upon the fell destroyer of our swine industry; and that we recognize and appreciate the deep interest shown in this movement by the Hon. James Wilson, in the financial welfare of our swine breeders and feeders.

(Signed) J. I. GIBSON,
R. E. CONNIFF,
E. A. GUILBERT.

From pamphlet "Regulations for the Prevention and Restriction of Contagious Diseases among Domestic Animals" issued by the State Board of Health and executive council of the state of Iowa:

So-called "piggy" or pregnant sows and rejected cattle found in railway or packing house stock yards must not be sold nor delivered to farmers, but held subject to such quarantine as may be deemed necessary to prevent the communication of any contagious disease.

(Signed) J. I. GIBSON,
State Veterinary Surgeon

May 20, 1896.

RULE 10. In suspected cases of glanders and farcy, when the symptoms do not warrant the state veterinarian in condemning the animal, the Malleïn test shall be recognized as a valuable diagnostic.

RULE 11. In suspected cases of bovine tuberculosis the tuberculin test shall be recognized as a valuable diagnostic.

Statement of per diem and expenses of state veterinary surgeon and assistant, from April 27, 1895, to June 30, 1897:

NAME.	No days' service.	PER DIEM.	EXPENSE.	TOTAL.
M. Stalker	173	$ 865 00	$ 482 09	$ 1,347 09
John McBirney	53	265 00	289 82	554 82
E. E. Sayers	21	105 00	100 66	205 66
George J. Howell	9	45 00	43 78	88 78
L. L. Lewis	16	80 00	32 69	82 69
Henry Shipley	8	40 00	15 10	55 10
S. R. Kingery	14	70 00	46 60	116 60
W. B. Niles	24	120 00	88 79	208 79
G. A. Johnson	41	205 00	118 64	323 64
S. H. Johnson	9	45 00	26 60	71 60
J. O. Simcoke	4	20 00	10 61	30 61
P. O. Kotz	3	15 00	9 70	24 70
J. W. Griffith	20	100 00	27 58	127 58
R. E. Hammond	8	40 00	16 90	56 90
John E. Brown	20	100 00	69 31	169 31
R. G. Rich	3	15 00	7 00	22 00
T. A. Bowa	1	5 00	10 14	15 14
J. I. Gibson	307	1,535 00	1,461 63	2,996 63
Total	728	$ 3,640 00	$ 2,857 13	$ 6,497 13
T. N. Geddes ($2 per day)	5	10 00	.....	10 00
Joshua Miller ($2 per day)	35	70 00	.....	70 00
Grand total	768	$ 3,720 00	$ 2,857 13	$ 6,577 13

TWENTY-THIRD ANNUAL MEETING

OF THE

IOWA IMPROVED

STOCK BREEDERS' ASSOCIATION

HELD AT

FAIRFIELD, IOWA,

DECEMBER 9 AND 10, 1896.

OFFICERS:

President—C. W. NORTON, Wilton Junction; Vice-Presidents—O. H. LYONS, Rockford; J. P. MANATREY, Fairfield; JOHN COWNIE, South Amana; RICHARD BAKER, JR., Farley; DANIEL SHEHAN, Osage; PROF. C. F. CURTISS, Ames; W. W. VAUGHN, Marion; J. R. CRAWFORD, Newton; C. C. NORTON, Corning; B. F. ELBERT, Des Moines; Secretary and Treasurer, C. MURDOCK, Waterloo.

Stenographer—Miss KEO ATKINSON, Fairfield.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:
F. R. CONAWAY, STATE PRINTER.
1897.

IOWA IMPROVED STOCK BREEDERS' ASSOCIATION.

SECRETARY'S REPORT.

To His Excellency, Hon. F. M. Drake, Governor of Iowa:

In compliance with the provisions of the statute I have the honor to present the general review of the condition of this association, and to render a stenographic report of the proceedings of the last meeting, which was held in the town of Fairfield, Iowa, December 9 and 10, 1896.

Waterloo, Iowa.

C. MURDOCK,
Secretary.

OFFICERS FOR 1897.

PRESIDENT.

J. W. Blackford ..... Bonaparte

VICE-PRESIDENTS.

John Cownie ..... South Amana
J. P. Manatrey ..... Fairfield
Richard Baker ..... Farley
Prof. C. F. Curtiss ..... Ames
J. H. Gerholdt ..... Cedar Falls
Dan Leonard ..... Corning
P. G. Henderson ..... Central City
J. Creswell ..... Bonaparte
J. R. Crawford ..... Newton

SECRETARY AND TREASURER.

C. Murdock ..... Waterloo

The next place of meeting will be at West Liberty, beginning December 8, 1897.

MEMBERS.

E. F. Brockway	Washington
J. A. Evans	West Liberty
J. P. Manatrey	Fairfield
C. S. Barclay	West Liberty
C. W. Norton	Wilton Junction
C. Murdock	Waterloo
Jacob Funck	Fairfield
R. Baker	Farley
Col. J. J. Smart	Dakota City
John Cownie	South Amana
Judge D. P. Stubbs & Sons	Fairfield
F. F. Fallor	Newton
J. T. Brook	Hedrick
C. Springer	Libertyville
C. F. Curtiss	Ames
G. W. Franklin	Atlantic
Carrey M. Jones	Des Moines
Chandler Bros.	Fairfield
W. J. Henderson	Central City
R. A. P. McClellan	Fairfield
C. S. Yeoman	Fairfield
D. W. Clark	Batavia
A. J. Leffler	McVeigh
W. O. Fritchman	Muscatine
Joseph Higginbottom	Glendale
A. Crawford	Lone Tree
J. W. Edgar	New London
James Hook	Hedrick
E. M. Metzgar	Fairfield
R. W. Lamson	Fairfield
L. L. Wilkins	Fairfield
John Roth	Fairfield
B. R. Vale	Bonaparte
A. J. Blakely	Grinnell
Dan Leonard	Leonard
P. G. Henderson	Central City
John Ross	Fairfield
J. W. Blackford	Bonaparte

Prof. James Wilson	Ames
Wallace's Farmer	Des Moines
E. Campbell	Fairfield
C. W. Young	Fairfield
D. C. Green	Perlee
A. B. Mitchell	Fairfield
T. M. Ryder	Fairfield
W. W. Vaughn	Marion
R. C. Sands	Fairfield
William A. Tade	Bonaparte
W. H. Barber	Libertyville
J. A. Hamilton	Kirkville
J. W. Dickins	Hedrick
J. B. Youmans	Fairfield
C. H. Corbitt	Fairfield
Eli Kelly	Fairfield
W. P. Young	Mt. Pleasant
J. H. Gerholdt	Cedar Falls
J. A. Newcomb	Fairfield
A. F. Sample	Lebanon
T. L. Hoffman	Fairfield
Dr. J. C. Shrader	Iowa City
John R. McElderry	Fairfield
J. V. Clark	Birmingham
B. L. Gosick	Fairfield
E. C. Summers	Fairfield
J. Harper	Fairfield
L. H. White	Martinsburg
C. A. White	Martinsburg
A. B. Phelps	Competine
O. O. Phelps	Competine
C. L. Funck	Fairfield
E. M. Wentworth	State Center
Charles Jones	Veo
James Hill	Libertyville
W. A. Adams	Fairfield
P. L. Fowler	Des Moines
Sylvester Clapp	Fairfield
E. C. Holland	Milton
A. G. Lucas	Des Moines
Daniel Sheehan	Osage
William Larrabee	Clermont
William McFadden	West Liberty

THE CONSTITUTION.

ARTICLE I.

This association shall be known as the IOWA IMPROVED STOCK BREEDERS' ASSOCIATION.

ARTICLE II.

The objects of this association are to increase the excellency and to provide for the preservation and dissemination in their purity of the different breeds of improved stock of all kinds.

ARTICLE III.

Any person who is a citizen of Iowa and a breeder or owner of fine stock may become a member of this association by paying a fee of *one dollar* annually, and signing the constitution or empowering the secretary to write his name thereon.

ARTICLE IV.

The officers of this association shall be a president, five vice-presidents to represent the different branches of stock breeding, and a secretary and treasurer, and these seven shall constitute an executive committee, of whom a majority shall be a quorum for the transaction of business, and the duties of these several officers shall be the ordinary duties of such officers in like associations.

ARTICLE V.

The annual meeting of this association shall be held on the second Wednesday in December of each year, at which time all officers shall be elected by ballot, and they shall hold their offices until their successors are elected and qualified.

ARTICLE VI.

This association, at any annual meeting, may make amendments to this constitution, may adopt by-laws, may fix an annual fee of membership, and may do any other business not inconsistent with the purposes of this association; *provided*, that amendments to this constitution must receive a two-thirds vote of all members present.

[The above is the amended constitution. The number of vice-presidents have by the custom of committees been changed from five to one from each congressional district.—ED.]

PROGRAM.

WEDNESDAY AFTERNOON, DECEMBER 9TH.

1:00 O'CLOCK.

Welcome, by the mayor of Fairfield.
Response, by Ben Elbert, Des Moines.
Annual address, by President Norton.
Appointment of committees.
"The Future Sheep Industry of the Northwest," George Harding, Waukesha, Wis.
Discussion, Robert Miller, Brougham, Canada.
"What has the Show Ring done for the Sheep Industry of Iowa," W. O. Fritchman, Muscatine, Iowa.
Discussion, George W. Adams, Fairfield, Iowa.

EVENING SESSION.

7:30 O'CLOCK.

Address, "Kick and Bring the Butter," A. G. Lucas, Des Moines, Iowa.
Paper, "To What Extent Can the Average Iowa Farmer Become a Breeder of Thoroughbred Stock," P. G. Henderson, Central City, Iowa.
Discussion, A. J. Lytel, Oskaloosa, Iowa; B. L. Gosick, Fairfield, Iowa; R. W. Sampson, Fairfield, Iowa; C. L. Funck, Fairfield, Iowa.
"Encouragement," G. W. Franklin, Atlantic, Iowa.
"Agriculture in Iowa," John Cownie, South Amana, Iowa.
"Swine Breeding Industry and the Show Ring," N. H. Gentry, Sedalia, Missouri.

THURSDAY MORNING, DECEMBER 10TH.

9:00 O'CLOCK.

Paper on "Poultry," E. W. Watson, West Liberty, Iowa.
Discussion, Eli Hersey, Parkersburg, Iowa; Mrs. Anna Pollard, Washington, Iowa.
"Benefits to be Derived from Organization," W. W. McClung, Waterloo, Iowa.
Discussion, Hon. B. R. Vale, Bonaparte, Iowa; R. J. Johnston, Humboldt, Iowa.
"Stick to a Favorite Breed," J. N. Dunn, Waubeek, Iowa.
Discussion, M. Creswell, Bonaparte, Iowa; Hon. Edwin Campbell, Fairfield, Iowa; W. H. Barber, Libertyville, Iowa.

THURSDAY AFTERNOON.

1:30 o'clock.

"Feeding Young Animals," Prof. James Wilson, Ames, Iowa.

"Good Farming," Richard Baker, Farley, Iowa.

Discussion, F. A. Edwards, Webster City, Iowa; H. D. Parsons, Newton, Iowa; John Ross, Fairfield, Iowa.

"Points of Excellence in Beef Cattle," Prof. C. F. Curtiss, Ames, Iowa.

"What will Hog Cholera do with Us?" Henry Wallace, Des Moines, Iowa.

"The Horse Industry of Iowa," D. P. Stubbs, Fairfield, Iowa.

Discussion, C. C. Norton, Corning, Iowa; E. F. Kleinmeyer, Wilton Junction, Iowa; H. D. Blough, Fairfield, Iowa; I. T. Wisecarver, Fairfield, Iowa.

Discussions will follow each paper until time to retire to banquet to be tendered the association by the citizens of Fairfield, Iowa.

RAILROAD RATES.

The secretary hopes to secure reduced railroad rates over all roads on the following conditions:

Members and all others wishing to attend the meeting must buy a full fare ticket to Fairfield, or the nearest point upon their line, obtaining at the same time a certificate from the ticket agent, certifying that you have paid full fare. This certificate, after having been signed by the secretary, will entitle you to return at one-third rate. Obtain a certificate at every point where you buy tickets, as each road has and will only honor their own certificate. So take certificates in all instances when purchasing your tickets.

HOTEL RATES.

Reduced rates at Hotel Leggett.

OTHER MEETINGS.

The Iowa Shorthorn Breeders' association will convene in Columbian hall, Tuesday, December 8th, and the Iowa Sheep Breeders' and Wool Growers' association will convene at a room in Hotel Leggett. All these meetings will take place in the same week, at Fairfield. Their deliberations will be full of interest to the breeders of the state.

INTRODUCTION.

The twenty-third annual convention of the Iowa Improved Stock Breeders' association took place at Fairfield, December 9 and 10, 1896, amid favorable circumstances, the weather being very propitious and the interest locally being such that made it possible to hold a very pleasant and profitable gathering.

Quite a noticeable feature of the meeting was the presence of a goodly number of the younger breeders of the state and the absence of many of the early workers of the organization whose persevering efforts in by-gone years have given this association character and influence that has made itself manifest in live stock circles for progressive agriculture in Iowa.

During the past year death has claimed some of our early workers, among whom we recall the names of the congenial John McHugh, of Howard county, and Hon. Pliny Nichols, of Muscatine county, both pioneer members in this association and early advocates of better live stock for Iowa.

The selection of Hon. James Wilson for secretary of agriculture, whose voice has rung out clearly and forcibly for live stock interests in many of the past deliberations of the Iowa Improved Stock Breeders' association since its birth, not only meets with popular favor with the friends of this association from every quarter of the state, but the entire live stock and agricultural constituency of the northwest, which recognizes the appropriateness of the new administration in going to Iowa for the third secretary of agriculture of this nation.

Iowa is the foremost live stock state in the union to-day, but she must not rest solely on her laurels of the past, but by education and perseverance continue to forge ahead if she is to hold her supremacy as "queen" of the great live stock breeding industry of this country. The fact that many have retired from the business of breeding thoroughbred stock in recent years ought to elicit attention to the fact that there is now

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room for others to embark in the business, and continne to make Iowa the "Mecca" for obtaining the best of each of the various races of domestic animals that go along with and are a part of higher civilization. Concerted efforts along this line will add incalculable prosperity to our commonwealth in the future.

One of the cardinal requisites, however, of a successful breeder of thoroughbred stock is very aptly expressed by ex-Governor Carpenter before this association at Humboldt, in the title of his very able address, "The Breeder of Improved Stock Must be an Improved Man."

The fact that the Western Passenger association will make no reduction of railway rates, only conditional upon 100 tickets being sold, left it doubtful concerning a reduced railway rate for the Fairfield meeting, and doubtless many stayed at home on that account, not feeling able to pay full fare both ways. Especially is this true with breeders residing at remote points. If a reduced fare could be insured for the next meeting, it would greatly increase the attendance. The next convention will take place in the historic Iowa live stock center, West Liberty, on the second Wednesday of December, 1897. The large number of live stock breeders residing at and near West Liberty have expressed their intention of making the next gathering a great event in the history of the association. It has been suggested by the friends of the association that concerted action be taken, and secure, if possible, a certain attendance of at least 100, which will dispense with all doubt concerning reduced railway rates.

Hotel accommodations at West Liberty have been arranged at very liberal rates and all that come will be well cared for. The location, which is at the crossing of the Rock Island with the Burlington, Cedar Rapids & Northern, is the most favorable point to reach from all points in which the association has held its meeting for a number of years, and it is likely will be more largely attended than any of its conventions for many years.

The association received royal treatment at Fairfield while in session in that city. The banquet at the close, which was given by the citizens of Fairfield, was a great success. Among the many of her citizens exerting an effort to make the occasion agreeable we take occasion to mention Judge D. P. Stubbs, Hon. Edwin Campell, Eli Kelly, Jacob Funck and the warm hearted John P. Manatrey.

TWENTY-THIRD ANNUAL CONVENTION

OF THE

Iowa Improved Stock Breeders' Association.

The twenty-third annual convention of the Iowa Improved Stock Breeders' association convened in Columbia hall at Fairfield, Iowa, Wednesday, December 9, 1896, at 1:30 o'clock P. M.

The association was called to order by its president, C. W. Norton, of Wilton Junction.

Music by Orpheus quintette.

CHAIRMAN: The first thing on the program is an address of welcome by Mayor Jaques, of Fairfield.

Mayor Jaques addressed the association as follows:

Mr. President and Gentlemen of the Iowa Improved Stock Breeders' Association:

A few days before your last annual meeting at Osage, Iowa, Mr. J. P. Manatrey, of this city, called upon me and requested me to write a letter inviting you to hold your next annual meeting in our city. I wrote the letter as requested by Mr. Manatrey, and believe that I express the sentiment of all of our citizens when I say that we are glad to know that our invitation has been accepted by your association, and to know that you would hold your twenty-third annual meeting in our city.

Gentlemen, it gives me great pleasure on behalf of the city of Fairfield, to welcome you to our city, and assure you that you will find the latchstrings to all of our homes on the outside of our doors. Fairfield has never failed to entertain her guests, and she is going to maintain her reputation for hospitality while you are in our city.

Gentlemen, from the time that God in His infinite wisdom gave to man in the Garden of Eden dominion over the beast of the field and the fowls of the air, man has been the keeper and protector of our domestic animals. As to how well man has kept that trust history alone will tell. In the early ages flocks and herds were of more importance to mankind than agricultural pursuits, and from the time Jacob experimented with the

spotted cattle there has been a disposition on the part of mankind to improve our domestic animals. This improvement has ebbed and flowed with the progress of civilization; as civilization advanced, so did our domestic animals improve, and as civilization was retarded, our domestic animals were neglected. And nowhere has that improvement been so great as in the United States, and our great state of Iowa has kept pace with her sister states in the improvement of her domestic animals.

I can remember in an early day before the war in this country, the farmers in some parts of the county depended more on the fall mast to fatten their hazel-splitter hogs than they did the corn they raised. It would be hard to imagine a more dilapidated creature than a genuine hazel-splitter hog before the mast fell. No fence in the country would turn them and it would take a greyhound to catch them. But I understand that it is "English" now to advocate the return of the hazel-splitter hog, but I do not believe the progressive farmer of Iowa will take up this English fad.

The same might be said of the horses and cattle in the early history of Iowa. But, gentlemen, owing to such men as constitute your membership and the progressive farmers, one can see a vast difference in all our stock in the state of Iowa.

You have been the advance agents of prosperity, and to you we are indebted for the high rank the state has attained as a stock producing state. When one travels over this beautiful state of ours and finds a prosperous farmer (and I assure you you can find many of them), that farmer has turned his attention to the improvement of the stock he handles, and has made more money on that account than he has in raising grain.

Gentlemen, you are engaged in a noble work for the betterment of our domestic animals. The better stock a man has the more kind he will be to it, and I am sure you never heard of a man being arrested for cruelty to animals when the animals were blooded ones. And I have often thought that if the same attention was paid to the marriage relation of the human race as is given to the improvement of the breed of our stock, we would have a far better class of citizens and less use for jails, penitentiaries and insane asylums.

Gentlemen, allow me again to bid you welcome to our city, and may your stay with us be pleasant and your sessions instructive. And I want to extend to each member of your association and all visitors, while in our city, a special invitation to visit our library. We have the finest library in the state outside of the state library at Des Moines. We have a library that cost $40,000; $37,000 of that was donated by Mr. Carnegie; the lot, of the value of $3,000, was given by our late lamented Senator James F. Wilson; the stone walk around the building was donated by Joe Hampson, one of our Fairfield boys, who formerly worked in a livery barn here, but is now one of the great railway contractors of the west. We have 16,000 volumes of bound books in our library and something over a thousand specimens in the museum. The attendance of visitors in the past year has been 2,700; 575 books have been taken out during the last month.

Now, gentlemen, allow me to extend to you a most cordial greeting while you remain in our city. We hope all the sessions of your association may prove pleasant and instructive, and that when you return to your homes you may have a kindly remembrance of your stay in Fairfield. [Applause.]

CHAIRMAN: Response by John Evans, of Muscatine county.

MR. EVANS: *Mr. President, Mr. Mayor and Gentlemen of the Convention:* Those who are or have been acquainted with me for some time will perhaps be surprised that I am called here to make a response in place of my able friend, Ben Elbert. I presume none of you ever heard me try to make a speech, and it is due to me at least that I should explain how I came to be placed in this situation. My old friend, Judge Stubbs, has said for some years that he was going to get even with me sometime for calling him out at state meetings, etc. Incidentally I have learned that he and our friend, the chairman, have put up this job on me to-day.

While I may not be able to respond to your mayor and express the sentiments I feel, I can at least say that I appreciate, as you all do, the attention that has been paid us and the respect which this large audience shows to us.

Your city, while not as large as some in the state of Iowa, has a state-wide reputation for the many and able men who have represented our state in different capacities. Some forty years ago for the first time I visited your city. I have passed through here several times on the railroad, but to-day is the first time since that time that I have had occasion to look your city over. I am pleased with the improvements and, speaking of your library, I was surprised when Judge Stubbs took me there to view that building and its condition. I will say that it will certainly pay you to accept the invitation of the mayor of this city and go and look over that building before leaving the city.

It was hardly necessary for the mayor to say that Fairfield always extended a welcome and took care of the people who come here on occasions of this kind. The treatment I have received and seen others receive since we came here show that these words are unnecessary.

Allow me to express not only my own feelings, but the feelings of all, when I say that we extend to you our hearty thanks for the welcome we have received so far and expect to receive in your city. [Applause.]

Music by Orpheus quintette.

PRESIDENT'S ADDRESS.

BY C. W. NORTON.

Gentlemen of the Iowa Improved Stock Breeders' Association:

It is with great pleasure that I meet with you to-day in this beautiful city of Fairfield. One year ago, while our annual meeting was in session at Osage, I received a letter from your citizen, Hon. John P. Manatrey, regretting his inability to be present on account of sickness in his family, enclosing an invitation, signed by many of your citizens, to meet with you at this time; and at that meeting, greatly to my surprise, I was elected to

be your presiding officer. We come with greetings from different parts of this great commonwealth.

The second article of our constitution names the objects of our association in words as follows:

ARTICLE 2. The objects of this association are to increase the excellency and to provide for the preservation and dissemination, in their purity, of the different breeds of improved stock of all kinds.

Hard text! That article was written twenty-three years ago. We were then known as "Fine Stock Breeders." Since then the name has been changed to "Improved Stock Breeders' association."

Have we increased the excellency of our stock?

Twenty-five years ago, while at Philadelphia, we saw the Canadian exhibit of draft horses, which was the finest ever made in the United States. To-day the Iowa state fair and some of her district fairs excel it—1,400 to 1,600 pound horses, with little breeding, as was shown by our purchases of them for the next ten years. Since that time our importers have brought the best stallions money could buy from England, Scotland, Germany and France. Our horses, then 1,100 to 1,300 pounds, have become 1,300 to 2,000 pound horses, with quality so good that the best of them find a ready market for export trade. At the same time the trotter has been educated from a three-minute gait to a 2:01¼ gait, with a probability of reaching the mile-in-two-minutes speed before the opening of the twentieth century. It only pays to raise the best, and as so few colts are to be found, better prices may soon be expected for those who kept steadily along breeding to the best, be it draft, coach or roadster.

Have we increased the excellency of our cattle? You well remember the bullock of 1,000 to 1,200 pounds, with light loin—light all over but his legs, big head and big horns, and that at 4 years old, when ready for market. By the cross of our best Shorthorn, Hereford, Polled Angus and other beef breeds we get them up to 1,800 to 2,000 pounds at 3 years old. Then the cry came, "Too large! too large!" and to-day the demand is for the blocky pony bullock of only 15 to 20 months old and the weight about as many hundred pounds as he is months old, and of the juicy, sappy, marbled kind which you made only by the best of breeding, care and feeding. We quote from Sloan's Treatise on Agriculture, a text-book in English schools fifty or seventy-five years ago, showing what was then regarded as the ideal form for a beef animal:

The back should be straight from the top of the shoulder to the tail. The tail should fall perpendicularly from the line of the back. The buttocks and twist should be well filled out. The belly should be straight longitudinally and round laterally, being well filled up at the flanks. The ribs should have a curved form, approaching to circular, and should project, as nearly as possible, horizontally, being at right angles to the bones of the spine. The hooks should be wide and flat, and from the tail to the hooks should also be flat and well filled. The loin bones should be long, broad, flat and well filled; but the space between the hooks and the short ribs should be rather short and well arched over with a thickness of beef between the hooks. A long hollow from the hooks to the short ribs indicates a weak constitution and an indifferent thriver. These constitute the chief points which determine the relative value of an animal when fat, and the value of a lean one will depend on the probability of his realizing them when fed.

