and institutions of the State will come into more entire accord with the fundamental principles of the kingdom of God.

This separation of Church and State, has left the Church entire freedom in doing a work, which could not otherwise well be done—which in this land could not have been done at all; if this union had been continued. That work was, and is the direct personal application of Christianity to a rapidly increasing population, doubling itself with each generation; largely fed by immigration, in some years to the extent of 750,000 per day; of the most diverse origin and beliefs; spread over a wide territory, advancing westward on this continent at the rate of twenty-five, or thirty miles a year; and filled with the instinct of freedom, and thus especially impatient of restraint, above all in their religious concerns. Working in the midst of such a population; the Church must use all possible instrumentalities and develop all its resources. It must reach men as individuals, and follow them in their wanderings. And not only must it strive to renew the individual, but also to bring the habits and institutions of social life and order under the influence of the Christian faith. For the real work of Christianity is, and can be, achieved only as it reforms society. Our very freedom allows us to apply Christianity directly to the individual and to society; it compels us to do this. And in the doing this by means of the rivalry and progress of the different denominations—no one of which can fairly set up any exclusive claims—we find the most prominent external characteristics of our American Christianity.

The time-honored European lines and divisions of the Christian Church are no longer applicable here; we cannot bring the facts of our Christian life under the rubrics of Lutheran and Reformed, and call all the rest, "sects;" nor can we speak of "dissenters" in any proper sense. The "sects" of the Old World are the leading churches of the New World. Most of our sects came to us from Europe, to get rid of state coercion; and they have here had free scope. Our Christian history is not that of the conversion of a new and civilized nation to the Gospel; but of the transplanted Christianity of Europe, freed from its local restrictions, to a new theatre; it is Europe itself developed on a new continent. Our leading denominations still stand on the substantial basis of the confessions of the Protestant Reformation, many of them adhering to the old symbols with a tenacity which is now rare in the lands from which they came. Notwithstanding the diversities of name and external order, we are agreed on the main articles of our common evangelical Christianity; and the sense of this unity is increasingly felt. At least three-fourths of our entire population are under the dominant influence of the chief Protestant churches—the Presbyterians and Congregationalists, the Methodists and Baptists, the Episcopalians, the Lutherans, the German and Dutch Reformed—to name no other. And as a simple matter of fact, the largest development and increase of Christianity in the nineteenth century has been found in the United States. The Methodists have increased in communicants from 15,000 to about 2,000,000; the Baptists from 35,000 to about 1,700,000; the Presbyterians from 40,000 to 700,000; the Congregationalists from 75,000 to 275,000; the Lutheran number over 300,000 and the German Reformed more than 100,000. And each of these churches reaches a population about four times as large as the number of its church-members.

That the voluntary principle, which is the necessary logical result of the separation of Church and State, is favorable to our progress, appears from the following statistics. According to the United States Census for 1860, there were then 54,000 church edifices in the country, erected wholly by voluntary contributions, at an estimated value of \$171,390,432; and the number of these churches had increased 50 per cent., and their value had doubled, in the previous ten years. There was an average of one church to 544 persons. The total church accommodation was 12,875,119, or about one sitting to every two and a half of the total population. (Of these edifices the Methodists had 19,833, at an average value of 2,000 dollars; the Baptists, 11,211, of the value of 1,700 dollars each; the Presbyterians and Congregationalists, 8,953, of the value of 5,500 dollars, etc.)* The increase in church membership has outrun, in spite of the influx of

*The number of churches and church accommodations for all denominations in 1860 was as follows: 1. Methodist, 19,833 churches, with accommodations for 6,259,800; 2. Baptist, 12,150, for 4,044,218; 3. Presbyterian, 6,406, for 2,565,949; 4. Roman Catholic, 2,550, for 1,404,437; 5. Congregational, 2,294, for 956,351; 6. Episcopal, 2,145, for 847,295; 7. Lutheran, 2,128, for 757,037; 8. Chris-

foreign population, the relative increase of the population. In 1800, the total population was 5,305,935, and the number of church members was 350,000; in 1832, the population was 13,614,420, church-members 1,348,948; in 1860, the population was 31,429,801, church-members, 5,035,250. That is, the ratio in 1800, was one communicant to about fifteen of the population; in 1832, it was one to ten; in 1860, one to six. While the population increased six-fold the church membership increased more than fourteen-fold. And this, too, notwithstanding the fact that during the last period, (from 1832 to 1860,) the number of aliens arriving at our ports was over five millions; and Texas, New Mexico and California were added to our territory. The proportional increase, since 1860, has probably been greater, for the immigration has been much less. This estimate does not include the Roman Catholics, who may number three and a half millions. A larger proportionate increase is also found in our benevolent and missionary contributions; as will be more fully stated in another part of this Report.

