

“Pen and Plough” at Ontario Agricultural College, 1874-1910

by TOM NESMITH

Two recent articles in the *Toronto Star* on Canadian rural life could not have been more dissimilar. The first, under the headline “Crisis on our Farms,” summarized several serious problems facing agriculture. The *Star* reported that high interest rates, indebtedness, and inflation had joined forces in the 1970s with the farmer’s other enemy — poor weather — to threaten the very existence of the family farm. The story went on to discuss the Jago family of Reston, Manitoba. The Jagos were on the verge of selling their farm. Said John Jago, who admitted his limited formal education: “Somehow it just doesn’t make sense. I’m 40 and able-bodied. There’s lots of work out there and I want to do it. The country needs feeding.” Although Jago saw little hope of coping with environmental and economic forces beyond his control, a spokesman for the ManTech Management Group of Winnipeg, a farm management consulting firm, offered a brighter scenario. “There’s an amazing amount of poor management on farms,” he said, “some farmers think they’re in trouble when all they need to do is straighten out the books.”¹

The second article appeared to demonstrate ManTech’s point. “A new computer crop is revolutionizing rural life,” it noted, “plugging farmers into a wealth of information to aid business planning.” The story profiled Bill Woods of Belwood, Ontario who had just used his personal computer to earn an extra seven hundred dollars on the sale of some beef cattle. The information retrieved through the computer had convinced him not to sell too early into a trend toward rising prices. He sold them a few days later when prices had risen. Woods participates in a limited trial of the Infomart computer system developed by the Southam and Torstar companies in 1981 in conjunction with the University of Guelph. According to the *Star*, this experiment has allowed farmers to be among the first to enter the “information revolution.” Abundant, readily accessible information is all they need to farm efficiently and profitably. When the two articles are brought together, the dispirited, bewildered, “able-bodied” but information-poor John Jago, about to be forced out of farming by his inability to keep the books “straight,” stands in stark contrast with Bill Woods and his cornucopia of computerized information. As if to illustrate the contrast between the old and new in farming, and in an obvious take-off of the famous Grant

1 *Toronto Star*, 4 September 1983, pp. F1, F4.

Wood painting *American Gothic*, the *Star* ran a picture of a beaming Bill Woods, his wife and child beside him, standing in a field of ripening grain, a pitchfork in one hand, and the personal computer resting under the other.²

This picture implies that the “information revolution” now underway on the farm will lift farmers from the mean existence of manual labour to the ease, contentment, and essentially intellectual work of farming with computers — a revolution indeed. Well, not exactly. These articles echo a message Ontario farmers have heard for nearly 150 years. More knowledge, improved documentation of their work, and better communication skills, they have been told by countless forerunners of ManTech and Infomart, are the panacea for their economic and social problems. In the century before computers, farmers were exhorted to rely on books, pamphlets, and bulletins on scientific agriculture, farm periodicals, newspapers, field notebooks, diaries, account books, livestock registers, and correspondence in order to farm properly. Departments of agriculture came into existence and expanded during the nineteenth century to acquire and spread information about improved farming. The documents and publications then created to promote and to support scientific agriculture now inundate our archives and libraries. The nearly eight hundred metres of records of Agriculture Canada in the custody of the Public Archives of Canada, for example, include several series of nineteenth- and early-twentieth-century letterbooks bearing thousands of exchanges between farmers, agricultural associations and experts, and departmental officials. This new approach to farming was also the *raison d’être* for the Ontario government’s Agricultural College and Experimental Farm, which opened near Guelph in 1874. Ontario Agricultural College (OAC) taught young farmers, according to William Brown, Professor of Agriculture in 1884, that good farming depended on “the union of pen and plough.”³ This article discusses the conditions and assumptions which produced the outpouring of documentation by the Ontario Department of Agriculture through OAC.

Rural crises are hardly new in Canadian history. In Canada West in the 1860s, the agricultural press was full of articles on what was called “the wheat question.” Total production, exports, and yields per acre of the colony’s staple crop were falling dramatically.⁴ Expedients formerly resorted to as counter-measures against poor wheat harvests were not as attractive in the 1860s. Farmers had moved on to occupy more fertile soils when, to use the contemporary expression, older land had been “worn out” by excessive wheat growing. But by 1860 nearly all the desirable accessible agricultural land in the colony had been settled. The closing of the frontier of agricultural settlement in Canada West occurred just as the American midwest began to demonstrate its staggering potential for agricultural production. American wheat exports soared from four million

2 *Ibid.*, 7 August 1983, p. H1.

3 *Ontario Agricultural College and Experimental Farm Report*, p. 141 (hereafter *OACR*), in *Commissioner of Agricultural and Arts of Ontario Report*, 1884 (hereafter *CAR*).

