lessening the denominator rather than increasing the numerator.

It is very necessary that any girl should know all about the art of housekeeping.

Farmers' daughters may become farmers' wives and they should consider themselves as much responsible for the success of the family as their husbands. First of all, they certainly wish to understand all about the farm. Something of the construction and uses of machinery, which they will get in physics, and a knowledge of irrigation and fertilization is also practical.

What a pleasure it is to the parents to have their daughters add up their accounts, tell them the contents of a bin, the amount of fencing for a lot, or lumber for a building, helping them generally to brighten their lives.

From chemistry they will get a knowledge of the elements of the grains and soil; they will be able to tell what is best fitted for certain lands and what elements the various kinds of grain take from the soil.

That included under the third division naturally comes with a good education, but it is well to speak of it separately. The well-educated daug-

ter will not think farm life dull and a life of drudgery for she will see much in her surroundings to enjoy.

We are all aware of the great influence the mother has on her children. We may say up to a certain age she has almost entire control over them. If educated she will know what the fruits of knowledge are and it will be her aim to educate them and know to what they are best suited. Children in the country do not have the advantage of the city, so they have more need of an educated mother, because with her help and the books she advises them to read their faculties will be developed. For, as Lowell says, "books are the key which admit us to the whole world of thought, fancy, and imagination. To the company of saint and sage, of the wisest and wittiest at their wisest and wittiest moment."

The value of a good education is apparent to all thinking people, when they consider how an education develops the faculties of the mind and better fits one for all the duties of life.

I therefore leave the question with you as to who has a greater need of a good education than the farmer's daughter?

THE FARMER AND EDUCATIONAL REFORM.

ANNA J. EVANS.

Read at Farmers' Institute at Bangor, January 13-14, 1898.

Mr. Chairman, Ladies and Gentlemen:—Although I am not a patronizer of apologies, yet it is nothing but justice to state that I have had but a few hours to prepare this brief paper. I deem it a high compliment to have the privilege on this interesting occasion to address such a deliberate and intelligent people—those who are able to distinguish between wit and argu-

ment, sarcasm and logic, sneer and evidence, eloquence and demonstration. It is a greater honor for a country school teacher to address this respectable and thoughtful audience on educational reforms, on the best methods and means to instruct country children in the path of a prosperous and noble life than to be a Robert In-

gersoll before a half-full house in La
Crosse last Tuesday evening ridiculing and assaulting the bible, which is the very foundation of our grand republic, the genius of our modern civilization, the inspiration of our schools, colleges and universities, and the motive power to reforms, progress, and a higher and better life. But my question is educational reform which I consider the most essential and important of all reforms.

There are many things in this world that need amendment. We need better land laws, better revenue regulations, wider suffrage, closer scoring of officers, purer ballot box, and a higher type of citizens. We need reforms in drinks, diets, dress, recreations, social habits, labor and capital, church and state. The age demands improvements in all directions, in navigation, construction and government of railroads, public buildings, manufacturing, horticulture and agriculture. We need men of trained brains, who are close students and observers of nature, men of inductive methods, those who accumulate and classify facts as a result of practical experiments. Our idea is that the great agency which undertakes to prepare the public for their special work in life by awaking and directing their feeling, and by furnishing them with a thorough and accurate knowledge of things is the extreme need of a radical amendment. Because as men feel and think, so will they act; as are its constituents so will be society, and until people are better instructed in the things which pertain to their true welfare, all other reformatory schemes will yield but partial and unsatisfactory results.

By the phrase "educational reform" I mean reconstituting the general methods of study upon a scientific basis. What the people need is to know what to do and how to do it and the great means to this end must be found in comprehensive scientific education. But there is much misapprehension and some misrepresentation as to what is properly meant by scientific education. It does not mean a protest against traditional studies—against knowledge of ancient classics, mythology and literature, against researches in the history of philosophy of Greece and the art of Italy, but it means that the unfolding mind if the age shall be put into more direct relation with the present realities of the world than our traditional culture allows; that our educational systems should be modernized, controlled by the scientific thought and methods of the times, that better opportunities to study modern literature, modern languages and modern history, and to learn how to utilize and apply the results of scientific experiments, to promote the welfare of society at large. The reform now required is to make available for society the stores of valuable applicable truth which is the latest and highest result of human thought. It is a notorious fact that a pupil can go through a course of so-called liberal study, and graduate with honor at the highest institutions, in complete ignorance of that vast body of facts and principles which has arisen in modern times under the name of science and the object of which is to explain the existing order of the world.

When an ambitious parent sends his son to have a liberal education, he is anxious to learn what will become of him. Will he be tinctured by the scheme of higher education in the ancient seats of learning, or will he be inspired by tide influence of a reformed and scientific education? Will he be crammed with ancient classics and philosophies or trained in the arts and science of modern times? This is the query. Do not misunderstand me, it is not my intention to reflect upon the noble ancient institutions of learning, but to emphasize the importance of technical schools—schools to make practical men and women for all departments of life—schools to teach how to utilize physical and social forces, to
promote the welfare of the race—to build up better homes, superior society and a grander country.

Farmers as a class do underrate the full value of practical scientific knowledge, do not commonly endorse and patronize educational reforms, are satisfied with a smattering knowledge of newspaper reports. What per cent. of our farmers' sons are sent to state universities to study agriculture scientifically? How many of our farmers' daughters have opportunities to study domestic sciences and to cultivate taste for the beautiful in nature and art? When the American farmer will realize his responsibility to educate his children in scientific and practical institutions a new era will dawn in the history of agriculture.

You cannot make first-class musicians by beginning with adults, so you cannot make superior farmers from timber grown in foreign lands. Facts bear the same relation to principles in common life that they do in the higher departments of technical science. Training in observation should begin in childhood and become an early mental habit. There are native aptitudes in the departments of intellectual exertions and only by beginning with the young we can find the natural bent of the youthful mind and whatever direction he takes he should be trained in that specialty. The farmers' institute is a final argument in favor of educational reforms—of the expediency and necessity to have a practical and experimental knowledge of things in order to enrich our country with progressive farmers. Mr. A. cannot learn how to improve the condition of his land and the blood of his stock by reading the history of Egyptian mummies. Mr. B. cannot tax nature to yield more corn and better wheat by conjugating Greek verbs. Mrs. C. cannot market better flavored eggs and higher grade butter by studying Latin inflections; neither can Mrs. G. understand the chemistry of fine pastry and advanced cooking by co-relucting a color to paint the picture of the heroes of Rome and Greece. I trust that the present Institute will contribute a color to paint the picture of an ideal farmer, that it will stimulate the community to advocate educational reforms, and inspire the representative farmers who are present to bless their sons and daughters with a complete course of scientific education.

SHEEP HUSBANDRY.

LOUIS KAMMERER.

Read at the Farmers' Institute at Brodhead, Feb. 17, 18, 1898.

In the commencement of this article upon sheep and their management, perhaps it is due that I say something by way of apology. The language I shall talk to you is not my native language and I may not give the proper accent and I may not give you the utterance that is plain to a clear and proper understanding; but this I will say, that whether it be English or Dutch, whether it be Greek or Jew, I can pull sheep out of the mud in one language as well as in any other, or I can see him when he is there. By a proper arrangement of yards and shelter, with proper food and rations, they are enabled to do much of this work themselves.

It will not be our design to go into their very ancient history. It