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"Persevere and
Succeed."

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EDITORIAL.

WEAK LINK IN EDUCATIONAL CHAIN.

The swing of the pendulum in popular conceptions of education is plainly in the direction of the utilitarian. It is now not so much culture or discipline of the faculties by drill in languages and mathematics as training by means of a class of subjects co-related directly or indirectly with the prospective life-work of the individual. Especially on the part of young men is there a manifest restiveness in relation to those studies that aforetime played so conspicuous a part in the curricula. The modern overflow of young women into the industrial and commercial world has carried along with it a similar tendency. Hence, the easy advent of the study of nature and the natural sciences, manual training, commercial courses, electrical engineering, agriculture and domestic science.

In all this, two things require guarding against, one the proneness to take short-cuts in education, regardless of the fundamental truth of experience that the best in nature, and in art, likewise, is the product of slower growth; and the other, the substitution of the mere material product for the life itself, as the end in view. While the drift cityward, with attendant perils to humanity, continues, with little abatement, it is reassuring to realize that its dangers are recognized, and, farther, that the twentieth century has dawned with a well-defined appreciation of the blessings of rural life and contact with the comparatively unadulterated benefactions of nature—fresh air, sunlight, and wholesome food. The multiplication of schools and colleges of agriculture, and attention to the farm and its interests in our school systems and literature, are therefore among the most hopeful signs of the times. These agencies should be far more generally taken advantage of by young men, for the double reason that they invest farm work with before undreamed-of interest, and make it more profitable.

We shall have read history to poor purpose did we not perceive the evils of urban congestion, and, further, that an education that gravitates only to the material must fail in its final result. Endowed with a threefold nature, man cannot long rest unsatisfied, as Lecky, the historian, points out; and to abandon the higher for the lower in the pursuit of wealth, pleasure, or even the purely intellectual, will warp the nature and ultimately bring unerring penalties in its train. History, if it teaches anything clearly, discloses that one by one those nations became degenerate and perished, when, at the height of material prosperity, they forgot that only the good endures, and laid the emphasis upon the material and the sensual instead of upon man and character. Babylon, Greece, Egypt and Rome, despite the splendor of material achievement, sank into ruin. Human nature to-day is much the same as twenty centuries ago, and requires the same regenerating and preserving influences. The genius of Christianity has been the saving element in the life of the British nation, and there never was a time in the history of England, Canada and the United States when press, pulpit, school, parliament and home should so recognize and act upon this truth as in these halcyon days of progress. Any educational agency that fails in cognizance of the laws and principles underlying a sound morality, will prove a chain with a breaking link.

"It takes the land to hastening ills a prey,
While wealth accumulates and men decay."

ONTARIO'S COUNTY SYSTEM OF ROAD IMPROVEMENT.

The estimated outlay on country roads in the Province of Ontario during the ten years 1896 to 1905, represents a value of \$21,000,000, consisting of a cash expenditure of \$10,432,902, and 10,510,900 days of statute labor. The average exceeds a value of \$2,000,000 a year. This does not include the expenditure on streets of cities, nor a considerable expenditure by counties not operating under the Highway Act. What value has been received for the outlay? The eleventh (or 1907) annual report on Highway Improvement in Ontario, by A. W. Campbell, Deputy Minister of Public Works, better known as Provincial Good Roads Commissioner, discusses the various ways in which this money is being expended, and withal comprises the most pointed and practical compendium of road-improvement information that has yet come to hand from Mr. Campbell's pen. We have read it carefully through, and advise everyone interested in road-improvement to write to the Department of Public Works, Toronto, and procure a copy.