4 John McCallum, *Unequal Beginnings: Agriculture and Economic Development in Quebec and Ontario until 1870* (Toronto, 1980), p. 126; M.C. Urquhart and K.A. Buckley, eds., *Historical Statistics of Canada* (Toronto, 1965), p. 384; *The Canada Farmer*, 15 April 1868, p. 113; 15 July 1869, p. 245; 15 July 1870, p. 243 (hereafter *CF*).

bushels in 1860 to thirty-seven million in 1870. The annexation of the British North American prairies after Confederation promised to relocate the Canadian agricultural hinterland to more spacious zones, but that prospect only made the adjustment in rural Ontario to the new continental agricultural economy imperative and no less difficult.⁵

Changes in the agricultural economy in the 1850s and 1860s led agricultural reformers to conclude that the more varied and now lethal threats to rural life had to be met with a reorientation of farm production. Commodities like butter, cheese, meat, fruit, and vegetables, once seen as sidelines to wheat, had to be produced in sufficient quantity to provision larger markets and of high enough quality to compete successfully in them. Successful diversification of farming required farmers to depend for their livelihood on a range of crops and products with which few had had much experience. Commercial production of these commodities necessitated more complex organizing abilities and new business skills and arrangements. Farmers had to master new and more sophisticated technical skills, mechanical devices, and scientific knowledge — all of which presupposed a thorough reorganization of farm work. Agriculture was acquiring an expanding body of knowledge born of the marriage of chemistry, botany, geology, and entomology with a more orderly arrangement and application of knowledge derived largely from practical field experience. The new knowledge held out the prospect of farming becoming a scientific profession offering an avenue to social respectability once reserved for gentlemen in the traditional professions.⁶ The Ontario government opened the Ontario Agricultural College in 1874 to introduce farmers to the new agriculture and secure for them its social advantages.

By the late 1870s, OAC staff members were voicing renewed confidence in Ontario's agricultural future. Principal William Johnston said in 1879 that the College's primary objective was to ensure "that Ontario may ever occupy a prominent place in the forefront of the march of agricultural improvement."⁷ This confidence grew over the final decades of the century as Ontario farmers, exhorted by College and provincial government officials, made significant changes in the way they farmed. By the early 1890s a major shift had already occurred in land-use patterns in the province. Between 1882 and 1891 the traditional principal grain crops — wheat and barley — were grown on an average of 19.9 per cent of cleared farmland, but fodder and forage crops like oats, corn, roots, hay, and clover were grown on an average of 38.7 per cent of that land. Between 1892 and 1901 the average amount of land in wheat and barley dropped to 14 per cent and rose to 42.9 per cent for forage and fodder crops. Ontario farmers were using more and more of their land and crops to support livestock in the last twenty years of the nineteenth century. That development

5 R.L. Jones, *History of Agriculture in Ontario, 1613-1880* (Toronto, 1946), pp. 289-303; David Gagan, "Land, Population and Social Change: The 'Critical Years' in Rural Canada West," *The Canadian Historical Review* 59 (September 1978), pp. 295, 298; F.A. Shannon, *The Farmer's Last Frontier: Agriculture, 1860-1897* (New York, 1945), pp. 190, 417; Michael Tracy, *Agriculture in Western Europe: Crisis and Adaptation Since 1880* (London, 1964), p. 23.

6 *CF*, 30 April 1873, p. 139; 15 August 1869, p. 302.

7 *Ontario School of Agriculture Report* (1879), p. 28 (hereafter *OSAR*).

is also registered by the growing number and increasing market value of cattle and other farm animals. Exports of live animals, dairy products, and meat also rapidly increased between 1882 and 1901.⁸

Despite these signs of progress, agricultural improvers in the Ontario government and at the Agricultural College were exposed to rural hostility and indifference to their work. Their dogged faith in their ultimate success was anchored by the conviction that the attitudes they combatted were profoundly irrational and could not forestall the triumph of the progressive forces scientific agriculture had unleashed. When College spokesmen planned their counterattack on the problems besieging Ontario farming, they had first to find a way to penetrate the ramparts of unreason straddling their path. At OAC, the young farmer was trained to be a rational investigator of the underlying principles of agriculture. According to Professor William Hutt, these efforts at ordering or rationalizing farm knowledge and work were lifting agriculture "from the realm of the haphazard to the position of a more exact science." Scientific agriculture at OAC was far ahead of the ineffectual guesswork still common in Ontario farming. And when guesswork inevitably failed, a farmer might have grasped for even more rickety props. "If of the old school and versed in the 'signs'," Hutt said scornfully, "the cause of any crop failure or success will be some remote agency 'in the heavens above, or in the earth beneath, or in the wastes under the earth'":

The moon is with him a wonder worker of marvellous and far-reaching power, affecting everything from the weather to the weaning of the last calf. It is useless to explain to him that it would not be difficult to calculate the exact position and appearance of the moon for any day in the future, and thus by his theory foretell the kind of weather years ahead. He replies that he does not know anything about that, but he knows that the moon does affect the weather for he has seen it. Such a man has often the eye of the artist to observe the wonders of nature and the heart of the poet to appreciate them, but lacks the knowledge and skill of the scientist to investigate and explain them.⁹

Deficiencies in rural ways of thinking, though hardly invincible, were not taken lightly at the College. One of OAC's primary purposes was to remake the flawed rural mind. William Johnston said farmers in Ontario could be distinguished mainly by their turn of mind. Those who clung to destructive, antiquated farm practices were "unaccustomed to consecutive thinking, [and] blamed the seasons or Providence for the smaller yearly returns." The College existed to increase the small number of "thoughtful, intelligent farmers, well able to trace the relation of cause and effect in their action and reaction on soil and crop." Professor James Reynolds saw these flaws as a stubborn, pernicious residue of some primitive type of humanity known only in the

8 Compiled from *Ontario Department of Agriculture Statistics Branch, Report, 1939*, part 1, Agricultural Statistics, pp. 43, 45-46; Canada, Sessional Papers, vol. D, 1915; *Census of Canada 1911, vol. IV, Agriculture*, pp. lxxviii, lxxxvii.