We do not think this description could be improved upon to-day.

What can we say for the gentleman who, as the Irishman says, *pays the rint?* Has his excellency been preserved and disseminated in his purity?

Yes, we think there has been as much improvement with the swine as in the horse or bovine. We recollect him twenty-five years ago as the razor-back, third or back row fellow, with the larger part of his body in front of his fore shoulders—the ham narrow, flat and thin, and the common way of catching them for slaughter was with the gun. A few Berkshires, Chester Whites and Poland Chinas were found at our leading fairs, with no record of breeding. To-day you're not in it if you have not blood of the U. S., Tom Corwin, Chief, Tecumseh, Hidestretcher, or equally popular strains; and our Berkshires and English breeds must be either imported or tracing direct to importation, on the side of both dam and sire, and all breeds must be of the best type and highest standard and eligible to record in order to show at our county fairs, where they may be found by the hundreds, and by the thousands at the state fairs, and at public sales in almost every township and county in the state, with prices ranging from $50 to $500 a head, with exceptional cases running into the thousands of dollars. Forms symmetrical, with ear to the tip, pointing to the eye; with weight—well, it must be as many pounds as the animal is days old; and the pedigree of breeding must be kept as faithfully as the deed for your farm. The only drawback in the hog business is the cholera; were it not for that their numbers would be multiplied as the sands on the sea shore. Strange as it may seem, the cure or prevention of this plague has thus far baffled the most skilled veterinarians of the land.

The sheep industry of Iowa, perhaps, has not met with the encouragement it should have had. Iowa's soil was said to be too valuable for the beast with the "golden hoof;" yet we find the "Downs"—the little South, the medium Shropshire and the big Hampshire—all claim a place on our best farms, and are furnishing the meat that is the healthiest of all supplied by Iowa's four-footed beasts, and is awaiting the day when she may again clothe the masses with a profit to the shepherd. We would try to stand our share of the loss of 100,000,000 pounds of wool brought to our shores annually, and of over 20,000,000 pounds of shoddy and rags; but it is hard on Uncle Sam who misses the revenue. We as stock men and farmers are all protectionists; the only difference is as to *quantity*; but with $5.50 for our best lambs the outlook is encouraging—for mutton.

The Dairy.—We would not overlook one of Iowa's chief interests—the dairy. Our creameries and cheese factories are dotted in 95 of our 99 counties, 80,000 creamery patrons among our 200,000 farmers. About two-fifths of our farmers patronize them, and the dairy products of the state are worth about twenty million dollars annually. It is claimed that a cow that will not average 20 pounds of milk per day for 300 days in the year, the chances are she is a *poor cow*. The successful dairyman must be

"Up in the early morning,
Just at the peep of day;
Straining the milk in the dairy,
Turning the cows away."

If the dairyman is not satisfied with his profits in the dairy he had better enter into a partnership with his wife in the hennery, for, according to reports, the profits of the hen exceed those of all other kinds of live stock for the capital invested.

Iowa's Crops of Grain.—I have heard it said since a boy that the good Lord never gave us large enough crops in any one year to last the world

for two years. It would seem (except in the wheat crop) that the two last years are nearly exceptions to the rule. The corn crop is very large and the prices very low. The cribs of '95 being full, necessitates the building of new cribs for the crop of '96. But with our well-filled barns and cribs our stock should be kept in the best possible condition. Our reports show shortage of horses—January, 1896, over preceding year of over 600,000; of milch cows, of over 300,000; of other cattle, over 2,000,000; of sheep, over 3,000,000, and of hogs, over 1,000,000,000 head; and yet, with a prospect of a better home market, as well as a better foreign market, the stock men and farmers of Iowa, who have applied article number 2, have good prospect for better times and better prices, and that in the near future.

CORRESPONDENCE.

NEW YORK CITY, September 18, 1896.

Secretary Iowa State Improved Stock Breeders' Association:

DEAR SIR—We would like to have a complete set of your proceedings represented in our library, and any other journal you have published, and by so doing you will greatly oblige,

Yours respectfully,

ANTHONY WOODWARD, PH. D.,
Librarian.

CLERMONT, Iowa, February 18, 1897.

C. Murdock, Esq., Waterloo, Iowa:

DEAR SIR—Yours of 15th at hand. In return inclose my draft for $1 for membership for the Stock Breeders' association. I have a high appreciation of the worth of this organization.

Yours respectfully,

WM. LARRABEE.

JEWELL, Iowa, October 21, 1896.

Friend Murdock:

I will not be able to attend the Fairfield meeting. Hard times knock me out for this year. It is quite a disappointment for me. Hope you will have a good meeting. I see that you are arranging for some good papers. I hope that you will continue as secretary.

Very truly,

D. A. KENT.

AMES, Iowa, October 21, 1896.

Mr. C. Murdock, care C. W. Norton, Wilton Junction, Iowa:

DEAR SIR AND FRIEND—Your letter in regard to your meeting at Fairfield the second Monday in December is just received. I expect to be away on a vacation at that time out of the state, and will be unable to be present. It would give me great pleasure to meet with the association. I wish you an excellent meeting. Sincerely,

W. M. BEARDSHEAR.

OSKALOOSA, Iowa, October 20, 1896.

C. Murdock, Waterloo, Iowa:

DEAR SIR AND FRIEND—Yours of the 17th arrived to-day. I would enjoy a week from home and meet with our many friends, but it will be an impossibility for me to get away. Along with our usual crop of pigs, which are more numerous than usual, and a big apple crop we have quite a crop of potatoes, all to either get into winter quarters or market. Please excuse me. With best wishes, I am,

Yours truly,

GEO. S. PRINE.

IOWA CITY, Iowa, February 20, 1897.

Mr. C. Murdock, Secretary Iowa Improved Stock Breeders' Association, Waterloo, Iowa.

DEAR SIR—I am in receipt of your letter in regard to membership in the association; I could not, owing to a press of work in my profession, attend the meeting in Fairfield. But I am anxious to retain my membership, and herewith enclose the fee of $1 as you suggest. I shall hope to attend the next meeting at West Liberty. Thanking you for your kindness in writing me, I am Truly yours.

J. C. SHRADER.

SECRETARY: *Mr. Chairman and Gentlemen of the Convention:* There is a matter of business to be attended to. The annual dues of this association become due at this time. The membership fee of $1 constitutes the only resource of this association wherewith to bear the expenses of printing the volume of the proceedings and all the incidental expenses, and I would suggest that we take up this matter now. Perhaps it would expedite matters to appoint a receiver on each aisle.

CHAIRMAN: I will state that the proceedings of the meeting of yesterday and to-day and so on until to-morrow night will be published, and this is a sample of the proceedings in book form, and will be sent to you on receipt of $1, and of course you will be entitled to the delightful banquet which comes off to-morrow night.

Moved and seconded that a committee of four be appointed to pass down the aisles and get the names and amounts. Carried.

CHAIRMAN: The next on the program will be a paper, "What has the Show Ring Done for the Sheep Industry of Iowa," by W. O. Fritchman, of Muscatine, Iowa.

MR. FRITCHMAN: The committee wanted to put me on the program and I finally told them that if they could get no one else and rather than not have any paper at all, I would try and prepare something on the subject which has been assigned me on the program. It is a good subject, but I do not feel that I can do it justice. I always have a failing in preparing a paper

on any topic that I do not always stick to the discussion. So you will pardon me if I digress a little from the discussion on this occasion.

WHAT HAS THE SHOW RING DONE FOR THE SHEEP INDUSTRY?

BY W. O. FRITCHMAN.

There are many things which the show ring has done for the sheed industry—some of which I shall mention. It affords intending purchasers an opportunity to see the leading flocks of the country, side by side, and make their selections with but little expense, as compared with what it might cost them to visit the flocks of the owners. It also affords those who are undecided as to which breed they prefer, a chance to compare the different breeds and make a better decision than they would otherwise. It also brings breeders in contact with each other, and gives them a chance to exchange their thoughts on the management of their flocks; usually men go away from the show ring with higher aspirations and a stronger determination to bring something out the next time that will surpass his opponent. Again, it has taught those men who have taken their sheep to the show without any fitting, that they can seldom ever succeed in convincing those who take the time to listen to their story, that they would make sure winners if they had the proper amount of feed and care. Look at the English shows, and see what they have done for the industry in that country. They have educated men in the science of breeding, till it would seem to an observer that they had reached perfection; but the English are far in advance of we Americans in the methods of breeding and fitting sheep for show purposes, and perhaps always will be, for they have advantages in climate and many other things, which we never can have. More good might have been accomplished, however, for the sheep industry, by the show ring, if the fair managers had offered more inducements for the sheep which have been bred and fitted in this country. Four-fifths of all the premiums won at the leading fairs in the United States by the mutton sheep, during the past ten years, have been by sheep fitted either in England or Canada. Is it any wonder, therefore, that the breeders of this country have found little encouragement in fitting their sheep for the show ring? The Minnesota state fair is the only fair of which I know, that offered a premium for sheep fitted within the state. It would be a good thing if more county and district fairs would offer premiums enough to make it an inducement to sheep breeders to exhibit their flocks, as it is only by bringing them out in a fitted condition that one can determine whether they have the necessary qualifications to make them valuable as meat producers. It has truthfully been said that there is no school like the school of experience, and the man who has all the necessary qualifications to make him a successful breeder and fitter of show sheep, has that of which few men can boast; as many a person has found out, after it was too late, that he had fed the wrong sheep. He who thinks it an easy matter to successfully breed and fit a lot of sheep for the show ring, might, if he were to try it, be forced to the same conclusion that the man arrived at who envied his pastor his easy way of making a living, and intimated in his presence one day that anybody could preach. So the pastor, who shortly afterward was in need of an assistant, kindly asked his service, which was willingly accepted. The hour for church service had arrived, and the congregation gathered at the church, which stood by the roadside some distance from the village, when the gentleman in question appeared upon the scene, feeling highly elated over his first opportunity to preach, sauntered down the church aisle with the Bible under his arm, and took his place in the pulpit; opening the Bible he read his text: after pausing a few moments he repeated it, and after reading it a third time, he exclaimed: "If you think it an easy matter to preach just get up here and try it."

CHAIRMAN: The question is now before you for discussion, gentlemen.

MR. BAKER: Will the gentleman tell us what a flock of 100 sheep will yield in profit on a year's feed?

MR. FRITCHMAN: That is a little difficult question to answer in a general way. There are a good many things to be taken into consideration. But take a flock of mutton sheep, and it would be a very poor flock that would not weigh from ninety to 100 pounds, and taking the present prices, that would make them net about $5 apiece in Chicago. And the wool would be worth from $1 to $1.50. So you could easily figure that up at the market prices for wool.

MR. CAMPBELL: Are you sure you are right about the $1 a head for wool for mutton sheep at present prices?

MR. FRITCHMAN: I think so; wool is worth from 12 to 15 cents.

MR. CAMPBELL: I doubt very much whether your figure is correct there.

MR. BAKER: You have forgotten to figure in the rent for the land the sheep were raised on.

MR. FRITCHMAN: My experience has been that sheep paid better than any other kind of stock. Land is worth from $75 to $100 an acre, and I have handled all kinds of stock, and nothing has paid as well as sheep.

MR. BAKER: Do you keep a record by books?

MR. FRITCHMAN: Yes, I do.

MR. BAKER: As to the percentage of profit on the capital invested?

MR. FRITCHMAN. Yes, when I was feeding and shipping for the market I kept a record.

MR. BAKER: What is the record of 1896 in profit in the sheep business?

MR. FRITCHMAN: I have no record, as I have not shipped any yet.

MR. BAKER: By the estimate on a flock and the mental estimate in the memory, what do you think would be about the percentage on the outlay?

MR. FRITCHMAN: Well, I should consider that on a flock of ewes at $5, you would get the results that I have mentioned if they were properly managed.

MR. WALLACE: Given a flock of ewes of 100 head at $5 a head to-day, would you undertake to get $500 out of them in lambs and wool in one year and have your 100 better ewes than you started in with?

MR. FRITCHMAN: Yes, I think I would; I think I could do that. I would consider it a very poor lot of ewes that would not average eight pounds per head of wool at 12½ cents a pound; that would make a dollar.

MR. WALLACE: Let me follow my question a little further. At what would you estimate the cost of keeping these ewes and lambs per year, including rent on the land, interest on the flock at 6 per cent, and the grain they would eat, to give $500 income? What would it cost in grain, rent, interest and care to produce that $500?

MR. FRITCHMAN: I have not figured it, but I think I would be perfectly safe in saying that $200 would cover all expenses of putting those ewes in condition to yield $500.

MR. WALLACE: How many acres will it take to feed those sheep?

MR. FRITCHMAN: That would depend largely on the kind of land; I would say twenty acres would do it.

MR. WALLACE: What is the rent of that twenty acres?

MR. FRITCHMAN: Well, we will say from $3 to $3.50; say $4 and $30 interest, that would be $110—an expenditure of $190 on a $500 income.

MR. CAMPBELL: I do not want to dispute the position taken by Mr. Fritchman, for if the farmer takes the proper sheep and handles them in the proper way, I know of nothing else he can make as much money out of. But will you please answer me what particular kind of sheep you would take out of which you could safely raise 125 lambs and get eight pounds of wool from the ewes that suckled those lambs?

MR. FRITCHMAN: Shropshire will do it; any of the big breeds will do it.

MR. CAMPBELL: I never had any class of sheep do that. I think from your estimate, and especially on the number of lambs, that you were more fortunate than I in raising sheep. You will find much trouble in raising sheep of the class you speak on twenty acres of land.

MR. BECK: The Oxford sheep my son had produced more than 120 pounds, and yearling ewes averaged over nine pounds of wool.

MR. BAKER: How many sheep to the acre?

MR. BECK: We only had fifty acres out there and we had over 300 sheep, but we sold a good many in the meantime at $25 a head.

MR. CAMPBELL: Your sheep never made any such a weight on fifty acres; they had plenty of good feed.

MR. BECK: Oh, yes! you are right, they did have good feed.

MR. KELLEY: I will state what our flock has done in the last year. Last winter I sheared fifty-one sheep, and we got 11 cents a pound and the wool came to $51.30; that would be an average of over nine pounds to the sheep.

MR. BAKER: How many acres of land?

MR. KELLEY: I have sixty acres, but I do not know how many were used for the sheep.

MR. FUNCK: I would like to ask the gentlemen at what time these lambs were dropped, at what age they were sold, and at what market would they bring $5 a head?

MR. FRITCHMAN: Eighty-six pounds was the lowest average I ever got, and that was for two car loads of lambs I raised and bred myself for sale on the Chicago market, and they brought me 6¼ cents a pound. They were dropped in May and were sold in the fore part of January. And I have frequently shipped lambs in December and January that would average from ninety to one hundred pounds. But taking the Chicago markets at the present time, I would be safe in saying the same grade of lambs would bring the same price.

MR. LEONARD: Can you get as good results from a flock of 600 or 700 as you can from 100?

MR. FRITCHMAN: I think not; my experience has taught me that you get better results with a smaller flock.

MR. LEONARD: How many sheep to the acre, would you say?

MR. FRITCHMAN: I do not pasture my sheep as close as I could pasture them, but I think you could carry eight sheep on an acre of clover.

MR. LEONARD: Can you get a pound of gain a day when you have a couple of hundred lambs running out?

MR. FRITCHMAN: No, I think not. I have never made an average gain of a pound a day, say for fifty or seventy-five days I have had lambs, though, that weighed 100 pounds when that old.

PROFESSOR WILSON: Are you troubled with worms?

MR. FRITCHMAN: The sheep have been.

PROFESSOR WILSON: What do you do? It has been my personal experience that I have never had any trouble until this summer; this is the first year I have ever been troubled. Did you use anything?

MR. FRITCHMAN: Yes, I did.

PROFESSOR WILSON: How did they behave?

MR. FRITCHMAN: My lambs did fine until the first of June and then they had a kind of dullish appearance. I tried different remedies. I had a powder I thought was a preventive, but I got discouraged with that and tried other things.

PROFESSOR WILSON: What do you propose to do next year, put them on the same pasture?

MR. FRITCHMAN: I had a pasture north of the barn I had manured pretty heavy, and the lambs that run on that pasture seemed to be affected worse and I decided not to use it next year. I find that men who have handled their sheep differently have had the same trouble I did.

MR. MANATREY: What kind of water did you use?

MR. FRITCHMAN: I have running water in some of my pastures and in others I carry the water.

PROFESSOR WILSON: Pastures become piled with the worms and if we keep the sheep on the same pasture, we have the same difficulty the following year. And it has occurred to me that it might be wise to change the pasture and change the sheep and hogs, because both have a tendency to pile. We had difficulty at the college this year. There are two or three kinds of worms; we fed them worm powder right along. It is something we have got to take into consideration, is this question of worms. They have it all over the western ranches, the tapeworm. And it lives over the winter on the grass and the sheep get it the next year; it lives from one family to another.

And if so, it goes from the sheep to the pasture and from the pasture back to another sheep, and it is getting worse and worse all over the country. You have got to take it into consideration and understand it.

MR. VALE: Then with Mr. Wilson's suggestion in our minds, I want to ask the professor how it transpired that in 1895 certain neighbors of mine, who have kept sheep for some time, several years, have had their first experience this year in that direction; their first trouble, and in one instance the sheep were kept on an entirely and newly fenced pasture, which was probably never occupied before.

PROFESSOR WILSON: If the worm manifested itself this year, it probably lived over from last year. The sheep got them from some place else. The first time we were troubled at the college was last year; how we got them, we don't know, but this year we had our greatest difficulty.

MR. RIDER: I would like to say that we have had trouble of that kind with our flock this year for the first time. And it seems that the ram lambs have had the worms and we have not had trouble with the ewes. And the rams were on new pasture, while the ewes were not.

MR. FRITCHMAN: A large per cent of those that were affected were ram lambs.

MR. RIDER: The ewes were on blue grass pasture, while the rams were on clover.

MR. WALLACE: I had my first experience with worms four years ago. It began to manifest itself in the month of August. The lambs were dropping, and you would find a kind of a swelling under the under jaw. I lost about 2 per cent of the flock. The next year, 1892, it began about the same time; in 1893 it began about the same time, and I lost 4 per cent, and in 1894 I lost in the month of August 6 per cent. I did not know what was the matter, and I sent a sick lamb up to the college. The veterinarian pronounced it a stomach worm. I became satisfied it was the ground, and I cleaned up the entire lot, and expect to begin next year again.

I want to say to you that in our county there has been a number of flocks that have lost half their lambs, and occasionally a flock that has not been troubled at all. I think it probable that they had them for years, but they had not developed to such an extent as to cause death.

When this came up in 1892 I had considerable correspondence with the farmers on the subject, and I could not hear of

any stock of Merino sheep that were troubled. It seemed to be among the mutton sheep. I hope the college men will throw some light upon it.

PROFESSOR WILSON: The veterinarians are at work, and will have the bulletins ready soon, and by writing up to me at the college you can obtain them.

MR. LEONARD: I don't want the idea given out that these worms are liable to come back next year if you have them on the farm this year. I will not concede that. I have been looking after lambs for sixty-three years, and I think I know a healthy flock when I see them. I know we had forgotten about it, until it struck us again this summer.

The first information I had that the lambs were not doing first class was when the word came to me that they were sick and should be looked after, but I did not go to see. When I did go down I found as many as twenty dead, and three-fourths of the balance of the flock of 300 were affected. I examined one of the lambs and found thousands of small worms in the intestines. Then I sent to town, and in the course of forty-eight hours after the discovery was made we had some of Summer's worm powder on the farm and they had been given to the lambs. And I think that now there are only about half a dozen lambs that have not fully recovered. Night before last I don't think there were but about half a dozen.

MR. FUNCK: Some twenty-five years ago, down in Des Moines county, we were struck with the same disease. Out of 100 lambs I lost thirty or forty. We had never had it before. I have handled sheep all my life more or less, and once in a long while this disease strikes us, but I take no stock in carrying the disease over this season to the next. It comes the same as other diseases, and I think one of the principal causes is so much wet weather. And another idea right here, and that is, I believe it is considered by all authorities on sheep that you can now crowd mutton sheep or the long wools as you can the Merinos. I remember during the war we used to send a man out with 5,000 sheep, herding them on the prairie, and I know we kept larger flocks of sheep then than now. I never kept anything but Merinos until the past year. And I have made this discovery, that mutton sheep eat more and do not do as well as the Merino, and I think one trouble is that they are crowded—crowded too much, and run too much on short pastures.

I want to give a few facts in regard to the keeping of sheep. I do not keep fancy sheep; I have a few, but not many. A year ago last September I invested $100 in fifty ewes. These ewes were the culls out of a neighbor's flock, and I had three little lambs thrown in. The next thing I invested $10 for a good buck; $110 was my investment. I kept them one year, within a few days.

In the first place I had to kill one that got crippled; I sold two of the ewes for mutton at $3 a head; I sold $41.71 of wool; some of these ewes sheared twelve pounds, and I would like to have someone explain the difference between the ten-pound fleece at 7 cents and the seven-pound fleece at 10 cents. From these sheep I sold $41.71 worth of wool, $6 worth of mutton; forty-seven ewes dropped fifty-nine lambs, but two of them died in the start and one was killed by dogs or wolves, and I sold the balance of that flock for $210. In other words, I invested $110 and sold sheep amounting to $216; wool, to $41.71. They used for pasture a little over fifteen acres and I was short and used the road to help out on. I used two tons of hay and averaged probably a half bushel of corn from the 1st of January to the 1st of April. You can make your own estimate and draw your own conclusions and see whether it pays to keep sheep in these days.

PROFESSOR WILSON: And all under this political administration?

MR. FUNCK: Yes, and I want to say right here that I would like to know how anyone has the cheek to ask for protection.

MR. BLAKELY: I have not had any experience with diseased sheep; I have not had any sick lambs, and I am not afraid to run them on the same pasture. I don't know but what I shall have to confess to something of that kind another year, because there is a great deal of that trouble about and I have not been giving any preventive. I don't believe it is crowding them, either, because between Shorthorns and Merinos my pastures have been pretty well cropped.

I do not know the origin of these worms; but my sheep are not troubled and I am not very much afraid of it.

Now a word on the cost and expenses of this sheep business to me. I believe the cost of keeping sheep is about like the cost of keeping cattle. I put twelve of those big Merinos on pasture with twenty Shorthorn cows, and with an average summer I can do it spendidly on forty acres of ground, two acres

to the animal, and if it is first-rate land, why two acres is ample. I believe that is a safe rule to go by.

PROFESSOR CURTISS: I want to say just a word on this sheep question before we dismiss it. We have had a chance this summer to observe the worm difficulty that has been discussed, and while I fully agree with the gentlemen that it is not alarming to the extent that hog cholera is, yet it needs looking after. The most successful treatment will come from the use of preventive measures.

I have found this trouble widely distributed this summer, and it is generally attributed to the wet season. It is a great deal worse in Ohio and Indiana. The Canadian sheep last year had hardly a case of it and this year they have had it quite bad. And they argue that preventive treatment is the most successful treatment. They used worm powders largely—Summer's worm powder and Kamp's powder.

It is like the hog cholera in one respect, as it is no respecter of breeds. I have had mutton Merinos and even the big French Merinos, and there has been as much trouble among the Merino flocks as can be found anywhere else.

The use of worm powders early in the season will largely overcome these worms. These powders are also a tonic. We have used the Summer's powders, but the Canadians are using the Kamp powders and speaking highly of them.