The report, which is illustrated, as usual, with engravings showing improved roads in several counties, quotes and explains the Highway Improvement Act, as revised at the 1907 session of the Provincial Legislature. Under this Act, any county council may pass a by-law designating and assuming certain roads to be improved as a county system. The roads to be thus assumed should be those which will best serve the requirements of each section. One road in each township, or several roads, or part of one road, or parts of several roads, may be selected. The necessary by-law may be passed without being submitted for the approval of township councils, as was formerly necessary, though the county council may, if desired, submit the by-law to a vote of the ratepayers. The by-law may provide for compensating any township in which roads are not assumed, or which may not be benefited proportionately, and the county council may, from time to time, make grants to incorporated villages and towns for the purpose of improving certain roads in such villages and towns. The by-law, and any special grants made under it, must be approved by the Provincial Government, and the county council must maintain the county roads for at least three years after their construction. Subsequently, they may, with the approval of two-thirds of the minor municipalities in the county, expressed by by-law, revert to the local municipalities in which they are situate, to be thereafter maintained as township roads. Subject to compliance with the above and other conditions prescribed in the Act, the Provincial Government agrees to pay one-third of the amount so expended by each county in each particular year on the construction of said system of roads. To aid in the improvement of highways under this Act, the sum of \$1,000,000 is set aside, to be paid out of the Consolidated Revenue Fund of the Province.

Several counties have already taken steps to avail themselves of the Government grant of one-third the cost of construction. During the year 1906 substantial progress was made on the county-road systems of Wentworth, Wellington, Simcoe, Lanark, Hastings and Lincoln, and three other counties passed by-laws under the Act during the year. The first county to begin was Wentworth, which established its system under the Highway Improvement Act in 1902. This county has taken over a length of 140 miles, on which it has expended, to date, \$260,400.74, of which the Government has defrayed \$86,800.24. The total mileage taken over by the nine counties

foots up to 1,964 miles, on which the expenditure, from 1903 to 1906, has been \$887,282.64, of which the Government has paid \$295,751.91. The work carried out by these counties has not been of an expensive order, the average cost being about \$800 per mile. The range is \$500 to \$1,500, the latter figure being for short stretches of an exceptional nature. The principal factors affecting the cost of construction are the kind of road material used, whether gravel or broken stone, and the length of haul. If gravel of good quality can be had, the expense of crushing is saved. A team of horses can travel about 24 miles per day, so that in the length of haul there is room for much variation. Details given of the work and expenditure of each county, make instructive reading.

The remaining pages are devoted to a comprehensive consideration of such practical questions as construction and maintenance of roads and bridges, as well as municipal and executive administration, including a brief discussion of the now all-but-obsolete statute-labor system. The split-log drag comes in for special commendation as a means of keeping earth roads in good condition, and good drainage is insisted upon as strongly as ever. "Some roads can never be good roads until they are underdrained. Roads tiled without gravel, will be better than if they are gravelled without tile. This applies to practically all roads, except those on pure sand."

HAYMAKING METHODS: OLD AND NEW.

From the day when a gang of men went into a meadow with scythes and slashed down twisted swaths of grass, to be afterwards turned with forks, then raked by hand and put into coils to remain two or three days, and finally pitched onto a wagon, hauled in, and pitched off and mowed away by hand, down to the present, when a six-foot mowing machine is followed by a horse-drawn tedder, and this in some cases by a hay-loader which picks up and elevates the hay as the team walks across the field, keeping two or three men busy on the load, while unloading is accomplished by means of hay fork or slings, depositing each load pretty nearly where wanted in the mow—from that day to this seems a long call, and yet all these developments are practically a matter of the last half century. Marvellous evidence of the practical inventive genius of the age!

Where such rapid improvement of method is occurring, it is well to keep posted from year to year regarding the practices developed by our leading farmers, and he who peruses the symposium of experience on haymaking presented elsewhere in this issue, will be struck with the number of new short-cuts recommended by the various writers. For instance, several correspondents mention having dispensed with even the side-delivery rake for ordinary work, using the hay-loader to pick up the mower swath, or such semblance of swath as the tedder leaves. Whether this latter wrinkle is advisable or not, we do not pretend to say. We incline to the old-fashioned idea that quality is the prime desideratum in haymaking, to the end that, if we make first-class hay, we can effect substantial saving on next winter's grain bills. Few farmers find it necessary to feed grain with grass, and the nearer we make our hay like grass, the more nutritive will the cow extract from it, and the less supplemental feed will she require. To do our best, we cannot make hay equal to grass, but there is a vast difference in the fragrance and nutritive value of prime clover, cut in full bloom, wilted in swath, tedded, advanced another stage in the windrow, and finally cocked up with the least