9 *The OAC Review* (May 1900), pp. 10-11.

archaeological record. "The folk-lore, signs, and petty superstitions that may be heard on every hand," he said, "point back to an earlier period in the credulous childhood of the race." These primitive peoples were believed to have lived a nomadic, violent, and wasteful life as hunters and fishermen. Their technology was crude in the extreme; their science non-existent. Professor William Lochhead drew attention to evidence of their practice of human sacrifice and cannibalism. They were "ape-like" in appearance and gait and answered only to passions and instincts. They bordered on the subhuman.¹⁰

The professors' historical analysis strongly implied that the Canadian descendants of early man had entrenched a way of farming which bore the marks of their "brute ancestry."¹¹ The old pioneer farming's simple wheat staple, grown year after year in monotonous back-breaking routine until the soil wore out, fostered the primitive mentality discernible in "moon-farming," use of "divining rods," fear of "man-killing" insects, and weather prediction based on the behaviour of animals.¹² The old monoculture provided farmers only a thin strand of commerce and, therefore, social contact with the outside world. Their limited social experience produced the ignorance, narrow outlook, inertia, and prejudices that College men found so difficult to dislodge as well as the notorious and humiliating gullibility of the country "bumpkin" easily duped by pedlars of wondrous elixirs, fertilizers, and implements.¹³ Ruinous methods of farming created an identifiable social group made up of impoverished, wasteful, indolent, slovenly farmers whose tumble-down homes and farms cast discredit on the entire profession, and whose children fled the bleak drudgery of rural life for even more dubious pursuits at the first opportunity. "Retrograde farming," said a friend of OAC, "invariably produces retrograde human beings."¹⁴

The old farming stood condemned on every count. The upshot of this critique was that "retrograde human beings" could hardly cope with the diversity and complexity of farming in the age of scientific agriculture dawning during the second half of the nineteenth century. A science of agriculture "on the march" would, however, impose the necessary social transformation on rural life. Farmers had no choice in the matter because of the great depth and breadth of the progressive forces arrayed against them. Scientific agriculture was not simply a desirable option, but an irresistible imperative for the survival of rural life in Ontario. When agricultural educators analyzed this state of affairs, they found the strongest forces shaping it in the nineteenth-century revolution in communication. Henry Youle Hind, the agricultural instructor at the Normal School in Toronto, wrote in 1850 that improvements in communication meant

10 *OSAR* (1875), pp. 2-3; *The OAC Review* (December 1898), pp. 4-8.

11 *Ibid.*, (June 1890), p. 67.

12 For examples of rural superstition in the United States and France, see E.W. Hayter, *The Troubled Farmer: Rural Adjustment to Industrialism, 1850-1900* (Dekalb, Illinois, 1968), pp. 6-8; and Eugen Weber, *Peasants Into Frenchmen: The Modernization of Rural France, 1870-1914* (Stanford, 1976), pp. 23-29; *The Agriculturalist and Canadian Journal*, 15 February 1848, pp. 32-33; *CF*, 1 January 1868, pp. 8-9; 1 April 1868, p. 104; 15 April 1868, p. 121; 15 October 1868, p. 316; 29 November 1873, p. 431; *The OAC Review* (June 1890), pp. 66-67.

13 Ontario, Bureau of Industries, bulletin XXVI, *Frauds on Farmers in Ontario* (1889), pp. 3-4.

14 *Canadian Live-Stock Journal* (June 1886), p. 158.



The proprietor of above farm never reads the papers, nor does he care for education or books; he does not keep a record of his business at all. Not interested in “Farmers’ Manual,” though he needs it very badly.



The proprietor of this farm firmly believes in education, and will buy and read good books, consequently he is prosperous. This man studies such books as the “Farmers’ Manual,” and keeps an accurate account of his business, which evidently pays him well.

Rural progress through education, wide reading, and documentation is the point of this illustration from J.L. Nicols, ed., The Farmer’s Manual (Toronto, 1895). The Manual offered instruction in penmanship and proper use of various business and legal documents such as mortgages, contracts, leases, wills, land descriptions, ledgers, journals, cheques, bank notes, and receipts. Courtesy: National Library of Canada, NL 13211.

the deterioration of the wheat economy could no longer be tolerated. Wider access to markets provided by new rail, water, and road transportation were certain to make inefficient Canadian farmers less and less able to compete. In

Hind's view, scientific mixed agriculture was the only alternative to a future like the one facing the southeastern United States, where the decay brought on by an exploitive staple agricultural system was already well advanced. Farmers had to improve the variety and quality of their produce and market it successfully.¹⁵