Only a few weeks ago Mr. Mill, of Storm Lake, marketed his lambs at $5.50 a head. He had such a flock of ewes as can be found on almost any farm where a good grade of sheep is kept. They can be duplicated for less than $5 a head any place. He had sold twenty of the best ewe lambs out as breeders. He tells me they had scarcely any grain at all, they were turned into a cornfield; the old ewes pulled some corn down, but they ate it all.

A word in regard to the gain we may expect from sheep. Mr. Blakely states that a sheep will eat practically as much per hundred pounds as a cow. We have found in our experiments that a sheep will eat a little more. They will not only eat more, but they will digest and assimilate more, and we have found that 100 pounds of feed will make more mutton than 100 pounds of feed will make beef, so that you have a pound of mutton produced at less than it costs to make a pound of beef, leaving the value of fleece entirely out. And, as Mr. Funck says, it will make no difference whether you have protection or not.

We have a bulletin covering the subject of last winter's investigations with carefully selected representatives of the leading mutton breeds. Last winter we used the Delaine Merino, but this winter we are using the French Merino, or Rambouillet. We will be glad to send that bulletin to any one who is interested in sheep. I have with me some samples of wool from each of the breeds and a record of fleece made from ten lambs of each breed.

MR. BROCKWAY: Mr. Chairman and gentlemen, I am not a breeder of sheep, but some of my best neighbors have been, and I have always been closely in sympathy with sheep and the man who is brave enough to raise them. The man who has raised sheep has had to contend with the sheep-killing dogs and wolves, and after all there is something more I never heard of before, the worms.

Moved and seconded that this association appoint a committee of four to confer with the committee from the Shorthorn Breeders' association and take into consideration the cottage on the state fair grounds.

Carried.

Appointment of committee by president as follows: J. P. Manatrey, J. A. Evans, J. W. Blackford, C. S. Barclay.

The president appointed committee on officers and location as follows: P. G. Henderson, W. P. Young, John Myers, Richard Baker, Dan Leonard; committee on resolutions, Hon. B. R. Vale, Geo. W. Franklin, D. P. Stubbs, J. A. Evans, Col. J. J. Smart.

Moved and seconded that the convention adjourn until the evening session at 7 o'clock. Carried.

WEDNESDAY EVENING.

PRESIDENT: The secretary suggests that we do a little business, and during this time we will have music by the orchestra and Mr. Secretary will suggest what the business is.

SECRETARY: It will give anyone who wishes to join the association an opportunity to give in their names.

MR. STUBBS: I am requested by our president to speak relative to becoming members of this association. This is the

Improved Stock Breeders' association of the state of Iowa. It has been in existence some twenty-three years. These meetings have been held in various portions of the state—at Des Moines, Oskaloosa, Osage, Iowa City and at various places over the state, just as they are being held here now. After becoming a member of this association and receiving all the benefits and getting a book of the proceedings, I believe you are also entitled to attend a banquet. The good people of Fairfield are going to tender a banquet to-morrow night to the members of this association. It costs you $1 and you have the right then to meet with the association and afterward meet with its officers and become acquainted with the various members. It is absolutely necessary to have money to pay the expenses, postage and other expenses, and it is by this means that the association is kept up. It will cost you $1 and you will of course be admitted to the banquet to-morrow night. And this is why the parties are going around and making this solicitation; and I hope the people here will be generous enough to become members, and not be disappointed in selecting Fairfield as the place for holding this twenty-third meeting of the association.

Music by Orpheus quintette.

CHAIRMAN: The first thing on the program is a paper by Mr. A. G. Lucas, of Des Moines. Is Mr. Lucas present? If not, we will have to make a little change in our program. The next will be a paper by John Cownie, of South Amana, Iowa, "Agriculture in Iowa."

AGRICULTURE IN IOWA.

BY JOHN COWNIE, SOUTH AMANA.

Mr. President and Gentlemen:

The present condition of those engaged in agriculture in Iowa is not as prosperous as could be desired, and while crops have been abundant, prices are far from being remunerative. Two of the prime requisites in agriculture—land and labor—have maintained their former values, notwithstanding the low prices prevailing for both stock and grain, and those who employ labor, and are struggling to discharge a mortgage incurred in the purchase of land, have found it no easy matter to meet their obligations.

Several years ago predictions were freely made that land was then too high, and unless the products of the farm advanced in value there must of necessity be a decline in price. But these predictions have not been fulfilled, and while some of the leading agricultural products of the state have sold of late at prices far below the cost of production, land instead of declining in value has steadily advanced, and never before was as high as it is to-day.

Thirty or forty years ago it was an easy matter for the energetic, ambitious, young man to purchase a quarter section of land, make a small payment, perhaps not exceeding two or three hundred dollars, and with another two or three hundred dollars invested in stock and tools, embark in agriculture in the full assurance that in a few years he would be the owner in fee simple of his farm, and have all the comforts of a home of his own. And it mattered not if his knowledge of agriculture was somewhat limited, and his stock devoid of the characteristics of well-bred animals; nature was lavish with her resources and responded most liberally to the most indifferent methods, and abundant crops and strong, healthy animals grew and flourished amidst neglect; and disease among stock was practically unknown. Now all is changed; old times have passed away; the fertile land that could once have been purchased for a few dollars an acre is now selling for $50 to $75 an acre, after having been exhausted by repeated cropping, and the best part of it carried away in the grain that sought an eastern or European market; and instead of the virgin soil, free from contamination and disease germs in those early days, we have the seeds of disease scattered throughout the state, and the raising of hogs, on which so many depend to cancel the mortgage, has become so uncertain that there is no assurance when the pig arrives strong and healthy that it will survive long enough to assist in discharging the obligation.

Those who purchased their farms when land was cheap, and the raising and fattening of hogs was attended with little or no risk, and who now have their farm well improved and free from debt, can look with equanimity upon the low prices now prevailing.

But what of the young man who purchases a quarter-section of land at $50 per acre, aggregating $8,000, and who perhaps has paid only $1,000 to $2,000, giving a mortgage for $6,000, drawing interest at 6 or 7 per cent, and perhaps the full limit of the law, 8 per cent per annum? And in addition, necessary repairs must be kept up, taxes paid, and with hired labor that he must have, commanding as good wages as when farm produce sold for double the price it now does, how is it possible for a young man to become the owner of a farm free from debt with conditions as at present existing? I have placed the amount of the first payment at $1,000, or $2,000, and in addition stock and machinery would require an investment of about as much more, so that to make the smallest possible payment on a quarter-section of land, and for the necessary equipment to operate the farm, would require a capital of not less than $2,000, or $3,000—quite a large sum for a young man to accumulate from the proceeds of his own labor. With the interest and the wages of hired labor necessary to operate a farm of 160 acres, there are very few who could expect to make much headway in becoming the owner of a farm of that size, with present conditions, and the farm of eighty acres would, in all likelihood, be the safest investment. With a farm of eighty acres the work could be nearly all done without hired labor, and the saving in wages and board would

increase the chances for liquidating the indebtedness, and securing a farm the size of which might be increased in the future.

But while agriculture in Iowa is not what it once was, and while dear land and low prices for produce are the rule, unfortunately the young man of to-day is sorely hampered by conditions that were unknown to the early settlers of the state. Too many of our young men at present desire to begin where their fathers left off, and what were formerly considered luxuries, not even to be thought of, are now considered necessaries that must be obtained whether the farm is paid for or not.

Still, I am convinced that a young man can, by careful attention to all the details of farm work, become the owner of an Iowa farm, and as Iowa land will never be cheaper than it is at present, those who intend embarking in agriculture should lose no time in securing a farm.

But how is the young man without means to secure a start? is asked, and the object of this paper is to suggest the only method that gives assurance of success.

In the first place, the young man is either the son of a farmer, or perhaps a hired hand, with some knowledge of the practical work of a farm. The presumption is that he has secured a fair education and is a close student of agricultural journals, not one only, but of several, for the successful farmer of to-day must be a man of broad mind, not wedded to a single method or a blind follower of one teacher, but ever ready to hear all sides, weigh them in the balance without prejudice, give all a fair trial, and hold fast to that which proves best adapted for his own condition.

But the young farmer is ambitious, and although his capital is limited, his views are far from being contracted, and the farm of eighty acres appears altogether too small. But, allow me to assure all who thus believe, that the small farmers, so-called, are those who are making a success of the business of late years, while the large farmers are finding the greatest difficulty in making the farm pay current expenses, with no compensation for their investment or labor. It is not the magnitude of any business that must be assumed for its prosperity, but the profit, or in other words, the difference between the cost and the selling price of the product that indicates the success of the business, and most assuredly the small farm, properly conducted, is at present giving a better compensation for the labor, and yielding greater interest on the investment than is the large farm where the work is mostly done by hired labor.

But while the pioneer farmers with low priced land, free pasture, and hay for the cost of making, could afford to stock their farms with animals, without regard to breeding, the young farmer of to-day must deny himself this privilege, for his success will largely depend upon his ability to breed and feed the class of stock the market demands.

Agriculture in Iowa is fast becoming a science and the methods that brought success a few years ago, would now insure nothing but disaster.

Instead of the ill bred, raw boned steer that required from four to five years to fit him for market the demand is now for the young well finished animal at about two years of age with the choice, high selling parts of the carcass well developed, while those parts that command the least price are reduced in size to the lowest possible amount consistent with the frame of the animal; and this is what constitutes pure breeding, that by wise selection has produced a type that can be depended upon to transmit the same

qualities to the offspring. It matters not which of the beef breeds are selected, whether Shorthorn, Hereford, Polled Angus or Red Polled, but it must be one or the other, according to the taste of the purchaser; and aside from breed, individual merit must be recognized, and the successful farmer must strive to secure still greater excellence.

The same method applies to the breeding and feeding of swine, well bred animals and early maturity being now required, and any of the leading breeds will be found well adapted for the market requirements, if due care is had in regard to management.

In the sheep industry mutton hereafter must be recognized as at least equal to wool, and here again there is no lack of breeding and individual merit, and those who would embark in the business have all the advantage of the experience of those who have devoted their lives to the work of improvement.

In the horse industry, the lack of system in breeding is painfully evident, and the horses of Iowa are far from being creditable to the state, and the young and progressive farmer cannot afford to follow in the footsteps of those who have gone before, but instead, make a wise selection to begin with. And whether it is heavy draft, coach, or other breed that may be selected, breeding should be done with a purpose, for the horse of all work, always a fraud, should no longer be tolerated or given a place on an Iowa farm.

While manufacturers can form trusts, and limit their output and maintain prices, this course is impossible among farmers for reasons it is not necessary to discuss, the mere statement of the fact being sufficient. Prices have now reached a point far below the cost of production, and there will undoubtedly be a reaction. In the meantime, we are producing too much grain, and this result has been caused by the extreme drouth that prevailed for several years, destroying the stand of grass, and necessitating the plowing of the sod and the cropping of the land. With the return of normal climatic conditions, a large part of the land now producing grain should be seeded with grass, and not only would the land be improved by rest and pasturing, but the glutted grain markets would be afforded an opportunity to recover from their present condition.

Agriculture in Iowa should consist in having at least one-half of the cultivated land in grass; the horses, cattle, sheep and swine should be of the best breeding, and both growth and fat should be forced from birth to sale. Away with the scrub stock of every kind, and fill their places with well-bred animals of individual merit; and now is the time to carry out this much-to-be-desired improvement, while corn is abundant and cheap. Fatten the scrubs and send them to market, and with the proceeds start a herd of pure bred animals. And if this can not be altogether accomplished, get at least a few desirable animals, and gradually allow the stock that has already too long been cumberers of the ground to give way to pure bred animals.

The men who I see before me are largely advanced in years. You own your farms, and have surrounding you all the comforts of life. But I would fain say a word to the young man just starting in life, and endeavor to point for him the way to success. And that way is now open only through breeding pure stock, and I have no hesitation in asserting that the earnest young man who applies himself diligently can, if only working by

the month at present, soon become a tenant farmer, and in a few short years be able to purchase a farm of his own. But he must be in earnest, able and willing to perform the labor of the farm in the best manner possible, give due attention to details, and be at home in the pasture, field or yard when surrounded by his stock. He must love his work, and take a just pride in seeing it well done, and the animals of the farm should receive at all times his loving care and thoughtful attention.

Agriculture in Iowa is one of the grandest, most independent and worthy occupations now open to ambitious, educated, progressive young men, and in no other occupation, trade or profession are better opportunities afforded, or greater scope for growth and usefulness assured, than in the breeding of improved stock and the management of an Iowa farm.

CHAIRMAN: Now we will listen to Mr. Wallace, of Des Moines, on "The Lessons of the Plagues." [Applause.]

THE LESSONS OF THE PLAGUES.

BY HENRY WALLACE.

Two noted and very unpopular school teachers have been carrying on an extensive campaign of education in the state of Iowa and adjoining states during the past year. They are not graduates of any college, nor do they work on salary, nor do they charge anything directly for board or traveling expenses, and yet they are the most proficient and effective teachers that have visited the state for many years. They do not ask the farmer to come to their school; they take their school to him and proceed to instruct him whether he will or no. They are no respecters of persons or of parties. They set up their school of instruction at the Agricultural college and proceed to enlighten Professor Stalker and Professor Wilson with the same easy nonchalance that they practice when they visit the tenant on the farm kept under the worst possible sanitary conditions. They travel sometimes alone and sometimes together, but always bent on carrying on a campaign of education, the object of which is to teach the farmer what they are, how they come, and what he must do to be saved from their visitations. Their names are hog cholera and swine plague. They have often visited us before and we have looked upon them as providential visitations, something like the hail and the cyclone, against which prayer and pains were alike unavailing, and to which submission must be rendered like to that which we give to the irreversible decrees of Almighty Power. They have come to us this year at an exceedingly inopportune time. Had they visited us in 1894, when corn was worth anywhere from 35 to 50 cents a bushel and the problem with the farmer was how to keep his hogs through the winter, we would have regarded their visits as blessings in disguise. This year, with cribs bursting open with corn and millions of bushels piled in orchards and gardens and yards and no hogs to eat it, we rightly regard these schools of education as the greatest calamity that has befallen the state in this year of adversity. Nevertheless, they

teach us lessons which we need to learn, and if we but rightly learn them this year and bring ourselves up to the point of taking the only course of action that will render their visits impossible, it may be that even this will prove to be a blessing in disguise, even though we do not think it now. We therefore briefly sum up some of the lessons that we have been taught by this pair of instructors that have gone from farm to farm, set up their schools in the hog yards and compelled the farmer's attendance.

First.—We have learned, unless we be wholly incorrigible and incapable of instruction, that cholera and swine plague may occur at any season of the year, but that it is more liable to occur in the summer and fall months, and that in these months it shows the greatest degree of virulence. Cholera and swine plague have been with us through every month in the year in some section or other of the state. Its ravages were not great in January, February, March or April, but with the advance of the season it increased rapidly in virulence and in the extent of territory that it covered, reaching its maximum in October, since which time it has declined in extent, mainly because of lack of material to work upon, and in virulence as shown by the greater per cent of recoveries during the last month.

Second.—We have at last learned that cholera, that is, genuine cholera, is a germ disease, or perhaps two distinct but closely allied diseases termed cholera and swine plague. We have no doubt that many diseases pass under the name which have nothing in common with these two plagues, except that under unfavorable conditions they destroy a greater or less per cent. These may be germ plagues for aught we know, but capable of successful treatment.

Third.—We have also learned in these schools of instruction that these diseases cannot exist without the introduction of the germ or germs into the herd. Before we went to school personally and took our first course of instruction with these two teachers, ten years ago, we believed and so taught that every farmer created his own cholera, that the disease was the result of bad sanitary conditions, of filth unspeakable in the farm yards, and in general of such treatment as nothing but a hog was able to endure. When the school was set up in our yards we learned better and very fast. Our herds were in charge of men who were masters of their business. They were under the best sanitary conditions; they had everything to the taste of the queen of the herd, and yet they died as rapidly as hogs in the neighborhood kept under the filthiest conditions, and with as great a per cent of loss. Until the germ was introduced they were in the pink of condition, and as soon as it was introduced they began to die like flies under a killing frost.

Fourth.—One of the most important lessons that can be learned this year is that it is practically impossible to so completely isolate the herd that the germs of the disease can be wholly excluded. We are aware that there are many instances in which one herd has died of the disease and another herd on the same farm and of the same breeding, kept under no better sanitary conditions, has thriven and prospered, and while we think it may be said to be theoretically possible to isolate a portion of the herd on the same farm or on adjoining farms, yet under present conditions it is practically impossible except in rare and special instances. If every stranger, who by any possibility could come in contact with the germ in

other yards, could be excluded not only from the hog yard, but from the farm itself, if every vendor of sure cures for hog cholera could be driven by the watch dogs from the gates on his first visit to deceive the farmer with his false promises, and if every tramp dog was destroyed by an electrical discharge as he passed through the wire fence on the farm, there yet remain the thousands of crows that pass from feed lot to feed lot and stop to breakfast, dine or sup on the savory morsels that are roasting where hogs have died of cholera, and these of themselves are sufficient to spread the disease Besides these are the wolves and the rats and other feeders on carrion which travel from farm to farm, the exclusion of which is practically impossible. While, therefore, it is theoretically true that if the germs of these diseases could be excluded the herd is perfectly safe even under unhealthy conditions, as a practical problem it is impossible to do so except in the rarest instances.

Fifth.—We have at last, let us hope, had the lesson thoroughly beaten into us by these two schoolmasters that there is no sure cure for hog cholera or swine plague. Next to the affliction of the hog cholera or swine plague, it seems to us the most aggravating affliction is that of the venders of sure cures, whether they come to us in the brazen effrontery of human form, or whether on the pages of an agricultural paper with the full or quasi endorsement of the editor, but really of the business manager, who has accepted a generous *quid pro quo*, or a price, for the sale of the confidence that the farmer has in his supposed superior judgment. We can readily sympathize with the farmer who has all summer long counted on the sale of his hogs, or his corn in the form of hogs and cattle, to pay the interest or the principal of the mortgage, the taxes, and other obligations, and when disease sets up in the herd we can understand why he would risk everything to stay its ravages, and how, when he reads these advertisements and endorsements in the papers, he makes heavy sacrifice to invest in nostrums that all experience has shown to have no value whatever, and to have aggravated instead of cured the disease. We are perfectly well aware of the excuses that are made for this gross deception of the farming public. The excuse is that farmers will resort to drugs and nostrums anyhow; that they like to be humbugged, and are willing to pay somebody to humbug them, and that the paper might as well have a share in the price of his foolishness; that somebody will advertise them, why not we? that probably his hogs do not have the cholera anyhow, but some other disease, and that some condiment advertised as a sure cure will effect an apparent cure and thereby they will win the thanks of the farmer. They argue that farmers do not reason closely as to cause and effect, and that if recovery wholly or in part, or if by reason of the natural limitations of the disease recovery follows, he will conclude that the medicine did it, and will recommend it to his neighbors and give credit to the paper.

If we have not learned better this year, then certainly teaching is of no avail, and even such schoolmasters as we have had must henceforth regard us as utterly incorrigible. The psalmist advised his readers to be not like the horse and mule that have no understanding. If David lived in these days and found men still believing in sure cures for hog cholera, he would write the eleventh Psalm and beg pardon of the horse and the mule.

Sixth.—It is perhaps too early to say that we have learned that inoculation is useless. If we are wise we will regard it as an interesting experiment, of which the Scotch verdict must be rendered, "not proven." If it turns out that inoculation is a schoolmaster of milder manners and gentler ways than the schoolmasters who have been teaching us this year; if it comes to us not with a birch bark well oiled, but on an errand of mercy, then we shall indeed be happy. I wish I could say that after this sad experience in which property has been lost to the amount of millions directly and to the extent of other millions indirectly, that is, in removing our market for corn from the hog yards to a distant city and in rendering cattle feeding unprofitable, we had learned what seems to me to be the most valuable lesson of all, namely, that the only way to deal with hog cholera and swine plague is to stamp them out by the action of the state authorities in accordance with the laws of the state, and thus throw whatever small burden there may be on the state as a whole instead of the farmer as an individual. We should certainly have learned that this is the only way of dealing with a disease that is itself incurable, and is infectious and contagious. Whenever an infectious and contagious disease occurs that both science and practice have found to be incurable by any medicine, then it seems that safety to the public requires that this disease be stamped out for the protection of the public and at the public expense. We have already proceeded on this principle in the case of glanders in horses, and so far as we have enforced the law have protected the state. As a nation we have proceeded on this principle with pleuro-pneumonia among cattle, and have driven it from the continent. Hog cholera and swine plague differ from these only in this, that in almost every herd a certain per cent survive simply because they have the power to resist the disease, on the same principle that a certain per cent of human beings either resist or overcome attacks of typhoid or typhus fever. It is a question for the people of Iowa to consider, whether they will enact a law and enforce it by which every infected herd shall be placed promptly under the care of a competent veterinarian, with instructions to separate the sick from the well, to appraise the well, to kill the entire herd, to burn the carcasses, to take possession of the premises and thoroughly disinfect them, and to forbid the introduction of other hogs for a reasonable time, payment to be made at say two-thirds their market value for the well and no payment whatever for the sick; or, whether they will allow these herds to be practically destroyed by the disease and to spread the infection to other herds in every direction until it covers a township, or county, or an entire section of the state.

We can do the one thing or the other; there is no third choice. The disease will be kept in stock on thousands of farms this year because farmers will not disinfect, if left to themselves. All experience shows this, and notwithstanding all the losses of the year they will keep cholera in stock for next year. It may be carelessness; it may be ignorance of proper methods, but it is simply a fact that they do not and will not do it. Now the question is whether beginning at a time when the hog stock is lowest and the disease is at a minimum, it is not a wise thing for the state to take this matter in hand and protect itself by the use of the only method that has ever been found to be effective with diseases of this kind. I have had this matter in mind for many years, and about ten years ago, at the

time of the last great visitation of the plague, I asked the opinion of the state veterinarian as to the probable expense of stamping the plague out of the state by this method. He replied that he thought he could do it for the amount of money that was then being expended on the Brown impeachment trial, which he estimated at from $70,000 to $75,000.

I am quite well aware that the ground I have taken is quite radical and that a great many objections may be urged against it, objections which I do not care to take time to state or to refute. The points I wish you to consider first are, is there any other practical way of dealing with it? In twenty years or more none has been found. Is there any hope that any may be found in twenty years to come? If there be no other practical way, is this practical? Is it possible in the first place to secure a law sufficiently stringent to meet the requirements of the case, and, if so, is it possible to enforce it so completely as to prevent the disease from doing any serious damage? As to the first, it is possible for the farmers of Iowa to do anything they please within the limits of the constitution of the state, if they are but united on the proposition. It would have been foolish to propose it in the past; it may be foolish to propose it now. It may be that we must once, or possibly twice, more see the hogs practically swept from the state, but I believe that the time will come when we will be forced to adopt what seems to me to be the only possible method of dealing with a disease that is incurable, infectious and contagious. I believe, moreover, it is entirely practicable at a comparatively small expense to so enforce a law of this kind as to prevent any serious losses to the state. The work would have to be begun about the first of April, at the period of the year when the stock was at the lowest, consisting mainly of brood sows, fall pigs and spring litters. An efficient governor, veterinary surgeon and assistants, and township trustees, acting as a board of health in co-operation with them, could very easily detect and stamp out every infected herd and the expense need not be more for the whole state, nor indeed more than half as much, as a majority of the counties have suffered this year from this plague. On election day the voters of Richland township, Franklin county, when at the polls made an estimate of the losses of hogs in that township up to the 3d of November and it footed up to the enormous total of 20,000. The newspapers of that county estimate the loss at 30,000 hogs, which one of the largest farmers in the district regards as far below the truth. I believe that many counties in the state have lost hogs to the amount of $250,000. Great numbers of the counties have lost to the value of $100,000, and if the loss in the entire state could be footed up, even at the present low prices, it would be absolutely appalling. Such a desperate condition of things requires a desperate remedy, and while the remedy or proposition may seem radical and even desperate, I submit it as in my judgment worthy of our careful consideration.

