

many other names, those of Messrs. Green Bros. and Mr. T. C. Pattenon (amongst the foremost on our list of friends and standing high in our estimation. We wish we could say the same of the writer of this letter as the result of our past business relations.—ED.) are well-known Canadian names who come from these much-despised public schools of old England.

I am much amused at your description of our English porter. I fear some evil disposed person has been amusing himself by spinning you some pretty tall yarns! I must candidly confess that I never yet tasted English porter, even though it may have been "made from the befoiled waters of the Thames," which I did not prefer to green tea, but "*tharun a son gout*." I even fail to see any harm in a Canadian farmer drinking whiskey, but such lamentable ignorance must be ascribed to my being an Englishman, I fear.

I am told you will not publish correspondence opposed to your view of things. I do not believe at any rate, although I do not agree with your views, that you will take advantage of your position to sneer at any class of people and not give them the opportunity of showing that they are not as black as you paint them.

GEORGE BUNBURY.

Suffolk Lodge, Oakville, }
August 18, 1886.

Captain Bunbury is evidently one of that growing school who mistake throwing filth at a man for a refutation of his statements. When he refutes our statements—*any one of them, even partially*, in the article to which he refers, we will try and defend them, but not till then. We shall only add that never since the JOURNAL began have we refused to publish a *single line*, because opposed to our views.

The Dairy.

THE favorable season is upon us for forming clubs for the next year. A little effort at the fairs, farmers' clubs and institutes, and the work is done. The JOURNAL will be sent in clubs of five for \$4.00, and in clubs of ten for \$7.50. The names may belong to different post offices. Those subscribing now for 1887 will get the JOURNAL the rest of this year free.

It affords us no little pleasure to be able to announce to our readers that we have secured for this department the assistance of Mr. J. W. Robertson, the new professor in the dairy department of the Ontario Agricultural College. Mr. Robertson has, by dint of the most persevering efforts, partly the result of the assiduous attention that he has given to this branch of agriculture, brought himself into his present position of usefulness, which we can assure our readers was not one of his own seeking. It is so gratifying to chaste ambition, when the position seeks us and not we the position. Why can't hundreds more of our men see it and act accordingly? Mr. Robertson's first contribution to us will appear in the Oct. issue.

A Model Dairy House.

Below we give the description of the dairy house built by Prof. Roberts, at Cornell University, and which in its principal features was designed by Prof. L. B. Arnold, of Rochester, N. Y.:

The building stands on a gravel wall, made of water-lime, sand and cobblestones, reaching down below frost and rising a trifle above the surface of the ground, the site having sufficient elevation to admit of easy drainage. The floor rests on the ground, and is made by grading the earth with an incline from all parts of the foundation wall to the point of drainage, which is large enough to admit of flooding the floor *ad libitum*. The foundation for the floor is made by covering the grading with cobble stones, and pounding them down so firmly as to make the floor perfectly secure from settling, the stones being leveled off by pounding gravel between them. This foundation was then covered with German cement, thick enough to

make it secure under any pressure there may be occasion to put upon it; the outside edges of the floor rising just above the top of the foundation wall. The surface of the floor is very smooth and of rock-like hardness, making it easy to keep clean. Its connection with the ground gives it a low and even temperature and secures against currents of foul air and against frost and outside heat.

A balloon frame rests upon the front wall, and the enclosing walls are doubled to secure an even temperature within. The studs, which reach to the plate, are flush with both sides of the sills, and are covered inside and outside with air-tight paper, with a course of paper in the middle of the space between them, which is tightly fastened to the centre of the studs by means of cleats snugly drawn down with heavy nails, so as to make an air-tight partition between the walls of the paper which cover the inside and outside of the stud.

Inch furring is put in over the paper on all the studs, both outside and inside, and snugly nailed. Clapboards are nailed on the furring outside, and matched boards of pine, sound and narrow, are nailed horizontally on the inside furring, making five coverings, enclosing four dead-air spaces, if the space between the clapboards and the paper may be counted as dead-air space, which it is approximately.

Over head the joists are covered above and below with paper, and narrow, sound matched pine, the same as on the sides, making a tight ceiling and chamber floor. The rafters are also covered with paper, and sided in the same way. By raising the rafters so as to leave a space between the roof-boards and plates, any heat which may penetrate through the roof will be carried off by a current of air passing up between the rafters and out through a ventilator connected with the garret. The doors are built the same as the sides, with three courses of paper and two of board on furring. With the windows close fitted and double glazed this building is prepared to withstand changes of weather; neither summer heat nor winter's cold can make more than a faint impression upon five-tight walls with four dead-air spaces between them, and the ups and downs of the passing season are not felt at all. The floor and foundation walls are made of cheap material, and with unskilled labor, and paper at a trifling cost is made simply by skillful arrangement to do the chief work of protection above ground. The woodwork inside is simply varnished, giving it a neat look and making it easy to keep clean, and the outside is well and tastefully painted, making the structure in all respects a model of neatness, efficiency and economy.