This general working of our ecclesiastical principles and institutions was not retarded, but rather invigorated and accelerated, during the period of our great Civil War. In such a crisis the deepest instincts and needs of the soul struggle for expression; and the real elements of national strength and character show themselves—all its higher as well as its lower powers and passions, each struggling for supremacy. Especially will this be the case, where it is a struggle of a lower against a higher form of civilization, of a material interest against a moral idea, of a strong yet unrighteous institution of the past against the higher forces that are to sway the future.

And so this war called out and deepened our general religious needs and convictions, and our sense of the reality of Divine Providence. It quickened the sense of the inviolability of the divine law, of the justice of retribution for national guilt. It made the general conscience more quick to discern between right and wrong, more ready to succor the oppressed and help them to their rights. It made the heart quick to feel, and the hand strong to aid the sick, the wounded and the dying, on innumerable fields of battle; so that while sons and brothers fought and bled, another army of mothers and sisters, all over the land, ministered to their wants with loving and sleepless vigilance. Every town had its society, and every family its appointed hours, for these deeds of mercy. Ministers from all our churches left their parishes, and met on the battle-field, offering the same prayers, and pointing the suffering and dying to the same Saviour. More than a hundred millions in money are known to have been given by private benevolence for the relief of our soldiers; and who can estimate the innumerable gifts that were never told, or the costly love which itself is priceless? A superficial view might ascribe all this development of justice and humanity to man's moral nature alone, without respect to religion, or to Christianity; but where have such results been seen, except under the fostering and benign influence of the Christian faith? The victories of right over wrong, of humanity over barbarism, of freedom over slavery, of law over anarchy and rebellion—especially when won by self-sacrifice—all progress in human rights and welfare, all advance of liberty under law—these are not foreign to the Christian faith, but born of its inmost spirit; they are signs and indexes of the real progress and triumphs of the Christian religion. In the political and social sphere, the growth of Christianity is indicated by the growth of justice and love; the triumphs of civilization over barbarism, of social justice over social wrong, the elevation of the masses to their rights and their duties—these are proofs of the progress, and auguries of the final supremacy and success of that Christian faith, which was heralded by the annunciation of peace on earth and good-will towards men. It is vain and idle to put morality into opposition to Christianity; for Christian faith worketh by love, and so overcometh the world. It is a reproach to Christianity to say, that it is, or can be, most prosperous, where human rights and man's freedom are unknown or disregarded.

Among the voluntary, charitable organizations called into being by the war, two assumed such large proportions as to call for special recognition: The United States Sanitary Commission, and the Christian Commission.* The Sanitary Commission, Henry W. Bellows, D.D., of New York, President, was organized for the relief of the sick and wounded, especially at times of great emergency. It had branches, and indefatigable workers, through all the Northern States. Its total receipts were over \$15,000,000 in store; \$5,000,000 in money, besides over \$1,000,000 expended at local offices. During a large part of the war, it had 400 men in constant employment on the field, and in 40 hospitals under its care. Besides medical aid and treatment, it gave two and a half millions of meals to stray soldiers; it kept records in its books in respect to a million and seven hundred thousand soldiers; it collected some fifty thousand soldiers' claims, amounting to over two millions of dollars. All this was effected by the spontaneous contributions and efforts of the people; and was supplementary to the large and even generous provisions of the Government for the comfort and healing of the sick and wounded. The general sanitary result of these measures is seen in the fact, that while in the European campaigns of this century the proportion of deaths by disease to the deaths from wounds is as four to one, in our campaign it was reduced one half, two to one—a net saving of some 200,000 lives.

tian (Baptist), 2,068, for 681,016; 9. Friends, 726, for 269,084; 10. German Reformed, 676, for 273,697; 11. Universalist, 664, for 235,219; 12. Dutch Reformed, 440, for 211,068; 13. Unitarian, 264, for 138,213; 14. Jewish, 77, for 34,412; 15. Adventist, 70, for 17,120; 16. Swedenborgian, 68, for 15,395; 17. Moravian, 49, for 20,316; 18. Spiritualist, 17, for 6,275; 19. Shakers, 12, for 5,200; 20. Union Churches, 1,366, for 371,899; 21. Other Sects, 26, for 14,150. The total is 54,000 churches, with accommodations for 19,128,751; in 1850, ten years before, there were 38,061 churches, with accommodations for 14,234,825. The total value of church property was \$87,328,801, in 1850, and \$171,398,532, in 1860, or nearly double.

* See the four Reports of the latter; and the Bulletin, (3 vols.), and Reports of the former, with the History, by Stillé. The Sanitary Commission, has in preparation several other volumes, illustrating in preparation several other volumes, illustrating the philanthropic, the medical and the sanitary history of the war.

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