CHAIRMAN: What is your pleasure; to discuss this subject as we go along? You will have the two subjects before you, "Agriculture" and the one you have just listened to.

MR. COWNIE: While I agree heartily with Mr. Wallace in the general run of his paper, there is one point on which I must disagree, namely, the state taking charge of this matter. We

are continually shipping hogs to and from other states and any legislation, in my opinion, in Iowa alone would do us little good. It is not our state alone that suffers; our sister states have the disease; Kansas, Nebraska, Illinois, Missouri has it, and for us to attempt to stamp out the disease in Iowa would be entirely impossible while the disease was raging in the states surrounding us. If we had this financial question settled; if we had this 16 to 1 business settled, and if we would just get right down to business and have a little legislation that would be of benefit to the farmers; have the national government take hold of this matter and stamp out this hog cholera. Let the national government take hold of it and unless this is done, I, for one, do not believe that we could legislate in this state and prohibit the importation of it from states surrounding us. We might stamp it out for a little while, but the relief would be of brief duration. We would have the germs brought back to us. Railroad cars would bring it; cars infected with the disease would be shipped to every state. Make a national affair of it and then I am in sympathy with the paper.

MR. WALLACE: I anticipated that objection. Now it is true that we cannot prohibit the importation from the state, yet we can quarantine; we can stop at the borders every hog that does not come in a car that has been disinfected. And you will see that the railroad companies will look after every car. And if we had a secretary of agriculture who knew anything about the farm, and who was in thorough sympathy with the farmer; if we had a farmer instead of a politician, it would be very easy for him to settle the question. It must be done both by the state and the national government; but who will begin this question and what state will begin it, except the state of Iowa that grows more hogs than any state in the union, and whose farmers can say, as perhaps the farmers of no other state can, this is the way, walk ye in it?

PROFESSOR WILSON: I met the representatives from the different states of the union a couple of weeks ago at Washington when Dr. Salmon, the chief of the bureau of animal industry, was present. I was talking with him and I said, doctor, do you suppose if you had plenty of men, plenty of money, and plenty of authority you could stamp out the hog plague? He hesitated a little and said, "I would doubt the getting of as many men, and as much money, and as much authority as would be necessary to stamp it out." I tried to press the question—

but suppose you had all these things, could you stamp it out? But he still hesitated and said, "That would be the only way to stamp it out." I happened to represent a district in congress when pleuro-pneumonia began to spread among the herds, and happened to be experimental in getting the work begun to stamp it out, and the greatest difficulty I had was in getting the farmers, the lawyers and other professional men to take hold of it, but the farmers was where the difficulty was, both in the state and nationally. You could take this proposition now and you would find that from 10 to 20 per cent of the Iowa farmers would not believe it. And we must go on and lose continually. We are losing $10,000,000 at least in the state of Iowa and 10 per cent of that sum, I believe, will stamp it out of the whole state. Now I would begin in the state of Iowa; I would begin in neighborhoods; I would take the northwest or the northeast and begin there, but 10 per cent of the state would meet you and oppose it with all their might. We are not ready yet; we must go on and lose $10,000,000 for ten or twenty years yet and in desperation, sometime, we will say yes.

Let me tell you what we can do. Have the farmers of Iowa go to work and stamp out this hog cholera and pay for every sick hog so that they will be discovered at once; pay two-thirds of the value of the hogs that are sick and all the hogs that are well.

There is no trouble in getting the merchants and lawyers to see this, they know it; the trouble is with us, gentlemen, that is where the real trouble is. I have had to deal with these things a good deal in my life. But we are not ready for these things. When we get educated up to it by the loss of $10,000,000 for twenty years, then we will take it up in just this way and we will go to work and stamp it out and keep it stamped out. [Applause.]

MR CAMPBELL: I don't know whether my friend Mr. Wilson is entirely correct in his opinion that the opposition will come so largely from farmers. Twelve or fifteen years ago the pluero-pneumonia, a very destructive disease to cattle, sprung up over the United States. I recall a meeting of the Farmers' Congress, usually made up of lawyers, but we had there lawyers interested in cattle. F. Anderson, a farmer and a scholarly gentleman engaged in the raising of good cattle, and Judge Nourse of Iowa, took hold of this thing and the disease was stamped out. But you must remember that this was a much

more easily handled disease than cholera. Nearly every man in the state owns one or more hogs; that disease was confined twelve years ago to a few herds in Ohio, and scattered around over the country. There was no difficulty in disposing of them.

In dealing with this trouble there are several things to be taken into consideration; they must be intelligent gentlemen who know when hogs have the cholera; get sensible men to act, that is the great trouble; I see great trouble in stamping out the hog trouble because of its scattered condition. I think Mr. Cownie is more alarmed than necessary. We found that the railroad companies carried this disease, but we laid the heavy hand of the law upon them and we quarantined every car and it was made perfectly safe. What difference would it make if you should lose one year's profit? And now how many gentlemen are there here who own hogs who would not be willing, when he is once advised of the peril, to take a moderate price for his load of hogs? And I think Mr. Wilson will learn that farmers are not so much harder to please than lawyers, merchants, doctors, etc.

Why, I recollect when a boy, forty or fifty or sixty years ago, that this thing of quarantine would not have been submitted to. But the world progresses and advances. I am satisfied that this thing can be done if sensible men will take hold of it and convince the people that it is not merely a scheme to place in office some politician.

I think I am correct in saying that the bulk of it came from Ohio and Missouri, but the law was enforced and we stopped it.

But the world has grown, since some of you gentlemen and I lived when no community would have allowed such a thing as quarantine; but the world is progressing. You must satisfy the people that the thing is all right and you will find the consent of the farmer more general than you imagine.

MR. MANATREY: Didn't I understand you to say that the loss was $10,000,000 a year in the state of Iowa?

PROFESSOR WILSON: Yes, that is my estimate. I think if we keep the cholera and hug it as close as we have been that the world will by and by refuse to take our hogs at all and I would not blame the world.

MR. FUNCK: Then we will raise sheep.

Music.

CHAIRMAN: Mr. Lucas, of Des Moines, is now present and if he will please come forward we will listen to his paper, "Kick and Bring the Butter."

"KICK, AND BRING THE BUTTER."

BY A. G. LUCAS.

When one undertakes to indulge in a little preconcerted loquacity on an occasion like the present, and the announcement is to appear on a program, it is quite essential that the child shall be named even before it is born; the name has to go down, you know. Now, naming a child even after it is born is attended with some risk, for an Abraham may go childless to his grave instead of becoming the father of a multitude, and a Beatrice develop into a termagant and make everybody about her miserable. The most happily christened child might grow up and find that his name was, or ought to have been, Dennis. Naming before is even more hazardous, for as the young lady said to the gentlemen who suggested John Thomas as a suitable name for her kitten, it might not be that kind of a kitten.

Now, naming in advance a little nondescript talk such as I propose to-night while the people gather, and as a sort of introduction to the many useful and instructive things you are to hear later, is similarly attended with hazard. When one comes to make it he may not feel a bit like he did when the text was announced, and the talk may come as untrue to name as an apple seedling. What I designed saying might just as well have been called, "Never say die," "Don't give up the ship," or "Keep a stiff upper lip," and the only reason for the name chosen is that I wanted to read you a little poem, which in itself contains an almost complete philosophy of life, without any of the dry husks that usually envelop a philosophical system. Here it is:

Two gay young frogs, from inland bogs,
Had spent the night in drinking;
As morning broke and they awoke,
While yet their eyes were blinking,
A farmer's pail came to the swale,
And caught them quick as winking.
Ere they could gather scattered senses,
Or breathe a prayer for past offenses,
The granger grave—that guileless man—
Had dumped them in the milkman's can:
The can filled up, the cover down,
They soon are started off to town.
The luckless frogs began to quake,
And sober up on cold milk shake.
They quickly find their breath will stop
Unless they swim upon the top.
They swim for life and kick and swim,
Until their weary eyes grow dim;
Their muscles ache, their breath grows short,
And, gasping, speaks one weary sport:
"Say, dear old boy, it's pretty tough

To die so young, but I've enough
Of kicks for life. No more I'll try it;
I was not raised on a milk diet."
"Tut, tut, my lad," the other cries,
"A frog's not dead until he dies.
Let's keep on kicking, that's my plan—
We yet may see outside this can."
"No use, no use," faint heart replied—
Turned up his toes and gently died.
The braver frog, undaunted still,
Kept kicking with a right good will,
Until, with joy too great to utter,
He found he'd churned a lump of butter;
And climbing on that chunk of grease,
He floated round with greatest ease.

And then follows the moral:

When times are hard—no trade in town,
Don't get discouraged and go down,
But struggle still—no murmur utter—
A few more kicks may bring the butter.

I have heard that we have had some hard times during the past two or three years; that there was no trade in town nor prosperity in the country—indeed, I may say I have felt it in my bones; and I have no doubt if there were, say, a thousand people in this audience, I could prove it by ten hundred of them. Yet, I think we have made them harder by dwelling upon the depth of the depression into which we have individually been plunged. Some of us have seemed rather to enjoy our misery. We have described it in terms so glowing that there was no language left to fit the famine in India. The pyrotechnic quality of our complaints threw the Armenian horrors and the pleasing methods by which Spain has been amusing herself in Cuba, quite in the shade. Now, understand, I have no disposition to underrate the hardships of the business conditions of the past two or three years. As Maclaren's Drumtochty farmer said when the floods destroyed his crops and steading, and wiped out half his capital at a stroke, they were "joost nae lichtsome." Nor am I inclined to ignore the fortitude with which these hard conditions have been endured by a large portion of our people, who have in the main shown splendid courage. Still, it has seemed to me that the crime of 1896 has been a gloomy pessimism that looked upon the dark side of things, and made evils harder to bear by emasculating the fortitude of those who had to bear them. Some grew discouraged and went down, and while many continued to kick, bringing butter enough to carry them through, the task was made all the harder because so many of us insisted upon looking at the heavens through smoked glass.

Adversity and misfortune do come to all of us, both individually and as a nation. If I were not talking to a lot of unregenerate live stock men—if I were preaching the sermon that Dr. Wayland says every layman ought now and then to preach—I might dwell on the fact that they are not unmixed evils. How horribly monotonous this earth's surface would be if it were all hilltops with no valleys between! What kind of a picture would life make if there were no shadows—if it were all high lights?

The celebrated German surgeon and surgical writer, Von Volkmann, was also the author of some very pleasing tales. In one of them,

"Heaven and Hell," a rich and arrogant man dies and knocks at St. Peter's gate. He is admitted to the vestibule, where he is told that he can spend eternity as he pleases, but that he must make his choice deliberately, because when once made it is irrevocable. He decides that he wants a splendid golden palace, with choice dishes at every meal; a soft, easy chair, and a green silk dressing gown to loaf in, and everything else in harmony with these; and St. Peter is especially charged to see that the daily papers come regularly, so that he may keep informed of the progress of events. St. Peter installs him in this palace, where he finds everything as he had wished. Fifty, a hundred, and still other hundreds of years elapse, and at the end of a thousand years St. Peter drops in to see how he is enjoying himself. He is miserable, of course; the golden palace is no better than a wooden one; the gorgeous furniture looks garish; nothing that comes to the table is fit to eat; the green silk dressing gown don't suit his complexion, and a crumpled rose leaf has got into the upholstering of his easy chair. As for the daily papers, there is nothing in them—nothing whatever. Oh! he is very, very miserable, and he wonders how he ever gave credence to the fairy tales that represented heaven as such a delightful place. "Oh!" said St. Peter, "you are not in heaven; you are in the other place;" at which the poor fellow gnashes his teeth and is filled with greater despair than before, and St. Peter slips away. Returning at the end of another thousand years, St. Peter finds him in deeper despair than ever, and is touched with pity. "Come," said he, "up in the garret there is a knothole in the gable through which you can catch a glimpse of heaven. If you wish I'll show it to you." The offer is gladly accepted. They go up. The knothole is high in the wall and the poor fellow has to stand on tiptoe in order to get his eye to it. But he does it, and oh, joy! the scene of splendor that is unfolded to his astonished vision. You can read all about it in the twenty-first chapter of Revelations. St. Peter steals away, leaving him there, and in another thousand years returns and finds the rich man still standing on tiptoe with his eye at the knothole, lost in contemplation of the beauties within. I could tell you the rest—how the poor fellow eventually becomes sufficiently regenerate in St. Peter's opinion to be taken out of hades and admitted to heaven—but that wouldn't be orthodox. You catch the idea, however. Have your own way about everything—palaces, luxury, easy chair, dressing gown, the daily papers—especially the daily papers—that's *sheol;* and time only becomes endurable when you have to stand in a constrained position on tiptoe, to witness the happiness in which you don't participate.

It is hard to make the unregenerate man believe all this, however. He would rather take the palace, and even the daily papers. With all his conventional reverence for Shakespeare, he no more believes in the high sugar content of the uses of adversity than he believes in the precious jewel in the toad's head. He is only willing to admit the usefulness of adversity when some other fellow has it. You may have heard that there are occasional sporadic cases of hog cholera in the country—not here, of course, but over in the next township, like the milk sickness. Well, a lot of my friends tell me that hog cholera is really a blessing in disguise; that it is the safety valve of the swine industry; that if it were not for disease hogs would multiply so rapidly and become so plenty that the farmer could not give them away, unless he would first kill and dress them and smoke the hams and shoulders and pickle the short ribs. I have observed, however, that the gentlemen who entertain this view of cholera have not had the disease on their own farms yet. The cholera of which they speak and which they find such a valuable adjunct to the swine business, is the cholera that is in the other fellow's herd. Well, that's the way of the world. It is awful easy to find fortitude that will enable one to bear his neighbor's misfortunes.

Of course that is not the kind of fortitude which you perhaps begin to dimly suspect I am trying to preach. The other name of *that* kind of courage is lack of sympathy and good will. It is well to commiserate others in their misfortune; it is weakening to indulge in self-pity, even when we deserve it. The thing to do is to "kick and bring the butter." At least half the troubles of life over which we grieve are those that never happen to us, and whole bucketsful of misery have their origin in a disposition to cross Fox river before we get to it. The road may wind around and bring us to a safe and convenient bridge, so that we need not ford the torrent at all. Of the other half, a considerable share is due to the way misfortune is met when real misfortune does actually arrive. There is the courageous way and the faint-hearted way. The one minimizes and seeks to repair the damage, the other exaggerates the misfortune and looks at it through a magnifying glass.

Now agriculture has not had a good time of it for a considerable period, and yet through it all, agriculture has supported more people with limited capital and limited skill than any other calling. So far as the mere necessities of life are concerned, no class of people are so independent. There is much independence in other respects, too. We recently heard a good deal about the coercion of other classes—whether truly or not, this is not the place to inquire—but it never occurred to anybody to suggest that the independence of the farmer was or could be in any degree in danger of being interfered with. Surrounded by conditions favorable to health, and to the bringing up of the family free from contamination and temptation, as compared with other citizens, the farmer's situation, if not all it should be, was at least endurable, if he took the cheerful view, while to take the despondent one only made it infinitely worse. Prospects often seem darkest when things are on the turn. Many a man has thrown up his hands and gone down when a little more patience, fortitude and persistent effort—a little more kicking—would have brought the butter. A man is never overthrown until he ceases to try any longer; he is never subjugated under the visitations of misfortune except from within; there is no insuperable obstacle to his success save his own "weak and reedy nerve." On the other hand, courage and faith in himself are, next to faith in God and His providence, a man's salvation in misfortune.

> Tender handed touch a nettle
> And it stings you for your pains;
> Grasp it like a man of mettle
> And it soft as silk remains.

Things are taking the up turn. Business is enlarging, employment is more readily obtained, the mills and factories, whose workmen are the farmer's best customers, are resuming operations. Wheat was a dollar in

Toledo the other day, sheep are gaining the courage to look the flock-master in the face, good cattle are bringing a price and the corn exports have increased two and one-half times over those of last year. We can still find lots of trouble if we look for it; we can turn the patches on our clothing outward and show the seamy side if we want to; we can predict insupportable sufferings and everything doleful if we please, and thus contribute our best efforts to bring them about, at least to ourselves. But is it wise? Is it not the nobler, manlier part to disarm the ills of life by meeting them with courage?

To inculcate fortitude and patient, cheerful endurance of misfortune, and a disposition to look upon the bright side of things, does not mean to counsel supine submission to unjust and oppressive conditions that have crept into the intricate, complicated system of distribution that is an essential part of any highly organized civilization such as ours. I am not going to talk politics, but I am here to say that I believe the farmers of this country can have any reasonable thing they ask for if they do but ask loudly enough. The dairy men of the United States did not "go into politics," but they did "kick and bring the butter" up to its rightful position, and put oleomargarine in subordination to it where it belonged, and they continued to kick until they placed skim and filled cheese where it belonged as well. If the farmers of the country had acted as unitedly five or six years ago they would not now find the lard hog selling at so great a discount in the markets. It is not too late yet for the producers of the pure food supply of the country to make an effective kick against all kinds of adulterations that cheat both them and the consumer. Then, too, there is the iniquitous system of gambling in farm products, which pits the gambler's audacity against the producer's industry, and makes immense fortunes for men who accomplish no useful purpose and render no helpful service to mankind—a good, strong, effective kick against that blot upon our commerce and industry would be a blessing. Then, there is the office of secretary of agriculture—an office created especially for the promotion of agriculture—in relation to which the farmer should kick and bring the butter. Who the man shall be concerns me very little, but the kind of man he shall be concerns us all. I don't think the farmers want at the head of their department a man who would not, if he could help it, permit the existence of farm organizations, and who meets their wishes for measures to render distribution more equitable with the flippancy, "Legislation will neither plow nor plant." Who ever said it would? The farmers are ready enough to plow and plant without legislative aid; after they plow and plant, what they want is their fair share of the harvest. They believe that competing with adulterations and gamblers don't give it to them; they believe that trusts which withdraw what they have to buy from competition while what they have to sell must be sold under the law of competition, don't give it to them. A beef trust, for example, that depresses the cattle prices while making high prices to the consumer, cuts both ways, lessening consumptive demand and thus producing further depression in the prices of the animals. A good, vigorous kick in favor of a secretary in hearty sympathy with the average farmer's rights and needs, and who will not cover back into the treasury all of the meagre appropriations made in behalf of agriculture, except what is wanted to publish bulletins about

woodpeckers' stomachs and the domestic life of the pocket gopher, would be a wise and timely exertion of muscular energy.

There is hog cholera, too—that blessing in disguise—and a legislature about to meet that will do almost anything you want in regard to it, if you can only determine what you think is best to be done. Our products are very largely discriminated against abroad; France has closed down against our cattle, and Germany against almost everything we grow. The kick here should assume the form of a serious inquiry as to what need we have for Jersey cider re-imported from France at wine prices, and why we take so much sugar from Germany when Iowa and Nebraska are so admirably adapted to growing beets. The discussion of protective duties would be out of place in this presence, but whatever one's views may be on the wisdom or unwisdom of the protective policy, there can be but one opinion on the question, that whatever measure of protection is to be extended to American industries, the products of agriculture and live stock growing should participate equally in the benefits. These are some of the points at which, without trenching upon the domain of party politics, the farmer, as such, may wisely kick until the butter comes.

Finally, to a cheerful, constant, hopeful attitude when adversity threatens, to manly courage in meeting it when it comes, to faith in one's self and one's power to extract sunshine from it by patient, persistent effort, may we not add faith in the farmer's calling itself? An unfortunate train of circumstances has temporarily depressed it, but it still remains the most ancient and most honorable avocation by which man secures subsistence. Its pursuit robs no widows, oppresses no orphans, defrauds no fellow being. Its gains are sweetened by the consciousness that they are deserved and have not been made at the expense of anyone. Its freedom and independence contribute to the creation of virile, vigorous manhood, and sweet, sensible womanhood. It is the source from which the cities must draw the fresh, healthy blood that preserves them from decay, as well as the means of subsistence by which life itself is maintained. Such a calling can not always nor long be dispossessed of its just share in the world's prosperity, nor be denied its rightful place in the world's esteem. The farmer's task is to be true to it and to himself, and leaving despondency to the weaklings of the earth, "kick and bring the butter."

CHAIRMAN: The next thing will be a paper by Mr. Franklin, of Atlantic, "Encouragement."

MR. FRANKLIN: The splendid paper we have just listened to places me in a very peculiar position. After listening to this paper it will be very much like the person who, after eating a sumptuous feast, had taken for dessert cold pone. And we have already had such a long discussion on the question on which my paper is based. The secretary wrote me to name my paper and I named it "Encouragement." As he has known me for a long time and known that I was a sheep man, he probably thought that my paper would be on sheep lines.

ENCOURAGEMENT.

BY G. W. FRANKLIN.

The sheep industry, unlike almost all other stock industries, has been fraught with seasons of adversity and prosperity, shifting from one extreme to another in quick succession. The sheep owner has had little else to guide him in his business than his feelings. When prices of wool ranged low he would get discouraged and a flock of sheep would be for sale at ruinously low prices; when wool advanced in price he would cheer up and a desire would be created in him to buy all the sheep in the neighborhood. There is a latent feeling lurking in the bosom of the sheep owner not found in any other kind of stock breeder. Too much dependence is placed in some outside influence to assist him in his business, and not enough confidence is placed in his own skill and ability to breed and feed a profitable sheep.

It has been only a few years when a sheep was considered to be only a sheep. If it had some wool it was considered a good sheep. If it had some wool of a good quality it was considered a better sheep, and if it had plenty of wool of a good quality it was the best sheep. The fiber was looked at, measured, tried, microscoped and tested, but the animal was never viewed from a mutton standpoint. In that day some sheep were kept and others kept themselves. Many flocks were fed on what would otherwise have gone to waste, and should there be no waste, their menu was somewhat circumscribed. Sheep shearing and sheep washing time came with unerring regularity. At the former but little dexterity was exhibited by shearers, and upon the latter occasions it was absolutely necessary that plenty of liquor was supplied to prevent the washer from taking cold. The greater the likelihood to take cold, the more liquor was drank. Large flocks of sheep were kept solely for their fleeces. Anything and everything that could be done was done to increase the weight and value of the fleece; but little was done to enhance the carcass or make it valuable other than for tanking purposes or for an occasional mutton at threshing time or at barn raisings. Many of these ancient ideas have been buried or have floated down the stream of time with the yolk and washings of the sheep.

At the time when this fleece improvement was making such rapid strides law-makers were enlisted in the cause to assist in making the fleece valuable by placing a duty on foreign wools.

The western plains, Australia, Argentine and other famous sheep growing countries were just beginning to look into the business, and their influence as wool growers had not yet become a factor in the business. Railroads and ocean steamers brought these countries much nearer our markets, and their ability to grow wool at a minimum cost, owing to cheap land tenures and cheap labor, was soon felt in our markets. The sheep

industry in the United States being measured by wool values, was very soon placed under a cloud From a statistical abstract we find that wool declined nearly one-half from 1890 to 1895. Fine wool that brought 33 cents in 1890, sold for only 17½ cents per pound in 1895. Medium wool dropped from 37 to 20 cents, and coarse from 31 to 18 cents. It is not surprising under these conditions that the sheep breeder who was engaged solely in the production of wool should be discouraged. This discouragement drove many thousands of sheep to the market, which had its effect on what would have been a steady market, had it not been for the rush of half-fatted poorly-bred sheep on a market which had been demanding something better. Australia increased in wool production from 1867 to 1893, 733 per cent; Argentine, 1,000 per cent; and Cape of Good Hope, 400 per cent.

The supply of wool in the world is about six times as great as it was in 1860. From these figures it will be plainly seen that the increase of supply has outstripped the demand. Wool prices have, therefore, declined and it could not have been otherwise. More sheep are raised, the annual clip is vastly larger, and the universal, irresistible law of supply and demand has operated as it always operates under like conditions. The home demand for wool was further decreased by large importations of manufactured shoddy goods, and of shoddy to be manufactured in this country.