Dairying.

BY C. E. CHADWICK, INGERSOLL, ONT., SECRETARY OF THE WESTERN DAIRYMAN'S ASSOCIATION.

(Continued from August.)

We are living in an age of wonderful transition, which is tending rapidly to the accomplishment of that great end to which all history points—the realization of the unity of mankind—not a unity which breaks down the limits and levels the peculiar characteristics of the different nations of the earth, but rather a unity the result and product of these very natural varieties and antagonistic qualities. Thoughts, ideas and inventions, originating in whatever quarter of the world at large, and that great principle, the division of labor, which may be called the moving power of civilization, is being extended to all branches of science, industry and art.

Whilst formerly the greatest mental energies strove after universal knowledge, and that knowledge was confined to the few, now they are directed to specialties, and in these again even to the minutest point; but the knowledge thus acquired becomes at once the property of the community at large. Whilst formerly discovery was wrapped in secrecy, the publicity of the present day allows no discovery or invention to be made without being quickly improved upon and surpassed by competing efforts. We have thus the combined wisdom of the world placed at our disposal and utilization, and we have only to choose what is best adapted for our purposes, and the powers of production are only limited by the stimulus of competition and capital.

Industry applies them to the new matter the earth yields us in abundance, but which becomes valuable only through knowledge. Art teaches us the inimitable laws of beauty and symmetry, and gives to our

production forms in accordance with these. The question may be asked by some, What have these remarks to do with the object we have in view at this present gathering? I reply, they may teach you to think, and by so doing much good may be attained. The changes that are taking place on every hand around us are developing results rapid and varying as the forms and tints of the revolving kaleidoscope, and in order to keep pace with these changes the farmer will find a much greater strain upon his mental faculties from year to year. The increasing instability of our seasons, the changes in the soil itself, by the exhaustion of those elements found in the soil of most newly opened countries, the change to the universal use of labor-saving machines on the farm, as well as the change from the introduction of the factory system for dairies—all these changes, and they are but a few, go far to prove the necessity for the exercise of more thought to stimulate and advance the farmer in his profession, coaxing him out of the narrow sphere of his own neighborhood, placing him among progressive men of the day, placing new ideas before him, and rubbing the rust off some of his old ones. Much may be done in this way through organization to add to the wealth and comfort of the farmer by adding to his knowledge, and by him a whole neighborhood may be benefited. In estimating the capacities of agriculture for improvement, we find that nature furnishes new resources for every need. No final limit can be assigned to nature's capacities. She contracts and expands her powers as natural needs require. We as yet but little know what may be deduced from combining natural agencies, or by turning the forces of nature into new channels. Increase of population create new necessities which are followed by new and improved productions; and it is given to the human mind to perform what would almost appear miracles of development from the simplest germs, by the manipulation of natural forces. The degree of success in any department of human action must always be measured by the extent of intellectual force and activity employed in it. When farmers as a community shall turn upon their profession the light of all the sciences that illuminate its processes, when they shall make their business a subject of intellectual investigation, a success will be achieved which will make for agriculture a new history. The civilized man and all the arts and achievements of civilized life are the fruits of human toil.

It is gratifying to know that an increased interest is yearly manifested by our dairymen in developing the art of cheese-making, and in the more successful management of the dairy herd, seeking improvement by mutual aid, and endeavoring to bring up the art to a high standard of excellence. Practice with science is what the dairymen need to fully develop the resources of the farm and dairy, and one great measure for attaining this object is by association; where each brings his knowledge and science for the benefit of all; and being properly developed, progress must necessarily follow. The influence exerted by associations is both important and widespread. It represents a wealthy, progressive and intelligent class prosecuting a most important industry, the results of which concern not only the individual but our country generally. The scientific agriculturist occupies a most important position, and his example may be of invaluable benefit to his brother competitor, bringing into their proper relations theory and practice, and harmonizing into one body facts and principles drawn from several distinct sciences, all bearing upon the business of the farmer; but what he undertakes to expound is not so much a separate science, having principles of its own, as a combination of truths belonging to natural history, geology, chemistry and meteorology, brought together in their proper proportions and places, compared with the result of experience, and applied to the direction of practice.

It is most interesting to observe how large a portion of agricultural science consists in the application of animal and vegetable physiology. The intelligent cultivator applies nothing to the soil without having a good idea of what he wants, and in what way the desired effect is likely to be produced. He knows that if the soil is clean and open, it rapidly absorbs moisture and nutriment from the atmosphere; he knows that his crops all take away some portion of the nutriment contained in the soil; that each different kind makes to a certain degree a different selection, hence the advantage of a succession of crops; and that although in new soils—those peculiarly abounding in the material by which vegetable life is