By the end of the nineteenth century, Ontario's Deputy Minister of Agriculture, C.C. James, first credited railways and steamships with enabling rural Ontario to adapt to a system of mixed farming reliant on international sales. "There has been a widening out of communications," said James, "and at the same time all parts of the world are being brought closer together. The result of it is that we are compelled to raise our farm revenues from the production of the higher grades of articles, using as food for our animals the coarser grades which were formerly sold." Rural Ontario had in the process become a prominent member of a far-flung global agricultural economy. By the provincial government's calculation, farming in Ontario was a billion dollar industry by 1900. And farmers, James said, were much like manufacturers who relied more on scientific knowledge, machinery, and business acumen to run their enterprises than on their own physical labour. Indeed friends and associates of OAC thought the new agriculture had brought a fundamental change in the fulcrum of farm work. "From the primitive methods of farming," said former OAC Professor and the federal Dairy Commissioner, James Robertson, in 1894, "we have come to a system of diversified agriculture requiring first of all intellectual management — not strong bodies but cultured, clear minds."¹⁶

For Professor James Panton and College President James Mills, the sciences on the College curriculum were of practical value not simply because they provided useful information, but also because they refined the intellectual skills so vital in the new farming. The study of science in agriculture, said Panton, developed "a disciplined mind capable of grasping . . . problems which are usually met with in farm life."¹⁷ The facts science may have secured were not as important in the long run as the grounding science gave in the rational thinking needed to acquire, manipulate, and apply ever-expanding amounts of information. And, as Mills explained, the rationalism at the core of scientific analysis of nature was also the source of rural social progress. "The study of the relations of the plant, the soil, and the animal to each other, and to his profession, under the heads of Botany, Chemistry etc.," said Mills of the OAC student, "not only shows him the reasons for the rules of the best farm practice, and enables him afterwards to discover other such rules, but likewise forms in him habits of reasoning closely, systematically and correctly, which cannot fail in after life to make him a better citizen."¹⁸

These social aspirations were shouldered primarily by the farmers in training at OAC. Their education at the College gave them a power over nature which

15 *Journal of Education for Upper Canada* (April 1850), pp. 49-50.

16 *Creameries Association of Ontario Report*, p. 254, in *Department of Agriculture of Ontario Report*, vol. 1, 1895 (hereafter *DAR*); *Dairymen's Association of Western Ontario Report*, pp. 161-63, in *DAR*, 1892; *Farmers' Institutes of Ontario Report*, p. 60, in *DAR*, vol. II, 1894.

17 *Ontario Agricultural and Experimental Union Report*, p. 229 (hereafter *EUR*), in *DAR*, 1885.

18 *OACR*, p. 356, in *CAR*, 1880.

enabled them to compete for the highest stations in society. Their rationalism — which was the gift and evidence of an education — gave them the means of acquiring and applying knowledge in agriculture and public life. A scientific education at OAC armed the young farmer with “mental power” to be used in the battle of life. And, said *The OAC Review*, as “reasoning power is increased, the intellect is trained to act more quickly and more keenly; and, with mental acumen, goes the greatest influence and power.”¹⁹ Ability to absorb and transmit knowledge through reading, writing, and speaking was the primary manifestation of a scientific farmer’s ordered and cultured mind and the currency of “influence and power” in society. Agriculture’s “march of improvement” moved over paths opened by the revolution in communication. Ability to communicate well, therefore, was a key to the scientific farmer’s success. Knowledge uncommunicated or imprecisely communicated was impotent.²⁰ The rapidly expanding body of agricultural knowledge made available by scientific rationalism could neither be obtained nor retained by farmers working in isolation and relying on personal experience, memory, guessing, sentiment, luck, or worse — superstition. Only knowledge documented and exchanged in books, farm journals, government publications, personal correspondence, and notes enabled farmers to master nature with the new agriculture.

Recorded information and rural progress had long been linked in Canadian agricultural literature. Farm journals and agricultural officials believed agriculture, in a relatively unknown and underdeveloped country like Canada, required farmers to depend more on documentation to aid them than did their old world counterparts. “In England,” said *The Canadian Agriculturalist* in 1857, “it is safer to trust to memory than in a new country.” The traditions and rituals of an older settled society had developed around the schedule of “rent days” and fairs; the familiar rhythms of the seasons reminded farmers when to sow and reap. “In Canada,” the journal continued, “with no rents to pay, few regular fixed fairs, and fewer annual and periodical meetings, it is more essential to note everything that may be a guide to the future.” A new country, in which environmental conditions, especially, needed exploration and description before stable development could proceed, had to have farmers who could use field notes to supplement memory and their necessarily brief personal experiences.²¹

During the second half of the nineteenth century, the need for this kind of farm documentation increased as Ontario government and College officials believed land shortages, soil exhaustion, and competition for international markets left little room for waste and error in farming. The intensive agriculture they wanted to substitute for the haphazard ways of pioneer farming depended on ever more exact and, therefore, documented calculations of input and output and profit and loss in order to maximize productivity and efficiency.²² The need to translate farming operations into statistical calculations in order to meet the demands of science and commerce caused the College and provincial government to stress the importance of making and keeping accurate farm records.

19 *EUR*, p. 230, in *DAR*, 1885; *The OAC Review* (May 1904), p. 49.