We have noticed in a brief way the wool sheep and the wool grower, as well as the drift of the wool business, and from the standpoint of a mutton producer, I believe that what the wool grower most needs at this time is a careful study of the situation, and if he is endowed with the degree of good sense that an all-wise Creator intended that he should have, he will see where the business is, and what will afford relief. The procession is now passing, and if he gains a position in the van he must fall in early. The old straw-stack has rotted down and has not been replaced. Washing sheep is no longer in vogue. The wood pasture has been cleared away. The weight of the animal rather than the weight of the fleece is observed. Legislation is depended upon by a few sheep breeders; but it is safe to say that taste cannot be legislated into our palates. Sheep shearing comes with the same regularity that it did in days past and gone, but instead of the neighbors making a bee of it, two or three of the older boys and the old man do the shearing; or, in many cases expert shearers are employed. The sheep washer has lost his job, and he still clings to the idea that he will catch cold, and he drinks liquor as a preventive. The manifold wrinkler has given way to the large mutton sheep which has come to stay. The man who would go two miles out of his way to kick a sheep is dead. We had wool then, now we have mutton and wool.

We look about us and we observe that there has been a heavy decrease in the flocks of the United States. Perhaps that will be better for the breeders who remained in the business. In 1892 we had in round numbers 47,000,000 sheep worth $125,000,000. Just three years later, in 1895, the numbers had been reduced to 38,000,000 and their value was $65,000,000, which was a little more than one-half of what they were worth in 1892. The bulk of this reduction in numbers have been wool sheep But few good muttons found their way to the market during the days of the stampede which has been going on in the past three years. When a

good lot of choice mutton sheep found their way to the market, they brought prices which would compare favorably with prices of other kinds of stock in the same market.

What sheep breeders now stand in need of is courage, and not lose their heads. Prospects are brighter for the wool grower, for wool will be placed on the list where it has been so long, and the foreigner will be required to pay for the privilege of selling his wool in this market, as he should do. The sheep industry is now placed on a mutton footing, and there never was a time when it stood him more in hand to breed good stock than now. He will be required to figure the cost of production to a minimum. There never was a time when it could possibly be more ruinous to breed scrubs than now. He should be impelled to better methods and greater efforts in times of depression, rather than selling out and becoming discouraged.

Closer attention to good blood, good care, and to watch for leaks in the business will be required. The sheep breeder can profit by the boy who "sticks to his bush," or the boy who sticks to the same "old fishin' hole." When a good flock is obtained, stick to it through thick and thin, through depression and prosperity. The fellow who was out of a job so long has now returned to work, and he will soon be eating the same cuts of mutton he once found so appetizing. By producing the good mutton sheep, he will not place too much dependence on outside influences, but will be guided by his own efforts and skill. He will be found engaged in growing something that the people want, and he will be doing better than he would to produce what so many are producing and so few want. It will be gratifying to him to know that the inventive genius of the world is slow to find a satisfactory substitute for mutton. Shoddy, rags, waste and wool pulp make grief for the wool grower, but the mutton grower has yet to hear of a counterfeit or a substitute for his product. He will be encouraged to feed the sheep as it should be fed, so it will be ready for the market at any time after it is ten months old, and knowing its cost he will know when to sell.

It is evident that sheep values have touched bottom, and sheep owners are looking upward for the good things which seem to be almost in sight. The tendency is for cleaner farming, to which sheep are an essential factor. The day is breaking, the clouds are passing, much foolishness which has been discovered has been rebuked and relegated to the past. We no longer live in the past, but we must become active in what concerns us now. We will not attempt to stop the progress of the rancher, the breeder of Australia, Argentine, South Wales and Cape of Good Hope. We are willing to let the swine breeder nurse his cholera-infected herd. We are willing that the dairymen should be on hand night and morning to milk his cows and watch the maneuvers of the oleomargarine trade. We will be content to have the cattle feeder gloat over prospective profits, which too often fail to materialize. The horse man can watch the progress of the bicycle, motorcycle, steam and electricity with vanishing hopes. All these industries will have our sympathies in their attempts to keep the wolf from their doors, and at the same time we will lose no time in keeping him from our flocks, and should the halcyon days of good prices for wool never return, we will have the satisfaction of knowing that we are producing the best meat known to a cultivated taste, and that we are engaged in an ancient and laudable industry.

THURSDAY MORNING.

CHAIRMAN: We proposed last night to have two papers before us, Mr. Lucas' and Mr. Franklin's, and those who would like to discuss these papers will have the privilege of doing so. If not, we will pass to the next subject, which is "Swine Breeding Industry and the Show Ring," by Mr. Gentry, of Missouri. He is not present; preparing for a sale is his reason for not being here. I was at his home last spring and notified him that he was on for this subject, and regret he is not here.

CHAIRMAN: The next will be a paper on poultry, by Mr. E. W. Watson, of West Liberty, Iowa.

MR. MURDOCK: Gentlemen, I have a communication from Mr. Watson, stating his inability to be present, and he has enclosed his paper to me to read. I have not had a chance to read it over as I should have done.

MR. BARCLAY: I want to say in explanation of this paper that is coming, that Mr. Watson is one of a firm of brothers near West Liberty, who are probably 13 and 14 years old, and that the communication is written by the younger member of the firm; I don't think he is over 13 years of age. They have made quite a success of the poultry business in the way he indicates. I wished you to know that the paper was written by a boy. I will also say that the older one of the brothers is not here because he is in Colorado, but the younger brother prepared the paper.

Mr. President:

Our meeting is to advance our occupation—that of producing food for ourselves and the fellows who are consumers. Poultry raising on the farm for profit is the topic now. Some will enquire which variety is best. To you we say the sort you like. To the one wanting a profit—get your companion and her children interested, first, by building good hen houses; then a start with a small flock of the variety your family likes. Then supply them with a poultry journal, and last, say, here is your start, all you make is yours. Children are ever on the alert to make a nickel; you will be surprised at the interest and poultry they will soon have. Nice cooked chicken, roast duck and fresh eggs will be as common on your table as the frozen combed hen in your neighbor's barnyard.

Instead of giving long lists of the amounts paid annually in Chicago for eggs and poultry, will cite a couple of cases near by: A few years ago two little boys, aged 10 and 12 made $9 in selling cigars at farm sales near West Liberty. In the Breeders' Gazette they saw a picture of a Black Langshan. They proposed that they would invest their $9 in poultry if their father would put up a good hen house; the proposition was accepted, chickens purchased. The boys were energetic and soon had a big flock. They now rake in $100 yearly at our local fairs on premiums. They also learned business ways to such an extent that when called on at our conventions for an essay they are always ready and prepared. In Delaware county, seven miles from any town, Mrs. Julia File sold $99 worth of eggs from the first of April to November, besides raising lots of poultry. Poultry raising, when given over to the good wife and children, with a willing hand in putting in comfortable buildings, will always be a success. Wherever you see poultry this time of the year roosting out in the cold, you can rest assured the man has never tried this plan, nor will he enjoy fresh eggs until after spring sun thaws out the old hen.

Shun incubators unless you have lots of change to part with.

WATSON BROS.

HOME, December 7, 1896.

Mr. Barclay:

We are expected to read a paper at the convention at Fairfield. I can't go, but have done the best I can in my brother's absence. If you think best, and it is worthy, please read or have it read for us.

Yours truly, WALTER WATSON.

MR. MURDOCK: I want to say, gentlemen, that he thinks of incubators the same as Curtiss does of grinders at this time of the year; he is evidently not an agent for incubators.

PROFESSOR WILSON: I think we ought to recognize the boy; those boys are on the right road. I think if we had one of them up at the college we could make a big man out of him. I have asked all the breeders many times how much grain it takes to produce a pound of eggs; but no one has pretended to answer until I think those boys told me when I was down there. We can recognize anyone who takes an interest in breeding anything; and we have certainly very promising workers in the firm of the Watson boys at West Liberty.

MR. WALLACE: That point suggested by Wilson a while ago —I want to call your attention to a report on poultry—the point was to ascertain the amount of dry matter required to produce a pound of eggs from hens kept for a two years' test; and, also, to determine the difference between ground grain and whole grain. It was found that it required five and three-tenths pounds of ground grain to make a pound of eggs and six and three-tenths pounds of whole grain to made the same amount of eggs. I was comparing some figures the other day; it requires seven

pounds of dry matter to produce a pound of lamb and a little over seven pounds of ground matter to produce a pound of beef; so you see it requires less dry matter to produce a pound of eggs than it does to produce a pound of beef or mutton.

MR. FUNCK: How much would it take to produce a pound of chicken?

MR. WALLACE: I don't know.

MR. FUNCK: I want to say a word in regard to incubators. I think I have had about $75 or $100 experience in incubators. Unless you have plenty of money to farm with and plenty of time to attend to it, and unless you have a wife who will put her time into it, you had better let incubators alone, for several reasons. In the first place I came very nearly being burned out by an incubator—the lamp leaked. But I want to say when you buy an incubator be sure you have plenty of money and plenty of time to experiment. I have got about $75 worth of experience and I don't think I have raised twenty five chickens that were worth anything. I finally traded mine off.

RALPH MADDOX: I saw an incubator in Ottumwa, one that run eighteen days in Des Moines and the man took the eggs out and shipped them to Ottumwa and let them hatch there. There were two incubators, one had about 200 eggs in it and the other about 100. About ninety-five chickens were hatched from the 200 eggs and about fifty from the 100 eggs, and they still had another day to run.

MR. FUNCK: A certain incubator man told me how they got a large per cent of hatches. Fill your incubator, and you want about two or three incubators to keep going, and at the end of the week you test those eggs and those that are not doing well you discard and fill the incubator with those that you think are doing first-class, and keep on testing and discarding until about the time they will hatch, and then you can show a good per cent of chickens. That came from a man who wanted me to sell incubators.

THEODORE HOCHULY: I did have an incubator once and tried it two seasons. I had a record at that time of the number of eggs; but I did not send and get a fine incubator. I made one and it cost something like $18. Our incubator was to hold 200 eggs, but they had forgotten to mention the turner, but finally we fixed it so we could turn it half way round. We did as Mr. Funck suggested. We tested our eggs about every three days and took out the ones we thought would not hatch. We

got about 90 per cent of the eggs ready to hatch, but the great trouble came in getting the chickens out of the shell. We finally succeeded, however, in getting 80 per cent out of the shell. We had great trouble with the chickens in getting them so they would not be deformed when they got to be a good size. Six or eight out of ten would be crooked—the wing would be down or the back out of shape. I never saw such funny looking chickens. Then we tried setting hens. We would set a number of hens at the time we set the incubator and then would change the eggs, and had fairly good success. I think that if an incubator is run right, it is all right; at least we had reasonably good success with it.

MR. FUNCK: How much time did you spend with it?

MR. HOCHULY: We aimed to spend but very little; we found the more you let it alone the better the chickens get along; the great trouble was we found we kept it too warm.

CHAIRMAN: It has been suggested that we take up the question of "The Swine Breeding Industry and the Show Ring," and if anyone would like to discuss that topic they can do so.

MR. BARCLAY: It seems to me that on the question of an industry as important as the swine breeding industry is to the state of Iowa, that there ought to be some one, in the absence of the person appointed to write a paper, who would have something to say; there are a good many here who breed and exhibit swine at our fair, and it seems to me that it should not be passed over without a word. I see a number who are prominent breeders of swine.

MR. BAKER: Our only difficulty with swine breeding is greed for profit. There is not a single man on this floor but what knows full well that a fat state is not a healthy one; an excessive load of fat on the animal's system will produce disease in almost every instance under adverse circumstances. And the difficulty is not in the hog, but in the hog owner. I suffered that trouble myself. I had the big head so bad that all the hogs I had were swept off by hog cholera. Then I inquired into the matter and found that they were surfeited by heated corn, that has in it more plant sugar than anything else we use; and plant sugar in the stomach soon ferments and will produce fat and heat in the system until the blood is polluted, and sickness will follow this condition. I got a new lot of hogs and turned them into a pasture and made them work for a living, giving them enough to grow and make firm and physical development in their structure, and just as soon as they had done that, I filled their frame work with fat, and as soon as they were as fat as I dared to make them so that they might walk four miles to market, we put them on the market and never lost a hog, after we had hog sense in our heads.

PROFESSOR WILSON: There is one point I would like to call attention to briefly. It is a matter that hog men must meet. The American lard hog sells for 3 cents a pound. The department of agriculture advised to go to Georgia and get the animal there that the niggers can't catch, and bring him up here and cross our improved hog with him. I do not think we want to do that. None of the breeds of lard hogs we have trace back any considerable time. They are all cross animals. I do not want to give offense to any of the breeders by telling them that the production of our leading lard hogs is very recent, but so it is. And by selecting in the direction of the bacon form you can lead any of these breeds back to whatever you want. There is in the build of the Poland China the bacon form, and you will find the same thing in the Chester White and the Berkshire. The Berkshire of to-day traces back to the Berkshire mentioned in Scott's story of "Ivanhoe," where Gurth, the born thrall of Cedric, the Saxon, tended the swine in the forests. But this hog furnishes meat that sells for 25 per cent more than our lard hogs. The bacon hog, gentlemen, never saw corn; he is raised on skim milk, oats and barley, and things of that kind; I don't want to venture to say to the best hog breeders in Iowa that you can take any of these lard breeds and lead them back by selecting what you want, and bring the American lard hog back to the requirements of the British market, where we do our selling, and not only there, but at home; but it can be done with a few of them.

Kerosene oil has taken the place that lard took once, and cottonseed oil is taking the place that lard took once. The markets discriminated seriously against the lard hog and there is no doubt but that it will discriminate more in the future. I merely offer this suggestion that we have latent in the Poland China and Chester White, the very thing that is wanting. And by using the same skill that has been used to make the lard hog, you can take these breeds as far back as you care to in the direction of the bacon form. But you must not feed corn. It is impossible to do it then. You must feed a ration similar to

the product you want; if you want fat, you feed corn and you get fat. If you are going to lead these lard hogs back to the type that the market demands, you must feed as people feed who have developed the bacon hogs.

MR COWNIE: One remark that Mr. Baker made I want to call attention to; in regard to marketing hogs, having them so he could drive them to market. Now, this is all very well for a man who lives close to the station and if his hogs are somewhat light. I live two miles from the depot and I have tried driving hogs. I have weighed them before starting and I have weighed them after I got there; I have hauled hogs and weighed them before starting and weighed them at the depot and then again in Chicago, and if I had only half a mile to go I would never drive a hog. The hogs that I have taken from my place to the station I have never yet succeeded in driving without a shortage in their weight.

I have aimed to handle my stock in such a manner that the shortage from home weights and the weights in Chicago would be just as small a possible. I have no difficulty in taking my hogs from the yard at home, handling them myself, and sell them in the Chicago market for more than they weighed at home. If you are selling to a shipper, you may stuff your hogs in the morning on buttermilk and get them down to the station and get them weighed and the shipper will stand the shortage, but if you ship them yourselves do not do it. The buttermilk will never see Chicago; but you can make a gain if you handle your hogs properly, feed them yourself in Chicago just as you feed them at home, water them there and stand by them, allow no strangers among them until they are ready to go to the scales, and see personally that every hog has had water.

I merely rise to call your attention to this one fact, for it has been an object with me all my life in collecting and shipping stock to sell as many pounds in the Chicago market as near as I could to what I had when I left home.

In regard to the bacon hog. I am not prepared yet, gentlemen, to go back upon the progress that has been made the last thirty or forty years in the hog business. They don't want lard, we know that. I am glad though of one thing, that they did want lard hogs and they did want big hogs until I paid the last mortgage on my farm. It was the 400 and the 450-pound hog twenty years ago that gave the profit. To-day it is the young hog; the young hog never will, at the same price per pound, bring the amount of money the 450-pound hog would do.

I remember when I embarked in the hog business. I had worked for a farmer and earned two or three dollars, and so I invested in hogs. I bought two pigs of a man at $1.25 apiece, and the stipulation was that I was to catch them myself. They were the kind that the ears were about halfway between the nose and the tail. You all know what kind that is, and I, for one, don't want to go back to that class of hogs. It may all be very well to let them root for a living; it does on unimproved land very well; but when I have a nice clover pasture to put them in, I don't want them to eat the roots. And to go back on all the improvement that we have made seems to me to be taking a step that will finally be an injury to the stock-breeding industry of the state. We cannot afford to do that. We have been breeding for a score of years to get rid of all the parts, both in hogs and cattle, that sell for the least money in the markets. We have been eliminating the head, and we have got it down so fine that the head of the improved breed is so small that it is scarcely perceptible. And I do not believe that feeding hogs on clover and corn, as we feed them here, that we could maintain the bacon class of hogs. It is not so much the quality of our hogs that regulates the price of our bacon, as it is the method of curing them. The American packer does not cure it as they do in Denmark and Ireland. They have not yet learned how to cure meat to suit the English taste, and it would be a difficult matter for the American people to cure meat that would suit the English taste; they will buy Canadian and Australian meats a great deal quicker than they will meats from the United States. It is a well known fact that the Canadian cattle shipped to England do not compare with the cattle shipped from the United States, and yet for years they have been telling us in the English journals that the Canadian meats are much better than ours. The fact is, nothing we ever can produce will suit the English taste, and we ought not to try to suit it.

MR. BAKER: Please allow me to make a statement. We had hogs and cattle running together, and they fed together and traveled together always. And we concluded it was better to haul the hogs to market; this was five years ago. So we loaded them carefully in boxes; they were as nice a lot of Poland China pigs as you would wish to take to market. My foreman was in charge, and they went to market nicely, but they brought home the report that twelve of the hogs died

from being smothered. And now when I have any hogs to sell they will have to use their legs to go to market, and the profit for me is all I can handle with a large pot in the bank.

MR. MYERS: Breed more for vitality and less for fat. The same rule will apply to the hog that the professor showed us applied on the steer.

MR. VALE: I would have liked very much to have heard Mr. Gentry on this subject. I think this discussion has drifted away from its mooring. I believe that in the swine-breeding industry the show ring is the ultimatum, rather than the stock yard at Chicago. I think we have taken the wrong meaning in this discussion. Now, I am not here to expose show-ring secrets, for I don't know any, but if there be any question that any gentleman wishes to ask me, as exhibitor of the Chester White, the best hog on earth, I stand ready to answer. I would rather discuss this question by a quiz than otherwise. I have been showing swine for sixteen years consecutively, without missing a year. I have not made the show pen the objective point of my breeding, but only incidental thereto. The fact is the people who have come to my exhibit at the show pens to see great hogs, while they may have gone off satisfied, yet they have not seen by any means the best results of my breeding. I do not take them to the fair. I keep them at home for legitimate purposes. Occasionally I take a good specimen. I take more freaks to the fair to please the populace and to dispose of, possibly, than I do of that other class. In short, I take that which, with few exceptions, is of little value to me, and which in many instances is sold to the butcher on my return.

PROFESSOR WILSON: What kind do you reject and what kind do you keep?

MR. VALE: I keep the lengthy type, matronly disposed, and I take the scab. And the one that develops into the lard hog to such an extent that she will never be a reproducer I take her to the show ring and I take the award. Time has been when she was worth the most money to sell, and that was the only time I had any use for that animal, to sell to the market for pork. I am not a feeder, I am a breeder and I am breeding for those that will reproduce the species.

MR. BARCLAY: I understand that is your object in breeding, you are breeding to reproduce the species. And that you keep at home all the hogs that are good for that purpose and take those that are worthless to the fair to sell?

MR. VALE: Now you understand there is the sale pig and the pig you have on exhibition; I was talking about the show pig.

MR. STUBBS: I want to say a word or two in commendation of the senator's course. I have noticed it perhaps more than some of the stock growers in this country, that every good horse is sold until they have all gone out of the country. And if the people in the horse trade had taken the same course the senator has taken, all the good horses would not be sold and taken away. I commend the senator very highly for the course he has taken.

MR. COWNIE: There is another phase of this matter. Nine out of ten of the farmers who come to his place to select a brood sow, will choose the worst one out of the lot. And if he would take his best, most fully developed ones, the average farmer would pass them by. They want something that looks well, and when they get it, they are satisfied. I commend the senator's course; he does just what the farmers are wanting and he takes the stuff to the market that the farmers want.

MR. VALE: I hardly know where I am at. You understand the show pen with me is simply a diversion; it is a week or ten days of pleasure; it is my vacation. I leave the bulk of the herd in the hands of those I have about me, and it is the only time in the year that it is not cared for absolutely by myself in person. I go to the state fair to meet my friends and acquaintances from all over the state. The point I wanted to make was this: I retain at home, unexposed to the contaminating influence of the outside world, that better class of breeding stock that I cannot afford to abuse by feeding for the show ring and that I cannot expose to the hazard of this outside work. And with reference to the show pen, I take many freaks, or those that are disposed to show rather than to work, and there is no use in denying the fact that we have to do it. We take those animals there, that have proven absolute failures as breeders, but they are grand show animals. But I want to tell those who are going there to purchase, that they are taking great hazard in buying those animals; on the other hand every honest breeder, who is a breeder and not a show man, takes with him to accommodate his patrons, some of that other class, and you are perfectly safe in buying that class of goods; but allow me to suggest to the intending purchaser, that your best mode of obtaining good goods, goods that in all probability will produce good

results, is for you to send to the breeder, put him on his honor, offer to give him a compensation and then make your purchase —your start possibly, of obtaining new blood. Why? Because the breeder has every advantage, because he knows the sire and dam, and the grand-sire and grand-dam from away back; he understands these things well, and hence I say he has every advantage.

MR. MYERS: In regard to your show, I understand you hog men have trained expert judges at the fairs. Now, I want to know if these trained expert judges select hogs that are really worth the least money to the farmer? Now, are these men not judges of a good ordinary hog?

MR. VALE: They are.

MR. MYERS: Then why do they select that kind of a hog?

MR. VALE: The judge is honest in his judgment, and he awards his judgment to the animal that will score the most under the rules.

MR. MYERS: Who adopts these rules?

MR. VALE: The association.

MR. MYERS: Are you conducting them in the right direction or in the wrong direction?

MR. VALE: I am not prepared to say; that is no affair of ours.

MR. MYERS: But it is a matter of dollars and cents.

MR. VALE: With reference to the basis upon which the judgment is formed, he honestly awards the prize to the highest animal.

PROFESSOR WILSON: Is the score card gotten up in favor of the lard hog?

MR. VALE: Yes, entirely. The show ring is one thing and the breeding of swine for breeding purposes and for giving certain results is another thing.

PROFESSOR WILSON: I want to say right here that we want to get at the bottom of this. We are conducting an experiment between the lard hog and the bacon hog. We got three sows from Senator Vale and they have done exactly for us as they did at home; they did just what Senator Vale said they would.

MR. WALLACE: Is it not about time that you are reforming the show ring and the score card as well, because the score card does not give honor to the animal that is of the most use to the farmer, and, on the other hand, the premiums are given to the animals that do not meet with the wants of the farmer.

Then there is something wrong with the system on which the premiums are given.

MR. VALE: The trouble is with the people, because if we were to take our animals to the state fair and annual fair in breeding condition, we would not stand a ghost of a show with the masses themselves.

MR. WALLACE: That is true and it is not true. It may seem that the masses of the people are in favor of a gob of fat, the finer looker, but nevertheless if you watch the people you will find they are giving a different verdict. To go on to another phase of this subject, about this bacon hog. I was greatly interested two years ago in watching the Irish bacon hog. I was in Dublin and went to see the show rings. I don't remember seeing a show hog that weighed as much as 200 pounds. They weighed about 180 pounds. And that is the type of hog that makes the noted Irish bacon. We can get that out of your Chester White and Poland China if you will select and feed as the bacon hog requires. However, we will go on producing the lard hog simply because the packer will not give us the difference in cost that it will take to produce the bacon hog. But possibly, after awhile, they will get it into their heads and they will buy hogs that weigh about 180 pounds, fed on dairy products and simply finished on corn, and they will cure them as they do there and produce as fine pork as ever came from Ireland.

MR. VALE: If there is anything I understand it is this question, and hence I am disposed to speak of it rather than some other I don't know anything about. The last proposition I made was that you do yourself the greatest injustice in not appealing to the breeder; put him on his honor and trust him to send you something that will in his judgment prove satisfactory to you. When you choose for yourself, unless you be an expert, nine times out of ten you will make choice of that which the breeder wants most to get rid of and that which he is absolutely afraid to send out on honor. In reference to those animals I sent to the farm, I sent those that I knew would be of service to me if I had retained them.

MR. BARCLAY: There is just one phase of this subject I would like to say a word on. I think Brother Vale's position is correct on this subject. I think the greatest mistake with our agricultural societies in their exhibits is that they are fat stock shows in place of breeding stock shows; they are shown for their fat and not for their breeding characteristics.

MR. NORTON: It not only applies to hogs but to cattle as well. It is wrong and we ought not to be compelled to breed to that extent that we ruin the animal to please the farmers of Iowa.

The next subject will be "Feeding Young Animals," by Professor Wilson.

FEEDING YOUNG ANIMALS.

BY PROF. JAS. WILSON.

It has been the custom in Iowa to grow animals, and then to fatten them. In early days it was unusual to begin feeding a 2-year-old; as good blood was introduced it was seen that well-bred 2-year-olds could be profitably fed, and go to market at 3 years old, with older cattle. Very little attention was given to the comparative economy of feeding younger and older cattle. It was noticed that the older ate more and fattened to a finish sooner after grain feeding began, but no inquiry was made into the composition of either young or old, or which gained most from a given amount of feed. Until a recent date the market required heavy animals, discriminating against lightweights. The cost of exporting had something to do with this. This has changed, and now consumers neglect heavy cattle, giving the preference to early maturity. I have looked into the comparative cost of feeding younger and older cattle.

Dry Matter.—Armaby reports an old German experiment with a calf of 14 days old, where .97 of a pound of dry organic matter made a gain of one pound live weight. The ration consisted of 17.6 pounds of milk with 3.9 pounds of cream added. He reports another experiment where 1.93 pounds of dry matter produced a gain of 1.85 pounds live weight on calves from 8 to 30 days old. The Iowa station reports in bulletin 25, page 24, a pound of gain live weight made from 1.97 pounds of the dry matter of the feed, on calves up to 90 days old.

At this point it may be well to inquire into the composition of the gain made by animals at different ages. In the new born animal body water constitutes 80 to 85 per cent of the weight. As it grows, dry matter increases. At maturity of growth, without fattening, water constitutes about half of the total weight. Well fattened animals have still less per cent of water—as low as 35 per cent. This accounts for the rapid gain of young animals from a given amount of feed; a large per cent of the gain is water. After maturity the increase in weight is nearly altogether fat. This is suggestive, both to feeders and consumers. The younger animal grows bones, flesh and other fibers; the older animal grows less of these, while the mature animal ceases to add sensibly to these ingredients, and makes fat only.

At the age of 8 months the calves reported in bulletin 25 consumed 4.6 pounds of dry matter to make a pound of gain live weight. Bulletin 32, page 450, reports that up to 17 months of age 5.97 pounds of the dry matter of the feed was required to make a pound of gain live weight. A lot of heifers reported in bulletin 33 of the Iowa station, required 7.67 pounds of dry matter to make a pound of gain up to 22 months old.

Five steers 32 months old, reported in bulletin 24, required 10.4 pounds of dry matter to make a pound of gain live weight. The gains made on all these cattle were high comparatively. The Ohio experiment station, bulletin 60 reports a compilation of feeding results from eight states, that used 132 cattle, showing an average gain of 1 pound live weight for 10.24 pounds of dry matter fed. Lawes and Gilbert found that 11 pounds of dry matter was required to make a pound of gain on cattle, and 9 pounds on sheep. The Iowa station found that in feeding 11 breeds of lambs, the dry matter required to make 1 pound of gain varied from 6.53 on the Cotswolds to 9.35 on the Merinos, averaging 7.24 with all breeds, while 11 pounds were required on a lot of yearling sheep to make a pound of gain. This establishes the fact that the younger animals put their feed to better use than the older.

If we inquire why this is the case, we find that in addition to the composition of younger meat being different from older, the feed is put to an entirely different use. The young animal uses much more of the mineral matter of the feed to make bone and muscle, and it uses much more of the nitrogenous matter to make muscle and other fibers. The older animal can not use either mineral or nitrogenous matter beyond what are necessary to maintain its body and replace its daily waste. If the mature animal is fed a ration rich in albuminous matter, it goes to the dung heap or to the urine; what is not digested goes to the former, and what is digested goes to the latter, through the kidneys. The mature cow differs in this regard, as she turns it into milk; but the mature steer is unable to use it in meat making beyond what he turns into fat to lay up in his body, or to keep him warm in the absence of other heat producing material.

We feed mature cattle in Iowa generally; we let them live as stockers during their growing period, when they would make the most profitable gains, and fatten them when they are unable to appropriate the most valuable ingredient of their feed. It is true, the younger animal requires a greater per cent of albuminoids in his feed than the older, but during his first year we are compelled to feed him a ration that will make growth, and all the change that we have to suggest is that he be fed more liberally in his first year, then, instead of waiting for growth during the second and third years, we would feed him fully and finish for market during the growing period of his life. The young animal under 18 months old will make twice the gain on the same feed that he will in the next eighteen, if an early maturing animal. The waiting period is the losing period. It occurs when the pasture fails in summer, and when the animal is roughing it in winter. Everything fed for mere maintenance is a dead loss. We feed much that brings us no returns. I have said that the composition of younger and older animals varies. The younger is juicier, and much of this juice is water cheaply laid on, the older animal being fattened after maturity does not intersperse his meats with fat as the young animal does. He piles his fat in his abdominal cavity, and no consumer wants it; the early maturing animal is still making flesh, and if generously fed he mixes fat and lean together. This is what the consumer wants, and is

willing to pay highly for. Feeding animals to a finish, young, presupposes early maturing propensities, found only in well-bred cattle. Iowa farmers can afford no other, for the reasons I have given. The late maturing animal, finished after growth, turns over 90 per cent of all the albuminous matter he eats to the manure heap. He makes rich manure, no doubt about that; he has no ability to retain anything but the fat, and that he does not place it where it will sell best.

We would abolish the stocker, and avoid lost time and feed during his stocking period. The hog men have reached that point now. Everybody keeps his young hogs growing. Sheep men are being forced to feed their lambs by the demands of the market. Cattle men and horse men have this lesson to learn, and they are learning it in a dear school. The cornstalks and oat straw that feed the stocker, be he horse or steer, can be secured green and juicy, fit to keep both growing with some grain that could not possibly find as good a market elsewhere.

Our markets teach these lessons. We should inquire into the causes that lead consumers to their conclusions. Our fat stock shows impress them by refusing entry to mature animals, or animals over a certain age. The privilege of the fine stock breeder is to provide early maturing blood to feeders and producers of meats. Our common stock do not respond in their earlier months to good keeping as well-bred animals do.

The questions arise: Will it pay as well to finish cattle at 2 years and sheep under 1 year? Can the pasture be used fully in economic production? Can we mature early without continual grain feeding? It is necessary in maturing early to feed well. The pasture makes the cheapest meat without grain, if it is young and abundant, and will carry along early maturing animals; if it is not young and abundant, we cannot afford to let good gains stop, as we have cheaper grains than our competitors have. When we find a better growth on the younger animal and a premium on its meat above what we get for the older, that has more loose fat, we are amply paid for pushing the younger.

The consumer knows nothing and cares less about the cost of production; he desires to avoid buying lumps of fat that he can buy at less than meat prices; he finds what he wants in the young animal. The muscles may be interspersed with fat as if it had been shot into it; that is entirely satisfactory to the consumer. The best meats are in that condition and found only on well-bred and well-fed animals. No late maturing steer has marbled meat. The feeder sells fat at a dear rate in this connection. The dealer must trim the layers of fat off the steak or roast, curtailing his profits. He avoids paying top prices for animals that have this surplus fat so placed. The meat of the under-fed animal is not first-class, nor second-class, because it has no fat mixed with the muscles. We must fatten them for juicy meat; we must finish young to have the fat distributed; we must finish young to feed profitably; we must use good blood, that the meat may be on the prime parts and of desirable quality.

RECAPITULATION.

CATTLE.

Germany—Armsby	.97 pounds for 1 pound gain, 14 days old
Germany—Armsby	1.80 pound for 1 pound gain, 30 days old
Iowa	1.97 pounds for 1 pound gain, 90 days old
Iowa	4.6 pounds for 1 pound gain, 4 months old
Iowa	5.97 pounds for 1 pound gain, 17 months old
Iowa	7.67 pounds for 1 pound gain, 22 months old
Iowa	10.4 pounds for 1 pound gain, 32 months old
Ohio	10.34 pounds for an average gain of 1 pound in 132 mature cattle at 8 stations
Lawes	11 pounds for 1 pound gain, mature cattle

SHEEP.

Lambs	7.34 pounds for 1 pound gain
Yearlings	11.00 pounds for 1 pound gain

The cost of gain is variable, depending on prices of feed, but always less on younger animals.

MR. MCPHERSON: Which is the most practical feed in feeding these animals, old corn or new corn?

PROFESSOR WILSON: I don't think there would be a great deal of difference if the new corn was ripe and dry.

MR. BAKER: You want water in the corn so that it may be masticated easily, and it will build up the animal in flesh and fat as hard corn, poorly ground, never can.

PROFESSOR WILSON: I know of no better use you can put oats to than to feed them to cows: I would feed oats always with corn, as corn is too strong a ration for young animals, and the younger the animal the greater the necessity for getting this albuminous matter into its rations, and when he gets older he cannot use it except for making fat.

MR. BARCLAY: Why would you not feed them bran?

PROFESSOR WILSON: All right, if you can buy bran cheap enough. I would rather feed sheaf oats.

MR. BAKER: There is another point in the matter of feeding oats that we could manage somehow, I think, if we made a rude implement with a block of wood with a level face and a level bottom and work it as you would a pump handle and mash the oats fully, but I see no necessity of threshing oats at all. We cut our oats when they are about one-third ripe and two-thirds green, and they eat the whole thing up.

PROFESSOR WILSON: But the difficulty comes from the fact that the majority of Iowa's oat crops become hard in the grain and glazed.

MR. BAKER: I would cut it before that state.

MR. COWNIE: What success do you have in cutting oats as green as that and cutting them with a self-binder?

MR. BAKER: We bind in as small bundles as we can.

MR. MURDOCK: Do you put caps on?

MR. BAKER: No, I do not.

MR. COWNIE: I have found no more economical feed for calves, horses and cattle than sheaf oats. I had difficulty in cutting green oats. The straw would mould in the center of the sheaf. I would prefer to have them fully ripened and dry.

PROFESSOR WILSON: But you would lose the succulence of the straw. There is danger of what you suggest, but there are machines that would cut and make pretty small bundles.

MR. VALE: What is the objection to mowing all the oats at once?

MR. COWNIE: None whatever, except they feed more conveniently in the bundle.

MR. VALE: My experience has been that they feed more conveniently out of the bundle.

CHAIRMAN: We will pass to the next subject, "Benefits to be Derived from Organization;" Mr. McClung is not present; the discussion by Mr. Vale, of Bonaparte.

MR. VALE: I would suggest that as I have no prepared paper and Mr. McClung and the other gentleman not being present to lead, that we pass this subject, unless it is deemed wise to take it up.

CHAIRMAN: The next, "Stick to a Favorite Breed," by Mr. J. M. Dunn, of Waubeek, discussion by M. Creswell, of Bonaparte, and others. What shall we do with this subject? It is proposed that we adjourn to meet again this afternoon.

MR. BARCLAY. Report of committee on location and nominations.

Moved and seconded that the convention adjourn until 1:30. Carried.

MR. BARCLAY: I want to extend a cordial invitation to every breeder of fine stock that is here to be present at the meeting next winter at West Liberty. We will endeavor to give you a nice entertainment and a good live meeting. We will do our part if we know how. Now don't forget to come, we want you.

MR. BAKER: I would like to invite every live, active farm young man that has passed his majority to come and meet with us and we will do him all the good we can and he will help us amazingly, for we will be pleased to see him get up and get there every time.

CHAIRMAN: I will say that we have lots of schools in the state; the agricultural college at Ames, and here they have Parsons college and the library, and we must recollect that this is the home of the late Senator James F. Wilson; and while money has been used in other places, it has been used well here. Mr. Carnegie has given money for the library, and you are advised to spend all the time you can there.

Convention adjourned until 1:30.

THURSDAY AFTERNOON, DECEMBER 10, 1896.

CHAIRMAN: The hour has arrived for opening the meeting. The first will be a paper, "To what Extent can the Average Iowa Farmer become a Breeder of Thoroughbred Stock," by Mr. P. G. Henderson, of Central City, Iowa.

MR. HENDERSON: *Mr. President, Ladies and Gentlemen:* This subject is one that could have been gone into extensively, but I have made no effort to exhaust it, because I could not do that. I thought, while sitting here, that my subject had been gone over pretty thoroughly, but I will read what I have written, however.

TO WHAT EXTENT CAN THE AVERAGE IOWA FARMER BECOME A BREEDER OF THOROUGHBRED STOCK?

BY P. G. HENDERSON, CENTRAL CITY.

In so far as he has learned that good care, kind treatment and push are essential in the management of all kinds of good stock, the majority of Iowa farmers accept these truths and apply them in the management of their swine. They get good blood, give them good care, kind treatment and push them to early maturity. It can safely be assumed that swine from Iowa, now being marketed daily by thousands, are, to all intents and purposes, thoroughbreds. He has mastered the situation fairly well in his dealings with the hog. Why not apply the same thought and judgment in dealing with the cattle problem? Cattle and hogs are the two great meat producers on these fertile plains. Time was when few thought of marketing hogs under eighteen months of age, now the majority are marketed under eight months. This because he has learned that the young thing is the economical meat maker.

The cattle problem in Iowa is more complex than the swine problem, because we have cattle almost solely adapted to produce meat, and others only adapted to produce milk. And the puzzle for the Iowa farmer has been which of the two types of cattle should he engage in breeding, for it has been strenuously maintained that he must take either the one or the other; that there was no middle ground or happy medium. But the Iowa farmer is learning that he is face to face with conditions. These conditions require an animal that will be profitable to her owner as a milch cow, and equally profitable to the owner who has her progeny in the feed lot.

In taking this position I make no war against the exclusive beef and the exclusive milk breeds. None admire them more than the writer. They have their proper sphere, but that is not on the average Iowa farm. The conditions that formed and fixed those highly contrasting types were not in any manner similar to our conditions. Our conditions, in time, would produce the bovine we need. Good feeding, good shelter and careful selection would do much in this direction, but to undertake to form a new breed would only end in failure. It will be found infinitely cheaper to take one of the breeds already formed, that have been formed under conditions similar to ours, than to attempt to form one that at the end of 100 years will be no better than some of the now existing herds, and perhaps not as good. If there is any improvement to be made, make it on the model of the best of the more reputable breeds. For instance, the Shorthorn can easily be bred back to the milking quality, by selecting the proper families, for they once possessed this quality in an eminent degree. Yes, even now the milking Shorthorns of England are the equal of any dairy cow in the world. The milk-bred Shorthorn and the milk-bred Red Poll, also an English cow, both bred under similar but slightly varying conditions in their mother country, and readily traced back for over 100 years, either of these, as his best judgment would dictate, should be the one from which the average Iowa farmer should select the sire to grade up his stock. The first cross would give him half bloods, the second three-quarter bloods, the third seven-eighth bloods, and the fourth cross fifteen-sixteenth bloods. These latter, and even the seven-eighths bred cattle, are, for all practical purposes of beef and milk, essentially as good as those purely bred.

But for fear I be misunderstood, let me here remark that for breeding purposes use only a pure bred sire, and continue to use one of the same breed. The Iowa farmer has been laboring at a disadvantage in this respect. In the past he has been experimenting with this breed and that one, but they were not adapted to his surroundings, and he has discarded them. The Shorthorn breeders were slow to recognize the imperative wants of the Iowa farmer. In the great breeding herds of Shorthorns from which he bought, the grand milking qualities had been bred out, and fed out. "In the prosperous times of 1891 and 1892," writes John McHugh in Agricultural Report of 1894, "hundreds of herds were dispersed." This, I think, would not have been necessary if the breeders had catered to the wants of their customers. The average customer of Iowa wants stock bred in milk lines, and also stock that will sell readily at a good price and commend itself to the drovers in search of young things of either sex, that will make good beef at a profit.

In order to show what we would consider good work for a dairy cow, I incorporate a part of a very valuable report from Velen, Denmark, found in Breeders' Gazette of November 11th, and reported by that eminent dairy authority, J. H. Monrad, of Cook county, Illinois. Mr. Monrad states that the weights in Danish pounds are about 10 per cent heavier than American pounds.

AVERAGE PER COW OF 200 COWS ON THIRTEEN FARMS, FOR ONE YEAR.

FARM.	Number of cows.	Age.	Milk yield.	Butter yield.	Fodder units consumed.	Pounds of milk to one pound of butter.	Fodder units to one pound of butter.	Cost of producing one pound of butter.
A	41	7.17	5418	196.5	3999	27.3	20.15	24.3
B	24	7.2	6121	228.0	4703	26.70	20.16	24.99
C	21	6.62	6784	244.6	4368	27.73	17.85	21.53
D	17	5.66	7116	263.8	4667	26.97	17.69	21.34
E	17	7.3	6184	211.7	4051	29.98	19.13	22.08
F	16	5.81	6224	229.5	4351	26.89	18.08	21.75
G	14	7.14	5567	224.5	4288	28.59	17.53	21.15
H	12	7.9	6615	237.8	4778	27.82	20.00	24.24
I	12	7.4	6710	243.5	4634	28.73	19.84	23.03
J	11	6.7	6437	232.8	4307	27.64	18.40	22.3
K	8	7.3	5478	206.9	4229	26.47	20.43	24.65
L	5	5.0	7053	243.2	4785	29.99	19.66	23.72
M	2	8.0	7021	251.6	4385	26.65	17.45	21.05
Total average	15.4	.....	6338	231	4418	27.41	19.08	23.02

For a short test, I enclose a report of the London dairy show, taken from the Farmer's Home of November 14th:

THE LONDON DAIRY SHOW.

The recent London dairy show was the largest and most successful ever held. There were 108 entries in the milk and butter tests, but these are largely duplicates. The regular tests of the association are decided by chemical analysis; but in addition to these there are special tests for Shorthorns, Jerseys and mixed breeds, in which the churn is used and commercial butter made.

The chemical tests are not yet in hand, but in the special tests decided by the churn there were 17 Shorthorns tested, 30 Jerseys and 14 of other breeds—4 Guernseys, 3 Red Polls, 5 Ayrshires, 2 Holsteins and 3 cross-bred. As usual the Shorthorns far excel in yield, and is the only breed that shows over 3 pounds of butter from 24 hours' milk. Two of the Shorthorns do this, one with a yield of 3 lbs. 2 oz. from 46 lbs. 14 oz. of milk, the other with 3 lbs. 1 oz. butter from 55 lbs. 12 ozs. of milk. Of the 17 Shorthorns tested all but one gave over 40 lbs. of milk in the day, 14 gave over 45 lbs.; 11 gave 50 lbs. or over; and one exceeded 78 lbs. In butter 7 made over 2 lbs. each; 14 over 1½ lbs. each, and the lowest was 1 lb. 7 oz.

Of the 30 Jerseys the largest yield of milk was 47 lbs. 10½ ozs., and it also made the largest yield of butter—2 lbs 10½ ozs. Only 3 Jerseys exceeded 40 lbs. in yield of milk and only 7 exceeded 2 lbs. in yield of butter. Five of the Jerseys, however, were 2-year-olds, and all the Shorthorns were mature cows. Confining comparisons to mature cows—4 years old or over—there were 21 Jerseys. Of these 6 made over 2 lbs. of butter each; 13 made over 1½ lbs., and 2 less than 1 pound.

It is odd, but the richest milk of all the 61 cows tested was from a Red Poll. She gave an insignificant quantity, only 9 lbs. 8 oz., but it made 12½ ozs. of butter—a pound of butter to 11.76 lbs. of milk. The only other cow in the test making a pound of butter from less than 15 lbs. of milk was a Jersey, showing a pound of butter to 14.88 lbs. of milk. The Red Poll was 127 days in milk and the Jersey 172 days.

Leaving out this nearly dry Red Poll I find the four Guernseys tested averaged 92½ days in milk, and gave an average of 24 lbs. 14½ ozs., which made 1 lb. 4¼ ozs. of butter. Two Red Polls milking 61¾ days, averaged 40 lbs. ¾ oz., which made 1 lb. 11½ ozs. of butter. Two Ayrshires, milking 38½ days averaged 48 lbs. 2¼ ozs. of milk and 2 lbs. 2¾

ozs. of butter. Two Holsteins, milking 77 days, averaged 84 lbs. 11½ ozs. milk and 1 lb. 4⅝ ozs. of butter.

In order to show that we can have and do have a cow that is good for both milk and beef, I beg leave to again quote from the Breeders' Gazette of October 7, 1896.

RED POLLS AND SHORTHORNS.

To THE GAZETTE—A correspondent at Westholme, B. C., who has a small herd of Red Polled cows but no bull of the breed old enough for service, wishes to know if the cows would be injured in their future breeding by using this year a Shorthorn cross. I should say not at all, except in the loss on the first crop of calves for breeding purposes.

The cross of Red Polled and Shorthorn seems to "nick" particularly well either way; and the cross bred produce is often better, individually or for practical, use than either parent. In England this cross has made some remarkable records at the fat stock shows, and quite recently a striking illustration of its advantage was reported from the adjoining county to me. The facts referred to were given me by Dr. Slingerland, trustee and manager of the Shaker society at Union Village, in this state. In the summer of 1890 I sold to Dr. Slingerland for the society, a Red Polled bull and three cows. They had at the time a very good herd of Shorthorns, and the bull was largely used on these cows. In January and February, 1895, he bought thirty-five of the best Shorthorn steers he could find coming two years old. They had at the time eighteen head of cross bred Red Polls and Shorthorns of the same age of their own breeding. When bought, the Shorthorns averaged 940 lbs. each, and at the same time the Polled steers averaged 790 lbs. All were kept a year and fed out.

The year of 1895, as we all have reason to know, was very dry. Dr. Slingerland says the Shorthorns, being the larger herd, and larger animals, were given the better pasture and more abundantly supplied with water. In the fall they received corn, hay and fodder, and were sold in January, 1896, just a year from purchase. They averaged then just 1,540 lbs., and sold for 4 cents gross. They had consumed, besides hay and fodder, eighty-five bushels of corn each and made a gain in the year of 600 lbs. The Polled steers, as stated, had not so good pasture, and received no hay. They had in feeding, corn fodder or stover, what they would eat I presume, and each consumed just fifty bushels of corn. They were sold at the same time and to the same buyer at $4 25 a hundred, and weighed 1,492 lbs. each, a gain in the year of 702 lbs. This would indicate that for feeding purposes the Red Polled-Shorthorn cross is a very desirable one, and the "stain" from such a cross on the cows of either breed would not be objectionable. But as a fact, the bull used in this cross, Osman 1251, was specially selected for me in England as a calf, because of his strong dairy inheritance. His dam has a record in Mr. Garrett Taylor's herd in England of almost 9,000 lbs. of milk a year for three or four consecutive seasons; and her full sister, in another herd, is reported as giving 14,000 in a year—the largest yield credited to any Red Polled cow so far as I know.

J. MCLAIN SMITH.
Montgomery county, Ohio.

I believe the facts as reported by Dr. Slingerland indicate clearly that a sire, though strongly bred in milk lines, is yet capable of transmitting meat producing qualities equally as well. I believe the average Iowa farmer should select the sire from which he expects to raise calves with this end in view. He can then sell stockers at a profit to feeders, who will also profit if beef remains at fairly remunerative figures.

CHAIRMAN: Mr. Henderson is now prepared to answer any question you would like to ask.

MR. BARCLAY: *Mr. President:* I like that paper very much, taking it as a whole, but there are some things in it that I think are worthy of further notice. The recommendation of our friend to farmers to use only pure bred sires in the reproduction of stock. I do not believe that that advice is fully appreciated by our farmers, and I would ask Mr. Henderson what proportion of the best of our herds throughout the state, what

proportion of the males in these herds are worthy to stand at the head of thoroughbred herds for reproduction? I have my own ideas on that and I would like to know what his are on that point.