20 *OACR*, p. 16, in *CAR*, 1882; *The OAC Review* (June 1890), p. 65.

21 *The Canadian Agriculturalist* (August 1857), pp. 204-5.

22 *The OAC Review* (December 1893), p. 19.

“Our most successful farmers,” said C.C. James, “are those who are able to keep close record of the productions of their different fields, to figure out balanced rations, and to determine whether it really pays to use certain foods or to produce one line of product in preference to another.”²³ Farmers were exhorted to keep formal account books, inventories of equipment, registers of livestock, field notebooks, and diaries. And OAC made instruction in reading, writing, and records keeping an integral part of the curriculum. English literature and composition were compulsory along with arithmetic, land surveying, and farm bookkeeping.²⁴

Some of the most embarrassing problems these courses were supposed to correct were documented in the Ontario and federal governments’ inquiries in the 1880s into frauds on farmers. The provincial government reported in 1889 that swindlers “infest” rural Ontario. One of the most successful frauds — the “hay-fork swindle” — showed up the farmer’s inexperience with business records. The swindle was perpetrated in this way: a salesman for hay forks offered to provide one free if the farmer agreed to sell other forks in his area. If the farmer agreed, another agent appeared a few days later to obtain his signature on a document which the agent claimed was merely “a statement of his affairs” required to establish the farmer’s financial ability to enter into the agreement. “In the course of a week or two,” the government said, “the victim is surprised to learn that the so-called statement of affairs is really a skilfully worded order for a number of forks, and that they have arrived at the nearest railway station.” The deceptive note — usually after being sold to an innocent third party seeking to be paid for the forks — presented the farmer with a major financial obligation.²⁵

Swindles of this sort became such a serious problem that many people urged the Ontario government to appoint officials in each county whom a farmer could ask to be present during these transactions in order, said the government, “to read over to him the conditions of the contract or the note so as to protect him generally from all such ravening wolves as agents and peddlers.” The government rejected the suggestion on the grounds that it was impossible to legislate good sense and judgment. It recommended instead that agents be licensed and that farmers stay abreast of fraudulent schemes by reading newspapers and attending Farmers’ Institute meetings. It also noted, however, that shotguns, pitchforks, and dogs were other suggested, though unendorsed, remedies for the problem.²⁶

Government and College officials insisted that the magnitude of these and other rural problems allowed only cooperative solutions. The new agriculture could not redeem rural society if only scattered individuals introduced it or, conversely, thousands of farmers acted without regard for each other’s experience and knowledge. Rural cooperation depended on the coordinating

23 *Ibid.*, (May 1903), pp. 13-14; (May 1908), p. 415.

24 *Massey’s Illustrated* (January 1889), p. 15; *OACR*, pp. 324, 336, in *CAR*, 1880; *The OAC Review* (December 1893), p. 19.

25 *Frauds on Farmers in Ontario* (1889), p. 5; Canada, *Journals of the House of Commons*, Appendix No. 4, volume XXII, 1888, p. 10.

26 *Frauds on Farmers in Ontario* (1889), pp. 14-15.

hand of such central information-gathering agencies as the Department of Agriculture, the Agricultural College, Farmers’ Institutes, the Ontario Agricultural Commission, and the Bureau of Industries — the latter being an agency the Ontario government established in 1882 to collect and publish annual summaries of agricultural statistics. (The Bureau also conducted the inquiry into frauds on farmers.)²⁷ The annual reports of the Bureau, College, Experimental Union, and Farmer’s Institutes formed the heart of the thick yearly report of the Department of Agriculture which the government sent free to tens of thousands of Ontario farmers. The College also published circulars, pamphlets, and bulletins, and conducted a large correspondence with farmers who inquired into particular agricultural problems. Accurate documentation was the corollary of scientific experimental agriculture. Farmers were told by College officials that they had to be able to document and communicate information gained in the course of field work — especially if they participated in the Union’s cooperative experiments. These were conducted by the College entirely through correspondence with thousands of farmers who were mailed information on how to carry them out and report the results on the forms the College provided.

Unaided memory and individual experience alone could not cope with the intricacy and volatility of scientific and business calculations. In the opinion of College men, the inelasticity of memory and personal experience fostered rigidities of mind which were inimical to the progressive tendencies of the age. These severe limitations confined farmers to outmoded “ruts” from which development of the mind’s latent powers of reason provided the only escape.²⁸ P.A. Carpenter, winner of OAC’s academic gold medal in 1884, explained the superiority of reason over memory in an address to the Experimental Union:

When one has a good memory, but deficient reasoning powers he is very apt to study altogether by memorizing. These are generally poor in mathematics, and would rather remember a rule than understand it; on the other hand, a good reasoner always understands, and goes to the bottom of everything as he goes along, thus he makes less use of his memory, but if he forgets a thing can generally reason it out. . . . When hurried . . . it is often easier to commit a thing to memory than to understand it; however, this is a mere waste of time, as it is soon forgotten, and leaves no permanent good.