MR. HENDERSON: Well, my idea is just this; that I don't think there is one thoroughbred animal in Iowa where we ought to have 100. The very poorest of them are better than a great many farmers are using. We ought to make selections carefully, and it is for the breeder of thoroughbred stock to do that work. But the trouble is that the farmers do not get thoroughbred stock. They buy from one another something that will not do them any good. I think that a great many of the bulls that go out to the slaughter pen are too young. You ought to keep them until they are ten years old and let one farmer get them from another.

MR. BARCLAY: That is not the question I asked. I am talking about the best herds in the state. What proportion of the males raised are fit to stand at the head of their thoroughbred herds?

MR. HENDERSON: I suppose there is not one out of twenty or fifty.

CHAIRMAN: I see I have done an injustice in giving this question to the house. The discussion is for A. J. Lytle, of Oskaloosa; B. L. Gosick, of Fairfield; R. W. Lamson and C. F. Funck, of Fairfield. Is Mr. Lamson present? Mr. Funck, of Fairfield, is present and we will hear from him.

MR. FUNCK: I am here, but I have nothing particularly to say on this subject, but it does seem to me that my friend, Mr. Henderson, has kind of branched off a little, if I read the topic right. "To what extent can the average Iowa farmer become a breeder of thoroughbred stock?" In the term stock, cattle, horses, chickens and dogs are all included. I say any average farmer can, to a certain extent, become a breeder of thoroughbred stock.

CHAIRMAN: In assigning that subject to Mr. Henderson I had this idea in view. Traveling over Iowa, I see lots of inferior stock, and I wonder why with all the breeders of improved stock in Iowa; I wonder why it is. I occasionally go to an ordinary farm sale, and I notice that they go to the sale and pay for a scrub more money than they could go to Mr. Henderson's yard and get thoroughbreds for. I was at a sale in Grundy county where men paid for boars as high as $18.50,

and none of them were recorded. It occurs to me that it is a lack of information. And that is what this body of men is attempting to do for the state of Iowa. A few years ago we had a great many breeders of thoroughbreds; we still have a great many, but the hard times and disease has cut down this number, until I am afraid that in a short time we will see a scarcity of breeders. And perhaps after these breeders have become scarce, the farmers will realize what could have been done. I had hoped we would look into this question of so many inferior males being used on the farms. Now, it does not cost much to get a good bull or a good boar, and the benefit to be derived is 100-fold.

MR. BROCKWAY: Some twenty-eight years ago I began raising cattle. I bought a great many cattle, and fed them winters sometimes, and sometimes grazed them. I wanted something better, and felt that I would like to raise a few nice cattle. I went over to Brother Evans and bought a cow. I paid $125 for that cow, and my friends came near taking me to the asylum. I kept her and raised all the calves I could. I kept her sixteen years. I never sold a heifer during that time. She was eligible for record, but I did not record her; she was at 17 as nice as anybody had. I sold the males during the years at moderate prices, for I could not sell them for fancy prices. Men would come there to look at them and would say: "Hold on, I want to go over here and look at some other stock." I told them plainly that I could not record those cattle, although they were pure bred. They would go over, though, and see Mr. Myers' and others' cattle—and they were pretty sharp and recorded their cattle—and the men would say: "Brockway's cattle are just as good as these;" but Brother Myers would say: "Brockway can't record his cattle, and if you want something good now, something that is recorded, you don't want to buy anything but these," and so I would lose the sale of the calves. The result was that I got tired of that at the end of sixteen years; I had forty head and the old cow yet, and I just sold everything I had. Up to that time I had sold $1,600 worth of males from that one cow, and at that time when I made that sale I had forty-three head with the old cow and breeding bull. Then I sold $1,633 worth of cattle, making $3,233, the produce of one cow in sixteen years, and no fancy prices at that. That was as good a record as I ever knew of a cow making. But times have gone the other

way, and I would be almost glad to sell my stock now at the price I sold my unrecorded cattle then. And I say any man can become a breeder of fine stock. I tell you there is a pleasure in raising fine thoroughbred stock that a man cannot find in anything else.

MR. YEOMANS: I commenced about thirty-five years ago with Poland Chinas, and when I first started I could sell thoroughbred Poland Chinas at from $35 to $50. Now, if they come to look at your hogs and you ask them $15, they will leave them in your pens. That is one reason I think stock is going down.

MR. BARCLAY: In answer to the question that I asked a few moments ago, I want to say I think there is not over 5 per cent of the males that are bred in the best herds that are good enough to stand at the head of their thoroughbred herds, but that is no reason why they are not good enough to improve the common stock of the country; and I want to go further. The question is, why cannot every man become a breeder of thoroughbred stock? That question is too broad. There are a good many reasons why every man cannot become a breeder of thoroughbred stock, but there is no reason why every farmer cannot become a breeder of better stock. And I want to pursue one line of Mr. Henderson's recommendation a little further than he did. He recommends the selection of thoroughbred sires for the improvement of stock You have got to carry that into the selection of females as well. I know the temptations are very strong when a man has bred some good cattle or hogs to sell the better females because they will bring a few more dollars, but in order to improve we must shut our eyes to the present necessities and keep those best females. It is only by selection with the utmost care that a person can attain the best results, and what I say to you I say after an experience of twenty-five years in the breeding of thoroughbred stock. Fifteen years ago, about the time I first joined the association, I thought I knew more about the breeding of fine stock than I do now. The further I go into the business the wider it becomes and the more I need the experience of practical men; and I think these meetings, where the experience can be drawn out from men who have had a lifetime of experience, is worth more to the young men of the country who expect to be farmers than they have any idea of. They do not appreciate it; they cannot appreciate it. And I wish we could have instead of 100 or 200 men at this

association, I wish we could have 1,000 of them from all over the state.

You take the cattle of Muscatine county to-day and I believe the percentage of value from a breeding standpoint in those cattle is not within 50 per cent of where it was twelve or fifteen years ago. You will ask, why are the farmers of Muscatine going back? I will tell you why they are going back. One reason is that the times have been hard and they have had to sell whatever they have had on their farms; they needed the money and have had to sell that which would bring the most. They sold their best females largely. Times have been close and they have used grades instead of thoroughbreds. And I believe the only way they can get back is to go back to the first principle and begin again with one female or one breed and breed for what you want; make a selection in that line and stick to it until you can improve what you have and accomplish your object in that way.

MR. YOUNG: There are various causes why the stock of this country is running down. We have not got as good steers in this country as we had ten years ago. This country is running to corn. Cattle get too low and the dry seasons come on and the farmers fall back on corn. They can raise better corn in dry seasons than they can cattle; and when men can sell their corn for 40 cents a bushel they can make more money out of corn than they can out of beef, consequently the cattle business has gone back. The farmers thought they could not buy a good bull to head their herds, consequently our herds are not as good as they were ten years ago. But these are facts. I have been buying steers this fall and I know something about it. You take twenty years ago, and we are ahead of twenty years, but we are not ahead of ten years ago. They would not have had anything but thoroughbred bulls at the head of their herds ten years ago. To-day you do not find any long-horn, brindle cows; they are now driven out. We improved our cattle very fast for ten or twelve years, and from that on until now the cattle have been going the other way. There are five grade bulls used to-day in this country where there is one thoroughbred. There are two reasons for this. One is that the people think they have just as good pure bred stock as the breeders; another reason is that they went to corn instead of beef; the consequence is that they have gone back.

It is not necessary for every man who raises cattle to have a thoroughbred herd. It costs something to keep a thoroughbred herd and it is not the best thing to do. I have been in this business over twenty years and I say that it costs something to keep this kind of a herd; it requires work and great care. If you keep a pure herd there is some care in breeding; you can't get along without it; a man that runs a herd must be at the head of it himself; he must watch it and see that it is bred all right. There is a difference in keeping a good thoroughbred bull at the head of a herd and keeping a thoroughbred herd. There is no farmer who raises any kind of cattle but what he can have a thoroughbred male at the head of the herd, and if he does that he will improve his herd in every way. There is one place the farmers fail in breeding and in raising grade cattle; when the butcher comes around in the summer to buy beef, if the farmer has a good heifer, she is always fat and the butcher takes her; now if you want to improve your herd, keep a good female. This is the way I improve my flock of sheep. I select the top out of my ewes and keep them and sell everything else off, and I don't allow any man to come and pick my flock of sheep; if he does, he will have to pay big for them. And it is the same way with hogs. If you want to keep a herd of hogs at the top you need to select the best brood sows, together with the best males you can find, and you will improve your herd. And this is also true of cattle.

MR. COWNIE: There is one phase of this subject that has not been touched on and I wish to call attention to it for just a few moments. That is in regard to why, after all the work and labor of men interested in improving our cattle, that farmers have not appreciated their efforts, patronized them more liberally and improved their stock? We know that the western graingers are becoming our competitors in the Chicago market; their grass-fed cattle are competing with our corn-fed cattle; they did not compete with us twelve or fifteen years ago. What have the farmers of Iowa been doing that they have allowed the breeding of their cattle to retrograde instead of improve? There has been a demand for feeders of late years; the farmer raises stockers and feeders for sale and, it matters little what the quality of these cattle are, he can sell them. It has been no object to him to put $75, or $100, or $125 into a pure bred animal to head his herd. He can see no benefit from it whatever. He sees his neighbor who buys a scrub and places it at

the head of his herd, sell his stock for just as high a price as the one who has a pure, thoroughbred animal at the head of his herd. Last winter I wrote a series of articles for an agricultural journal, "Every Farmer His Own Shipper." I had hoped to get all those fellows interested in cattle. It would be an object lesson worth all the teaching you could give him, for him to take the cattle, that he thinks are just as good as any thoroughbred, over to the Chicago market, and when he gets there he will find that they do not sell quite as well as he thought they would. But, until they will do this, they cannot be made to realize this fact, and they will continue to breed scrubs. Only last Saturday I attended a sale of yearlings. A couple of feeders had gone out over the country and gathered up all the scrubs they could find; there were Holsteins, and Jerseys, and God knows what all. There were many farmers there, and they said, "Here is a nice lot of cattle and I want steers to eat my corn; I would rather feed it than sell it," and so they bought the cattle and paid $25, and $35, and $40 apiece for them. I would not have had them; any experienced feeder would not have taken them. But these men had corn and they were going to embark in the business, but when they take those cattle to Chicago they will find out the difference. There is no man can make money feeding that class of cattle and it is the feeders and the farmers themselves who go around in the country and buy that class of cattle, that encourage these men to raise them. As long as men can find a market for that scrub stock, they will produce it. As a neighbor of mine said, "Why, I would raise basswood logs if you would buy them," and the only way is to refuse to buy such stock and then they will stop breeding them.

MR. HOLLAND: That reminds me of a little experience I had down in this neighborhood. I was down here twenty-seven years ago looking for a male; I could not find what I wanted and went over into Illinois and looked over the field there; while there I met a man from Ohio who said to me, "When you buy a male the better way to do would be to buy a Shorthorn heifer as well," and I bought two females. I never had thought of becoming a breeder, but from that day to this I have been a breeder of Shorthorns, and one of those two cows in the next ten years netted me $3,000; but we should have just as good stock as that now. I would say, while I am on the floor, that should you want to send a boy through college, get him a heifer

and that heifer by the time he is 16 years of age will have made enough money to send him through college; I have two boys who have done that and the third is on the way. At home we are breeding horses, cattle, sheep and hogs. And what I want to say is particularly to the young man; start on the right breed and start early. I would commence small, but work right along in that direction, and when you buy a pure bred animal buy two or three pure bred females too.

MR. EVANS: In our neighborhood, the fact is that they have been too much taken with the idea that if you have got a thoroughbred it don't make much difference what he is. They will pass by a pure bred animal because it is not recorded and they will buy something else for good simply because they can trace the pedigree back to some important ancestor. I think this is one of the great difficulties and discouraging points. An important thing in the matter of breeding is to have the animal with a good constitution and a good shape, as shown here yesterday by Professor Curtiss, and the result will be all right whether the pedigree runs away back or not.

MR. BARCLAY: I want to endorse what Friend Evans has just said. That question of selecting the best animal is the question, or one of the important questions in the breeding of good stock. In the question of hogs—they are going over the same experience now that they did twelve or fifteen years ago with cattle. They are buying hogs that will trace back to a certain female, if they have to strip his hide to get it around a little bit of a frame. And that is where a great many breeders of hogs are losing their reputations as breeders of good hogs, is by paying attention to the pedigree entirely and leaving the question of individual merit out of sight.

MR. HENDERSON: In dealing with this question my idea was that the average Iowa farmer was on a farm of say eighty or 160 acres. Now the point is to raise the cattle, raise the value of the cattle, raise the grade of them on all these Iowa farms. I did not treat the matter as regards the breeders, because there are but few breeders compared with the vast number of farmers on the average Iowa farm, and what I intended was that they should get the best male they could and grade their cattle up and in that way the great mass of our cattle will come up because the male is half of the herd.

MR. EVANS: I would say that we have discussed every branch of the live stock business with the exception of the

horse; it has not been spoken of. I think it should have some opportunity for discussion in this convention. They are worthy of it, and I would move that the first paper after the music shall be Judge Stubbs' article on the horse.

Motion seconded and carried.

CHIRMAN: The next will be "The Horse Industry of Iowa," by Judge Stubbs.

THE HORSE.

BY D. P. STUBBS.

Mr. President, Members of the Association and Fellow Citizens:

This subject has been assigned to me for discussion without consultation and without my permission. But as it is one of the most important industries of the country, and I might say the greatest department of stock growing that will claim the attention of this association and stock growers generally, I shall make the attempt to discharge the duty assigned me.

It would be interesting, no doubt, to trace the origin and development of the equine race from the earliest history to its present position of grandeur and usefulness to society, but this can not be expected in a short address such as the occasion demands.

It is said by the virtuoso that preceding the discovery and conquest of the western hemisphere, by the white-faced man, the European, that the horse had not roamed over nor inhabited the new world. In fact the researches into paleontology show no fossils of such animals either in North or South America.

The first horses that were brought on this continent were those by Cortez in 1529, I think, and landed at the spot where Vera Cruz is now situated, in Mexico.

Following this, Pizarro landed horses in the western part of South America in his invasion and conquest of Peru, and later Balboa Ponce de Leon and other Spanish adventurers brought them upon the western hemisphere.

From these stocks and later importations made by the Spaniards the great number of wild horses originated, that for centuries have multiplied and ruminated upon the prairies of North America and the pampas of South America.

It may be well to give a passing notice of this stock of horses, as many remarkable characteristics of them have been brought to our attention in later years. They existed in great herds or bands entirely uncultivated and as free from the dominion of man as their associate, the wild antelope, upon the vast grass growing plains of our western wilds.

We often hear, not only of the beautiful conformation of some of this wild race called ponies, mustangs or bronchos, but of their wonderful speed

and endurance, equalling or excelling the best breeds and best tutored horses of our own time. These facts prompt the question as to what they are and whence they came? What blood courses in their veins? To answer this question, we must go still further back, even for hundreds of years and trace the course of the Moslem as he triumphantly carried the crescent from Mecca to the Euphrates and thence westward across the northern portion of Africa, not only fastening Islamism upon the great portion of the orient, but conquering, until he reached the Atlantic on the western confines of Africa, drove his horses into the sea and lamented that there were no more lands to conquer for the true God and his chosen prophet. These marauding hordes were not long in discovering that there were other lands lying just across the Mediterranean, and they were not slow to seize the opportunity to cross over into the land of Andalusia in Spain and to proclaim their true God and his prophet, plant the standard of Islam and make conquest in that country.

If we consider for a moment who these crusaders were, their mission, and how they accomplished their achievements, it will aid us very much in answering the question that we have asked as to whence came the blood of these horses that the conquerors of Mexico and Peru planted upon the western world.

These crusaders were the followers of Mahomet. They proclaimed one as the true God and Mahomet was his only prophet, and demanded not that all nations should embrace this their religion, but should pay tribute to their prophet or die.

This was before the days of gunpowder and every Moslem was a cavalier, trained in horsemanship, the most expert the world ever knew. Their steeds were, in the performance of their functions, as dextrous and accomplished as their riders and of the best conformation, blood and training upon the earth at that time, or perhaps at any other time. The chivalrous deeds of these combatants took place in the open field with the lance and sword. Charger came against charger, shield against shield, and sword and helmet met in the sanguinary conflict till the life blood of one of the combatants ended the dreadful strife. These conflicts lasted for hundreds of years. Careful selection of the best strains of blood and the nearest perfect individual in movement, speed, endurance and symmetrical conformation, gave their steeds that quality for the tournament on the battle field that has never been surpassed.

While the horse became inured to the hardships of the tented fields, the cavalier became comparatively as dextrous in the use of the sword and the lance.

This shows how achievements are made by long and close study and judicious application.

I should, in passing, mention the sword that was used in the wars of those times. The artisan, the smith, who wrought the blades used by these fierce warriors, had become so skilled in the art of tempering the swords manufactured at Baalbeck, Damascus and other manufactories, that you could bend one of these blades around your body like a belt, or around your neck like a four-in-hand and it would not only straighten out as perfect as before, but you could drive the point through a half silver dollar lying on the floor, and not in the least dull the edges of its

point. I only cite this as an example of how long and painstaking is the road that leads to perfection.

The people who had been subjugated in the northern portion of Africa were the remnants of the Phœnicians, the founders of Carthage, and consequently, the red or copper-colored race who had, centuries before, contended in many battles against imperial Rome. The Arab or Saracene had commingled his blood with this vanquished race before the invasion of Andalusia in Spain. These constituted the Moors of Granada who founded a government and occupied this lovely spot of earth for nearly eight centuries, bringing with them much of the characteristics and customs of the Arabians, as well as the celebrated stock of horses that had been brought to them from the land of their late conquerors, so that the Arabian and the Barb horses were by them planted and reared in the country of which they had made conquest.

It is noted in history that the horses of Spain were greatly improved by this new and grand stock that was brought in by the invaders.

Though Granada had been conquered and Islam overthrown by Christianity before Columbus sailed in search of a new world, great achievements had been made in Spain in the rearing and culture of the horse by the infusion of the blood of the Arabian and Barb. Such was the stock of horses in that country when the adventurers sought to plant their civilization in the new world.

It is not to be presumed that these men did not carefully select from the best blood and the best animals the stock that was to accompany them in their voyages, and to be transplanted in a new hemisphere. These were the horses that were turned loose, to roam over and multiply upon this continent, and from which sprang the fearful and generally worthless mustang of our day. But "blood will tell," and sometimes we hear of a reproduction of some of the wonderful traits of the old original Arabian that was instrumental in accomplishing the daring acts often recorded of the days of chivalry.

It is a fact well authenticated by history that the Aztecs and Peruvians were so entirely ignorant of the horse that when they first beheld him they thought he and the rider were one and the same animal, that they were united, and only different parts of the same being, like the fabled centaur, and they also thought the horse was sent from the sun, the abode of the pale faced man. An incident is related that is said to have saved a band of Pizarro's men from destruction: The natives were in position, and in such numbers as to overwhelm the Spaniards, when, in running his horse, one of the cavaliers fell off, which caused the natives to believe that the Spaniards had the power to take themselves to pieces and put themselves together again, which so frightened them that they fled in dismay.

Even without any knowledge of the horse, the Spaniard found a state of civilization and economic surroundings that were amazing. They found cities, store-houses, highways, palaces, farms, gardens, lines of transportation, arts and culture to them of strange and novel character, which they beheld with wonder, and had to confess that the denizens of these unknown countries, in some ways, equaled, if not surpassed, those of the European countries. They also found governments, and especially in Peru, that in law, morality and practical administration, would compare favorably with that of any other that had before or has since existed upon the earth. No

one could be rich, no one could be without the means of a comfortable subsistence and all the necessaries of life. All were supplied in great abundance by the government All the people had to work when able to do so, and when not able were cared for, protected and fed from the immense granaries and clothed from the well filled store-houses, all of which belonged to the Sun under the control of the Incas, for the benefit of the people. There were no monopolies, no trusts, no great corporations, no syndicates to draw from, corner and appropriate to themselves that which belonged to and which was employed for the benefit of the people.

They had roads and highways, but not a horse in the empire, nor did they know that such an animal existed.

The roads or highways in both Mexico and Peru were most exquisitely constructed. The Llama was the beast of burden in Peru. This faithful animal was to them what the camel now is to the Arab of the desert and other countries of the east. One of them cannot carry a heavy burden but many hundreds of them in a caravan will transport large amounts of freight.

Couriers, trained to their employment and selected for their fitness and speed, traversed these highways which were smooth as floors, said to have been made of broken stone and cement like our macadamized and asphalt streets, with great dexterity, so that messages were caried by them at the rate of 150 to 200 miles per day. These couriers constituted the express of that country, and fruits, fishes and different articles of food were carried from the far-off seaport and other distant parts, to the tables of the rulers and served fresh and well preserved. One courier carried his burden but a short distance when he handed it over to another, each one running at full speed over the distance he had to make.

I have made this digression from the main question to show what wonderful things have been accomplished without the use of the horse and to present the question, whether we may not be approaching a junction in our civilization and advancement wherein we can also dispense with the horse. If we are approaching that period I don't think we must necessarily go back to Aztec or Inca civilization nor adopt the methods of commerce used by them.

If the horse is to go into disuse, be forgotten, and in the coming milleniums exist only in the fossiliferous form, I think the courier and postman will at least ride on a bicycle, and that heavy burdens will be conveyed by steam or electricity over the common highways, while the elite passenger will be carried in his cushioned cabriolet, palanquin or sedan, on gauzy wings through the air.

Looking back into ancient times and tracing the career and uses of the horse, we find him prized mainly for the services rendered in battle.

The slow and sturdy ox did the work of the field and was the steadfast companion of the husbandman. Sometimes we see mention made of the ass and the mule, but the ox was the great adjunct to agriculture.

Both the ass and the mule were more venerated than the ox. Absalom rode upon a mule when he was bush-whacking against his father, the king, and Balaam had a trained ass that could talk. But the horse was ridden in battle, drew the chariots in the charge to trample down the enemy; his neck was, in those days, thought to be clothed with thunder,

Speaking of the horse having formerly been used in war, it is proper to say further that greater development has been made by his use in, and his breeding for, the wars of the human race than from any other cause.

I have already spoken of the development of the Arabian and of the cause that gave him such wonderful endurance, tenacity and agility. His blood to a greater or less extent flows in the veins of all thoroughbreds and standard horses unto this day.

The same brought into use and developed the heavy draft breeds which are now-a-days so much esteemed and of which I shall have more to say.

In the first centuries of the Christian era when the wild hordes poured down from the northeastern countries into Europe, a large horse accompanied them, and still at a later period when the Scandinavians and Danes overrun the central portions of Europe, they brought with them larger horses than that country before possessed. And at this time war being the normal condition of these countries, the horses were by the sovereigns improved and bred for a sturdier horse and of greater form than the ones preceding them.

At the close of the tenth century when all western Europe was in the highest state of religious excitement over the occupation of the Holy Land by the infidels, war was all that engrossed attention, and crusade after crusade was made to rescue the Holy Land from these same Mahometan warriors of whom I have spoken. These wars continued for nearly 200 years. The European, in order to cope with the wily Arabian charger, was compelled to rear a horse with good action and of such ponderous build that he could move the accoutrements of war into the far off country that they desired to wrest from the infidels

Whole families, aye whole communities, forsook home and country and made crusades into Palestine. Nearly all transportation was made by the horse, he was the cavalry horse on the field, had to cope with the agile Saracene horses and necessarily drove them to the development of a large active animal.

One author says, "To successfully cope with the superbly mounted Mahometan trooper was the desideratum of the hour. To accomplish this end the large raw-boned northern cavalier with his battle-ax, his mace, his heavy sword, his ponderous lance and his heavy coat of mail, required a different charger from that which was ridden by the light armed followers of Mahomet."