The powers of memory still had to be exercised in order to counter a further flaw — their tendency to deteriorate. The OAC student, Carpenter advised, had to find a new combination of memorized and recorded information through heightened discrimination between useful and non-essential knowledge. “If we get in the habit of never trusting our memory, but writing everything down as it occurs,” he added, “we will soon find our memory for daily events becoming poorer. . . . A successful student must make good use of his memory, and in order to do this, he must know what to forget, that he may have more room for that which should be treasured up.”²⁹

²⁷ *Farmers’ Institutes of Ontario Report*, p. 50-51, in *DAR*, 1892.

²⁸ *The OAC Review* (May 1908), p. 441.

²⁹ *EUR*, pp. 215-16, in *DAR*, 1886.

The “disciplined mind” James Panton coveted for his students possessed keen powers of observation, sharpened memory, and, above all, extended powers of reason. A scientific education, he said, was “the means by which the faculties of mind are developed and improved.” The powers of mind could be reordered and expanded in order to raise up a new and higher type of farmer — one who bore no relation to what Panton described as “the poor illiterate follower of the plough, whose life is less to be desired than the creatures he drives before him.”³⁰ “Enlarge the mind,” said OAC’s Professor Reynolds, “widen the vision, cultivate the taste, as you cannot help doing by any process of education, and you make a new creature with new desires.”³¹

Most Ontario farmers, including even many of those with progressive inclinations, were still some distance from the OAC ideal. Professor Brown described the farmers who attended the early Farmers’ Institute meetings in the mid-1880s as “isolated, self-reliant, and retiring.” The papers they gave at Institute meetings were not very polished and their discussions, though better than the papers, still had to be coaxed out of them. “Thoughts through pen and paper,” said Brown, “are not yet the easiest for men constantly at outdoor labour, and hence the superior nature of the discussions.”³² Brown recognized that a great many other Ontario farmers were unable to express themselves well in public meetings. And James Mills had to admit that too many students arriving at OAC “are not only unable to speak or write correct English, but have apparently made up their minds that they will not study it or any other subject, unless you can first prove to them that it will put so many dollars into their pockets within a given time.”³³ Mills acknowledged that some men had taken up farming without previous experience and had tried unsuccessfully to learn to farm solely with the aid of agricultural books. “Hence,” he said, “the cry against ‘book-farming’, and the widespread conviction that the more a man reads and studies, the less likely he is to succeed as a farmer.”³⁴

In a pamphlet on home libraries — and OAC repeatedly urged farmers to build up their own libraries — Professor Reynolds displayed the gentle persuasion thought necessary to convince rural sceptics of the practical utility of agricultural literature. He did not advise farmers to purchase the many lengthy books listed in the pamphlet and immediately read them in their entirety. “The wise man,” Reynolds wrote, “does not use his books so.”

He may never touch a certain book until some question, suggested by the work of the farm demands solution. He appeals to his own experience, perhaps to his neighbors; and finally to the collected experience of a larger number of thinking, observing men. This last he should find in his library, for a book on Agriculture, to be of much use to the practical farmer, must be adapted for reference and consultation, must become finally a familiar friend and adviser.

30 *EUR*, pp. 230, 232, in *DAR*, 1885.

31 *Farmers’ Institutes of Ontario Report*, p. 18, in *DAR*, vol. II, 1908.

32 *OACR*, pp. 131-32, in *DAR*, 1886.

33 *OACR*, p. 157, in *CAR*, 1882; *ibid.*, p. 324, 1880.

34 *OACR*, p. 3, in *DAR*, 1885.

The farmer needed only to consult the portion of the book which dealt with his particular question. The rest of the book could remain unread until required.³⁵

A growing and well-used reference library in the farmer's home indicated that farming had become an intellectual pursuit and was on its way through careful study to being elevated to a science. Men with the enlarged intellectual capacity to master this ever-increasing body of information could experience the full flowering of their social potential. OAC graduate C.H. Major told the Experimental Union in 1885 that the English department at the College held the key to their social aspirations:

It would be hard to overestimate the importance of instruction in this department. Many a farmer will give a grunt and laugh at this department of instruction, and affirm with a self-sufficient grin and many grammatical errors, ‘that learning ’ow to speak and rite good pure Henglish, hand hacquiring a taste for Henglish literature will never ’elp ’im to make a cent out of ’is farm.’ Possibly it will not; probably it will. . . . It will give him not only the substantial position in society, but society’s respect as well; it will enable him to employ his talents and the experience of his life to the best possible advantage to himself and others, and giving him the power to look after and advocate his own interests himself, instead of having to get others to do it for him, will give him that fullness of independence which belongs to the sons of the soil, but which refined intelligence alone can give them; and allow him the means of gaining and guarding ‘the purest treasure mortal times afford,’ which Shakespeare tells us ‘is spotless reputation.’ And above all, it will give him that field for the exercise of his reason and imagination, supply him with those materials for the elevation of the ambitions of his life and those means of appreciation and profiting by all that is pure and noble, true and manly, in the utterances and writings of great minds past and present, which alone can render him capable of living his life in its best, its fullest, its widest and its grandest sense. . . .³⁶

The same point about literacy was made by the editors of *The OAC Review* in July 1891 when urging former College students to contribute to the journal as well as read it. “If led on to write,” the editorial said, “a great object has been attained, for that can only be the outcome of thought and as we lead men to think, to exercise to the highest degree their powers of intellect, we aid them to further development and enjoyment of the powers and dignity of manhood.”³⁷ The very acts of creating a College journal and using it to advantage reflect the social importance of precise communication. In the lead editorial in the first issue of the *Review*, the journal associated the social

35 J.B. Reynolds, *Books for Farmers, Stockmen, Dairymen, and Fruit Growers* (Toronto, 1901), p. 2; *The OAC Review* (February 1902), pp. 11-12; (May 1908), pp. 441-42.

36 *EUR*, p. 227, in *DAR*, 1885.

37 *The OAC Review* (July 1891), pp. 105-6.

aspirations of OAC students and graduates with their ability to sustain a scientific journal. "Shall the stigma," asked the editors, "that the students of O.A.C. have not the ability, nor the enterprise, to successfully carry on a paper, longer remain as a blot on their records. . . . Shall we still continue to be door-mats while the men of other Colleges are being installed as Lords of the Manor?" The *Review* itself was the students' weapon primed with knowledge and aimed at the untamed forces of nature and their social competitors. It is noteworthy that the first *Review* editorial chose the metaphor of a newly launched battleship to describe the journal since a warship must first conquer nature and then the enemy in order to carry out its mission. Reverting to a more familiar military metaphor, the editors went on to make it clear that Ontario's "march of improvement" had a crucial social dimension. "Unite your forces," they urged readers of the *Review*, "with those that are already mustered and grand indeed will be the victories which we shall win. If we march shoulder to shoulder none shall be able to stand before us."³⁸ The College Literary Society, which published *The OAC Review*, became the drill hall for OAC's soldiers of the soil. The Society's weekly meetings were given over to student speeches, essay readings, and formal debates. In these exercises, said James Mills, young farmers had the opportunity of "testing their armour before they set out in the warfare of life."³⁹

On the eve of the twentieth century, the College's overriding purpose had become the preparation of an elite of scientific farmers who, like renowned military commanders, could conduct the campaign for Ontario's rural mission to the rest of Canada and wider world. Ontario required farm leaders who grasped the primary role of agriculture in Canadian life and the vast international dimensions of the province's agricultural interests. These men had to be capable of perceiving how the transformation of rural conditions had established new horizons and a wider calling for Ontario farmers. They had to know how to command the mighty scientific, technological, natural, economic, and political forces enabling Ontario agriculture to lead Canada to national power through rural social redemption. Ontario clearly needed, in James Mills' words, "a higher type of men" to complete these ambitious projects. And, according to Mills, "nearly all great men are great readers."⁴⁰ In other words, the key distinguishing characteristic of the men who would protect and advance Ontario's rural mission was their enlarged capacity to acquire and communicate information.

The transformation of rural life and opportunities in Ontario had its origins in the mid-nineteenth-century revolutions in scientific knowledge and communication. Science had given a new breadth, variety, and dynamism to agricultural knowledge which College men thought had brought Ontario, through the efforts of the College, to the most sophisticated stage in agricultural development. Ontario's reorientation of production and trade permitted the province to flourish in the intensely competitive and highly complex global economy ushered in by the revolution in communication. Ontario's progress would not

38 *Ibid.*, (November 1889), p. 1.

39 *OACR*, p. 342, in *CAR*, 1880; *The OAC Review* (October 1891), pp. 7-8.

40 *Fruit Growers Association of Ontario Report*, p. 49, in *DAR*, vol. I, 1902; *EUR*, p. 417, in *DAR*, vol. I, 1895.

have occurred without discovery and exploration of farming’s rational foundations. “That was the first step towards an awakening of modern agriculture,” observed C.C. James, “when it was recognized that agriculture was not a matter of mere chance, that it was not a business controlled entirely by the weather or by that mysterious Providence behind which so many people hide themselves; but that agriculture was, after all, controlled by scientific principles, and that the men who knew most about it must get down to the study of these principles.” Once that discovery had been made, the virtues of the new reason had to be impressed upon the farmer through agricultural literature. And agricultural officials like James measured the speed and depth of rural progress during the nineteenth century by the spread of printed and other means of communication:

It is not many years ago since the farmers of this country lived in log houses that were heated by large open fire places and lighted by tallow candles; when the farmers, with their families, were dressed in home-spun and supplied with food such as they produced entirely on their own farms; when they had but few recreations, such as an occasional visit to some neighbors. When they attended church it was in their own home, or they went to some neighbor’s house, where the minister came from time to time, to listen to his instructions. When the week was done they rested with an honest feeling of having done their duty. It was a time when they had few evenings to spare and they spent them alone, isolated and shut up to themselves. That is a period not very long ago.

Now, all through this country, we find farmers living in stone, or brick, or frame houses, heated by coal stoves, and in some cases by furnaces; supplies of all kinds are brought by light vehicles almost to their very doors; daily papers, agricultural weeklies and magazines, Government reports and bulletins containing reports of Farmers’ Institutes and other agricultural meetings are distributed broadcast, and in all directions the farmers to-day enjoy advantages which bring out their latent power in a manner that was utterly impossible under the old system.⁴¹

To keep up with the unrelenting “march of progress” required a thorough education of the mind, not just a set of memorized facts about good farming which would inevitably be overtaken by the rapid pace and complexity of change.⁴² A proper education chiefly developed the most powerful mental faculty — reason. Heightened powers of reason provided the intellectual elasticity needed to process the growing body of technical, political, and economic information which enabled farmers to govern the ever-changing circumstances of their expanding world. By the turn of the century, OAC graduates — the men expected to have the greatest capacity to absorb and communicate this knowledge — filled most of the key positions in the growing federal and provincial departments of agriculture. They were also the nucleus of the faculties of

⁴¹ *Dairymen’s Association of Eastern Ontario Report*, pp. 31-32, in *DAR*, vol. I, 1907; *Creameries Association of Ontario Report*, p. 254, in *DAR*, vol. 1, 1895.

⁴² *EUR*, pp. 229-30, in *DAR*, 1885.

the agricultural colleges modelled on OAC and established at the University of Manitoba, McGill University, and the University of Saskatchewan between 1903 and 1909. They entered the developing food-processing industry and took leading roles in farm associations. And OAC graduates soon wielded political power: Nelson Monteith served as Minister of Agriculture for Ontario between 1905 and 1908; W.R. Motherwell was federal Minister of Agriculture in the two King Governments between 1921 and 1930; and E.C. Drury was Premier of Ontario from 1919 to 1923.

Not surprisingly, therefore, many of the most important historical documents for the study of rural life in Canada in the late nineteenth and early twentieth centuries were created and used by OAC graduates. These documents convey much of our knowledge of rural history at that time. Examination of these documents in archives and libraries begins research into the array of topics they inform. A study of the particular historical context in which the documents were made and used, however, assists both this exercise and the archival work needed to make it possible. Such study shows that rural leaders were increasingly self-conscious and purposeful during the nineteenth century about the need to record agricultural knowledge in more precise and tangible ways than memory and personal experience had until then allowed. Translating farm work and life into documentation and using the documents to try to change rural society became such important skills that new institutions such as the College and a new type of man — a scientific farmer — were deemed necessary to facilitate the process. The creation and use of documentation, therefore, seem to have been far more important aspects of human activity than is usually noted. And, like other significant human concerns, such creation and use deserve the attention of those interested in the study of society.

The implications of these conclusions, however, remain to be more fully explored. This article moves toward that ground, but does not occupy it. If the creation and use of documents are among the principal characteristics of human behaviour, and, therefore, form the larger ingredients of those same documents, then archival work and, indeed, archival research involve gaining a greater awareness of the intentions and perspectives of those creators and users. Such knowledge is thus actually part of the “evidence” conveyed by the records themselves. We require detailed studies of the relationship between the particular historical context in which various categories of documentation evolved and the specific characteristics of the documents. These are the very studies archivists should undertake since they bear directly on archival work. Effective acquisition programmes, for example, require archivists to know when and why certain types of documents appear, evolve, and pass out of use in such broad areas of research as rural studies. Archivists should be able to identify the wide range of documents an important activity like farming creates as well as the government offices, businesses, associations, and individuals that created and maintained records such as those now found in the extensive and complex nineteenth-century central registry series in Record Group 17, Records of Agriculture Canada at the PAC. This series, one of three central registry series in the record group (there are numerous subseries too), contains a wide variety of documents ranging from correspondence, field notes, photographs, and maps

to published reports and their manuscript versions, pamphlets, periodicals, and posters. When it is realized that responsibility for agriculture was only one of several functions of the Department of Agriculture (the others include immigration, public health, international exhibitions, the census, patents and copyright, and even the Public Archives), and that the records keeping system created for this series by the department evolved significantly during its lifetime, the historical research task facing custodians and users of these records is formidable indeed.

The same knowledge and research skills needed in acquisition work are, of course, essential to bring these documents — their information, interrelationships, and distinctive features — to light in inventory descriptions, public service, and exhibitions. Such expertise also provides solid criteria for selection of documents for microfilming, conservation, or extensive computer indexing projects. If archivists attempt to perform these tasks without sustained research into the context which gives the documents meaning, form, and particular strengths and weaknesses, archival holdings will be undernourished and underused and already limited resources misallocated. Archivists will be flying blind and settling for what is really only a minimum of care and understanding of their records. Such a situation will soon raise piercing doubts about the legitimacy of a distinct and substantive archival “profession” based on specialized university education.

The approach to archives proposed here is not intended to focus archival attention exclusively on the kinds of old documents discussed above. Knowledge of the evolution of older sources of information (as has been sought in this article) will clear the most direct path for archivists to locate newer ones. To conclude by returning to our point of departure — the contemporary computer revolution on the Canadian farm — archivists will have to locate, assess, and describe the entire range of such new records being created, through exactly the same kind of research into the agricultural and other societal developments which call such records into existence as has been attempted above for older agricultural records. This is obviously an enormous task, even for one area of research, not to mention many others. It must, therefore, begin as such new electronic records become available to archives. It will have to continue after initial acquisitions are made and first experiences with selection assessed. The research will proceed and mature as the records age. It will thus become ever more closely intertwined with historical research until an understanding of the history of the archival records created by today’s information revolution becomes an addition to a cumulative archival knowledge that best equips archivists for the next revolution.