In that portion of Europe lying west of the Rhine, south of the North Sea, embracing northern France, the Netherlands and Belgium, was found material from which to develop a horse such as these times demanded.

A well directed and judicious rearing of this class of heavy animals took place, receiving the endorsement and aid of the sovereigns and the fostering care of the Catholic monasteries and prelates of the age.

I want my auditors to bear in mind that these developments were not made in one year, nor in ten years, but in centuries.

From this stock developed in northern France and the Netherlands, has come down to us all the large heavy draft horses known in our day.

But I have pursued this style of treating my subject quite far enough. Many of you, no doubt, are wondering what the Llamas of Peru, the mustangs of the wild prairies, Absalom's mule or Balaam's ass has to do with the condition of the horse in our own country at the present time

and would like to have me, at once, come to the question "where are we at" in the horse business at the present time.

It seems that the interest that once ran so high in this country in the rearing and culture of horses, has fallen off in a great degree, and it may be a serious question whether it will ever revive. Some sixteen or eighteen years ago new life was infused into this great stock-producing enterprise. From that time following it was believed that a new era had arrived. That by bringing hither the best blood and the best stock from the European countries, where judicious breeding had established races of superior conformation, strength and beauty, that the common scrub horse of this country might be removed and a better race or races placed in his stead. The attempt has been made and with what success is patent to every, even casual, observer.

It cannot be claimed for a moment that an entire failure has been the result. If it were possible to assemble the horses of the past, that is, previous to 1880, in this county (Jefferson), and also to put together the horses of to-day and compare them side by side, such a difference would be perceived that the best horseman would be dumfounded.

It does not take an old person to have a vivid recollection of the small, slender, light-boned animals that we used to think were horses. It was rare to find many that would weigh 1,200 pounds, and generally their weights were 800, 900, and 1,000 pounds. They were not very level headed, in fact, unsteady and unreliable. Now the horses weigh from 1,200 to 1,800 pounds, the heavier ones attracting the most attention and selling for the longest price. Of this class of horses, I shall speak, measurably, omitting the thoroughbreds and standard breds. I don't regard either of these later breeds as absolutely belonging to, or constituting the necessaries of the human family. They are but the luxuries of life. Men will have their pastimes, their amusements, and their sports, and the display of the prowess of these horses is far in advance of the bull fights or the gladiatorial combat in the days that are past and gone. I would not be understood as entirely ignoring or condemning this light breed of horses, but I only repeat what I have heretofore said, that to turn to the trotting and running horses for relief from the distressing condition of the present situation is "jumping from the frying-pan into the fire." To commingle this blood with other stock of horses is a retrograde step instead of an advancement. It is fostering and developing the same kind of stock that we so determinedly set ourselves to get rid of a few years ago. Few, if any, of these horses will ever attain distinction, and while a few may be good roadsters, the bulk of them are worthless, comparatively.

The department of agriculture, division of statistics, has issued a bulletin, from which we glean some very interesting and important facts.

The whole number of horses in the United States in 1893, was 16,206,802, and in 1880, the whole number was 11,201,800, showing a gain of 5,005,002 in thirteen years. Since 1893 the number has declined to 15,124,057, showing a decrease in three years of 1,082,744, or more than 360,000 a year in this period.

In 1892 the total value of the horses of the United States was $1,007,593,638. In 1893 their value was $992,225,185. In 1894 it was $769,324,799. In 1895 it had run down to $576,730,580. And in 1896, down to $500,140,186, being less than one-half in value as compared with 1892.

These are startling figures to every thinking man in more ways than one. Those engaged in this exalted enterprise can more readily understand, but every one who makes finance a study should realize the crushing effect upon the whole country by the paralysis given to this industry.

It has been laid down as a fact that the keeping of the horses of our country costs, annually, $756,202,850, a far greater sum than the interest on the public debt. This calculation must have been made on the basis of stable feeding altogether, as it cannot, in our western country, cost such immense sums.

With the exception of Texas, Iowa, to-day stands at the head of the column in the number of horses. Texas, Iowa, and Illinois are the three great horse producing states. It is unfair to make comparison with Texas, she having five times the territory that Iowa or Illinois has. If we make comparisons by way of estimated values, Texas would fall far behind.

The following table, compiled by Mr. Kell, of The Spirit of the West, from the statistical bulletin issued by the agricultural department, shows the number and value of the horses in the three great states of Iowa, Illinois, and Texas for 1880 to 1896 inclusive:

YEAR.	IOWA.	ILLINOIS.	TEXAS.
1880	778,400	1,078,000	993,900
1881	809,536	1,097,220	1,002,456
1882	816,092	1,012,854	338,343
1883	856,897	1,017,915	880,260
1884	891,173	1,028,094	889,063
1885	917,908	1,038,375	933,516
1886	945,445	1,048,759	998,892
1887	973,808	1,059,247	1,038,816
1888	1,000,022	1,069,839	1,225,803
1889	1,053,173	1,091,236	1,323,867
1890	1,095,200	1,123,973	1,350,344
1891	1,095,300	1,123,973	1,512,385
1892	1,314,259	1,237,528	1,269,958
1893	1,353,791	1,277,654	1,246,205
1894	1,367,329	1,208,771	1,183,895
1895	1,298,963	1,295,683	1,195,734
1896	1,182,056	1,179,072	1,184,777

We see that in 1880, Iowa had 778,400, Illinois 1,078,000, but to-day Iowa has 1,182,056, and Illinois has 1,179,072, Iowa leading Illinois 2,984.

This number is no great thing to boast of, but to be even with our great sister state is a high honor, and to excel her is a victorious achievement of which we may justly feel proud.

From 1880 to 1894, a period of fourteen years, Iowa increased her horses 588,929, while Illinois increased 230,771 and Texas increased in the same period 219,995.

It is clearly seen that our state has been a long way in the lead since the commencement of what may be termed the new era in horse breeding.

If we take into consideration the immense number that has been shipped from our state during this period, we find that Iowa has added very greatly to the number of horses in the country.

As to the number that has been sent out of our state, I have no statistics giving any information upon the subject.

I glean the following from statistics showing the comparative values of horses in the three great western states to which I have referred.

	IOWA.	ILLINOIS.	TEXAS.
1880	$42,859,885	$55,689,480	$21,331,017
1896	34,022,533	34,503,959	24,528,883

Texas has replaced thousands of her mustangs with good grade stock, and has greatly increased the value. While Iowa and Illinois have increased their number to a far greater extent, the values have fallen off most fearfully.

During my first visit to Europe in 1889, I was told by men engaged in the horse culture and well informed as to the condition of that stock, that if horses suitable to the uses of that country could be obtained in the United States, vast numbers of them would find good markets in Europe. Before and up to that time they claimed that the American horse lacked in quality combined with weight and action, but size seemed to be the desideratum with the English, French and Belgians. This caused me to predict that at no distant day the European countries would afford a market for our horses.

I see by the report of the secretary of agriculture of 1895, that my predictions have, in some degree, been realized. This report shows that:

> During the first eight months of the year 1893, 10,177 horses; in the same period of 1894, 15,614 horses, and during the eight months ended August 31, 1895, 22,755 horses from the United States were landed and sold in Great Britain, the last exportation being valued at $2,947,500.
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> The average price of American geldings in the English market during the first eight months of the year 1895, was $155.30. Geldings from Canada during the same period averaged $141 each.
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> In September, 1895, some good carriage horses were received in England from this country. They were of fine appearance, well gaited, thoroughly broken and free from blemish. The best of them sold at $250 single, and as low as $300 for a match team.
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>
> The London Roadcar company is using a great number of American animals for which it has paid from $100 to $175 a head, and the managers of the company unhesitatingly declare that the imported horses wear as well as their home bred, and that they acclimate readily.
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> Many establishments in England are utilizing American horses, including the Great Eastern Railway company, which has paid as high as $190 to $220 per head for imported draft horses.

From the long prices that horses command in all parts of Europe that I visited, it would seem that America should supply this demand. In some portions of those countries, horses are absolutely scarce in comparison with the work to be done by them. In Belgium a horse is looked upon not only as a convenience, but as a treasure. Dogs do one-twentieth of the work belonging to the horse.

A dog has a commercial value there the same as the horse has here and will command as much as the farmer's horse has been doing for some time in this country. He brings about 100 to 125 francs ($20 to $25). A dog and a woman make a splendid team in that country and bring a great portion of the produce from the surrounding country to the markets. I have also seen a man harnessed with a dog to a harrow going forward and back on the plowed ground, cultivating the field.

The milch cow in that country is harnessed to the plow and cart with collar and hames, driven with check lines, and performs much labor for the husbandman, the work of the horse. It is seldom that you see the steer

harnessed as a beast of burden. He is generally on a good grass plat sometimes lariated on the sward in order that as much beef may be laid on his carcass as possible. He is considered too precious to be maltreated in the least.

Once in conversation with a person from whom we purchased a horse in Flanders, I was inquired of as to the price of pasturage for horses by the month in my own country. The person making the inquiry marveled greatly when informed that our prices ranged from 50 cents to $1. He informed me that the colt that we had just purchased of him was on hired pasture for which he paid 1 franc and 50 centimes per day, which in our money means nearly 30 cents per day and nearly $9 per month. This would cost about $54 for six months' pasturage. There is no country in the world so far as I know, where good horses can be reared so cheaply and of better quality, than in our own state of Iowa. Our lands are neither marshy nor stony so as to engender desease in the limbs or break the hoofs.

The great increase in the short period as shown by the statistics, in this state demonstrates the fitness of our soil for this business. Grass and hay are very abundant and the supply of grain is unlimited.

But when we survey the whole field, seeing what has been done, and anticipating what must yet be done to make our country the great horse producing and supplying place of the world, there seems to be so many discouragements presenting themselves, that we almost become bewildered and many are cast down and ready to give up.

I have found no statistics upon the subject, but I venture the assertion that the street cable and the electric car is doing the work of more than 100,000 horses in the United States at the present time.

The bicycle has become an important factor in diminishing the use of the horse. How many wheels are used or what number of horses they take the place of and throw out of employment, I have no means of knowing. This, no doubt, has its effect upon the small horse, but very little upon the large draft horse. The main consolation one has in viewing this subject is—that a man cannot hitch his bicycle to a load of two or three tons and pull it either upon the streets of our cities or upon the common roads.

It has come to be a fact that no proposed improvement, in whatever department it may be directed, is too incredible for a belief in its accomplishment. Seeing what has already been done, is it too fanciful to expect that motor-electric carriages for pleasure, and wagons for burdens may be as common, to coming generations, as the mower, binder, the telegraph, the telephone, the electric light and other wonderful inventions are to us?

It is now claimed that a steam engine has been invented and in the course of completion, that will occupy but a few square feet of space, which will generate more power than the half score of boilers and the most powerful engines that propel the immense ocean steamers.

A citizen of our state is now, as he claims, perfecting a gasoline boiler that will generate steam at one-third the cost of the coal consumed, do away with a fireman, save the mining and hauling of the coal to the furnace. I see in the Chicago papers, last Sunday, this statement from a man in London: "With a drop of petroleum and a quart of air we are going to revolutionize the whole system of transportation in England."

Will men yet ride upon the air, soar to the clouds, and live upon the sunbeams and zephyrs that float in the empyrian above?

The prospect for establishing the best horses that exist, on a general scale in this country, is not just now the most flattering. "The survival of the fittest" has not obtained with us. But the retention of all the unfit ones has been the rule followed in this country, it matters not how propitious a start one has made, nor how likely the stock may have been that has been produced, if there have been any foaled with crooked legs, long, weak backs, ugly heads, spavined limbs, weak eyes or poor feet the breeder has those horses yet, while the ones of fine conformation, clean limbs and sound in every respect have been sold and shipped away. I do not know as the farmer has been entirely to blame for this course, because the perfect horse not long ago commanded a good price, while the blemished and inferior one would not bring the money he needed; but it leaves the stock of horses on hand from which to build up the future stock in a most lamentable condition. Some have pursued a different course, and it should be a rule steadfastly adhered to, to retain the best animals and dispose of the poorest, let them bring what price they may.

For those who are not forehanded enough to handle the full blooded horse it will take long breeding and judicious selection to reach perfection, as I have shown by my illustrations at the commencement of this lecture, by reference to the heavy horses of western Europe and of Arabia.

We have many likely animals that can be made to produce good stock, that in time will be a credit and a profit to the breeder.

For this condition of our horses the importers have not been blameless. The prospects of great gains, at one time inspired a zeal in the minds of too many to become importers and the number of these importers became so numerous as purchasers in the districts of the old country where the choice horses are raised, that the foreign horse merchant was prompted to fit up and represent as genuine and characteristic breeders, horses that should never have been brought to this country. They were inferior animals, bought at inferior prices, pedigreed according to order, and brought hither to be imposed upon our people. They could be, and were, sold cheaper here than good, genuine horses could be afforded. Their services were at lower figures than that of good ones could be afforded. This, together with what I have just said about the disposal of the fittest has left our stock in such condition that it will be many years before we can boast, as a rule, of having the best horses in the world.

There are many full blooded horses here and there in the country. Now is the best time that ever has been for the farmer who is fixed to raise stock, even in a limited degree, to commence. Let him purchase a full blooded, well formed filly, if only a yearling, and care for and foster it, seeing to it that the very best full blooded stock is mated with it. If you should be so fortunate as to raise a mare colt, do the same with it that you have with its dam. If a male colt geld it—sell off the common stock at whatever it may bring, keep the full bloods and feed and care for them. You can not raise these big horses on wind and moonshine. They like to eat when they are colts as well as when they become work horses. Nothing pays better than four or five bushels of oats fed to a colt from the time it is four weeks old till the time it is weaned. Colts should have a stall or little stable, with a small door that will admit them and exclude large

horses, where they can eat oats at their will. Each will not eat over four bushels during the sucking season, and you will have a colt when the frost of autumn comes, that will be a pleasing sight. You will take the preacher out on Sunday afternoon and show him such colts and call his attention to the good points about them and praise the blood and stock in them, when in truth and in fact, the $1 worth of oats has had more to do with his grand appearance than his blood. Some think that when a colt is weaned he ought to live on the dry grass the other horses have trampled upon all summer and would not eat, or upon dry corn husks in an open field, with snow to his knees, and if he gets lousy and woolly by spring, the owner will speak of the poor blood that he has in his veins. The colts should be full fed and cared for the first winter, as that is the hardest one for him that he will ever see.

Let a man try the experiment, as indicated, and see that if in a dozen years he does not have his farm stocked with full bloods, and have the exquisite satisfaction, when he drives a team to town or church, of knowing that every beholder is looking with admiration upon his team, even if he is not good-looking himself. He knows that when they are hitched to the plow, the wagon, or the binder, that the implement, whatever it may be, will move. He does not have to count the sticks of wood that he piles on his wagon to be sure that the team can pull the load. If he is religiously inclined (and if he has this kind of a team he is almost sure to be) he would go to church because he knows that he will not have to swear at a span of little balky horses, stalled in the first mudhole he comes to, as the people formerly did in this country. And right now is your time to make the start in this grand enterprise; time is flying. You can now buy a limited number of full blooded mare colts at perhaps less figures than we used to pay for the same kind 5,000 miles from here. It matters not what breed of horses you may think the best; take your choice, but stick to that breed and keep the best as sacredly as you provide for your household.

The horse is the great and indispensable adjunct to the human family, almost equal in beauty and intelligence. The highest progress and civilization will be associated with him for all time to come.

CHAIRMAN: The next will be a paper by Professor Curtiss of Ames, entitled "Points of Excellence in Beef Cattle."

PROFESSOR CURTISS: The subject assigned me is "The Points of Excellence in Beef Cattle," and I will also very briefly go over the ground that I discussed yesterday before the Shorthorn Breeders' association, a number having requested that I use these illustrations to bring out the points.

POINTS OF EXCELLENCE IN BEEF CATTLE.

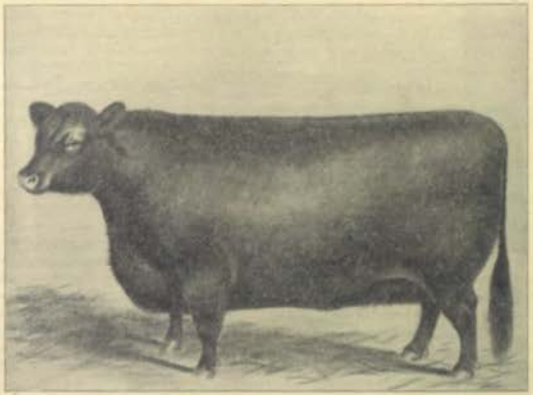
BY PROF. C. F. CURTISS.

Gentlemen of the Iowa Improved Stock Breeders Association:

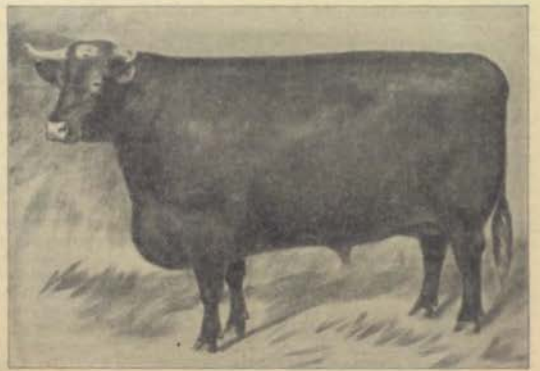
A brief consideration of the qualities of practical excellence in beef cattle may well engage the attention of the breeder and feeder. A topic of this character is too often regarded as of interest only to the professional exhibitor, or the lecture room instructor and student; but in this field every successful breeder must always be a student, for the first essential in successful breeding is a clear conception in the mind of the breeder of what constitutes a good animal, and of all the characteristics that go to make up real excellence in a herd or flock. It is said that the late renowned Amos Cruickshank, the founder of the great Scotch tribe of Shorthorns, was often seen by the side of the leading sale rings of Great Britain, intently studying every animal that came into the ring, and his minute knowledge of all the animals brought out was the marvel of those who chanced to converse with him about them afterwards.

And while the methods of the first great improver of live stock were largely secret, it is known that the justly celebrated Robert Bakewell was not only an exceedingly close student of living forms, but that his rooms were also full of models and parts of domestic animals that he had carefully dissected and studied piece by piece, and preserved in alcohol for future reference. In his work of selection and improvement, he imparted to the Leicester sheep such a remarkable aptitude to take on flesh that this quality remains a characteristic of the breed to a greater degree than any other long wooled breed of England, even to the present day.

I invite your attention to this subject on account of its general importance to the beef producer as well as the breeder of show ring and sale stock, for I contend that the show ring type must necessarily keep close to, and be largely governed by the practical demands imposed by the feed yard and the block; or else the lessons of the show yard and sale ring are without value, if not positively misleading. No one is more concerned in what constitutes the essential qualities of a good beef animal than the man who breeds and feeds for the block, for it must be kept in mind that this is the ultimate end of all beef stock, and the best beef animal is the one that carries to the block the highest excellence and the most profit. This, gentleman, is in a word, the keynote of the whole problem and if we do nothing more than look squarely at this subject in the right light, we will have made a good beginning. It means everything in the live stock business, to begin right, to be traveling upward—to just be headed in the right way. To be headed the opposite way is fatal.



CHAMPION ANGUS HEIFER.
Smithfield, England, Fat Stock Show.



HIGH GRADE SHORTHORN STEER.
Raised as a skim-milk calf by the Iowa Experiment Station.

HIGH GRADE HEREFORD STEER.
Fed and marketed by the Iowa Experiment Station.

To begin with, there is a well defined beef type that admits of less flexibility than is generally regarded. We hear much about the dairy type, and there is a dairy type, fairly clean cut and well defined, but I want to say to you that there is also a beef type, more rigid and less variable than the dairy type. Your own observations and experience will bear me out in this assertion. You all know that there are not a few cows of quite positive beef tendencies capable of making very creditable dairy records, and a great many that combine milk and beef to a profitable degree, but can you recall an instance of a good carcass of beef ever coming from a steer of a pronounced dairy type or breed? So clearly and definitely is this beef type established that to depart from it means to sacrifice beef excellence.

Here are some illustrations that pretty accurately represent the ideal beef type. The first is a good reproduction from a photograph of a prize winning Angus heifer exhibited by Queen Victoria at one of the late Smithfield fat stock shows. (Large chart drawings shown.) The next is a high grade Shorthorn steer, raised as a skim milk calf at the Iowa experiment station. He was the best steer in the Chicago yards on a day when there were 26,000 cattle on the market. The next is a high grade Hereford steer, fed at the Iowa experiment station, that was good enough to easily top the market, and was one of five to dress an average of 67.05 per cent of net beef. He weighed when two years old 1,620 pounds. I also have here a standard of excellence that I have formulated for the use of students in judging beef cattle.

IOWA AGRICULTURAL COLLEGE—DEPARTMENT OF AGRICULTURE.

STUDENT'S SCORE CARD—BEEF CATTLE.

SCALE OF POINTS.	Possible score.	POINTS DEFICIENT. Student's estimate.	Revised.
(a) GENERAL APPEARANCE: 25.			
Weight—estimated ..... lbs; actual.....			
Form, smooth, even, parallel lines, deep, broad, low set.....	10		
Quality, thick covering of firm flesh, mellow touch; soft, heavy coat; fine bone; velvet-like skin.....	10		
Style, vigorous, strong character, active, but not restless.....	5		
Objections, rough or angular in form, harsh coat, hard skin, dull appearance.....			
(b) HEAD AND NECK: 10.			
Muzzle, broad; mouth large; jaws strong; nostrils large.....	2		
Eyes, large, clear, placid.....	1		
Face, short; quiet expression.....	1		
Forehead, broad, full.....	1		
Ears, medium size, fine texture.....	1		
Neck, thick, short and full; throat clean.....	2		
Horns, fine texture, medium size or small.....			
Objections, long or lean head and neck, dull eyes, coarse, heavy horns.....			
(c) FOREQUARTERS: 10.			
Shoulders, covered with flesh, compact on top, smooth.....	4		
Brisket, prominent and wide.....	2		
Dewlap, full skin not too loose and drooping.....	1		
Legs, straight, short; arm full, shank fine, smooth.....	3		
Objections, bare shoulders, narrow on top, contracted brisket, coarse legs.....			
(d) BODY: 35.			
Chest, full, deep, wide; girth large; crops full.....	8		
Ribs, long, arched, well covered with firm flesh.....	7		
Back, broad, straight, smooth and even.....	10		
Loin, thick, broad, full.....	6		
Flank, full, even with underline, or nearly so.....	4		
Objections, narrow or sunken chest, hollow crops, sloping ribs, bare or rough back and loin, high flank.....			
(e) HINDQUARTERS: 20.			
Hips, wide, smooth, well covered.....	5		
Rump, long, even, wide, smooth not patchy.....	4		
Pin Bones, wide apart, smooth not patchy.....	3		
Thighs, full, deep and wide.....	3		
Twist, full, deep, large, level with flank or nearly so.....	3		
Purse, full, indicating fleshiness.....	2		
Legs, straight, short, shank fine, smooth.....	2		
Objections, prominent rough hips, narrow bare rump, spare thighs, light twist, small purse, coarse legs.....			
Total.....	100		

Animal.....

Student..... Date.....

I regard the score card as an educator and of great advantage to the student, but I do not favor its use in the show ring. The judge who goes into the show ring should carry a clean cut mental conception of a good animal, and the qualities that are objectionable. This applied to the animals of a ring virtually amounts to the use of a score card without the objectionable features of that system. In recommending the score card to the student, I use the term student in its broadest sense, embracing not

only the prospective breeder within the class room, but every member of the great practical school as well, who wishes to keep in the foremost rank of his profession. One of the prime causes why so many men fail in this field is the lack of a thorough study of the essential characteristics. In other words, and to put it more plainly, breeders fail to breed good animals because they do not know what good animals are.

I will only endeavor to call your attention at this time to some of the more important characteristics enumerated in the score card, as my time will not permit me to take up this subject in detail.

The first thing that should be looked to is the general beef form—low, broad, deep, smooth and even, with parallel lines. No wedge shape is wanted for the block.

Next in importance is a thick even covering of the right kind of meat in the parts that give the high priced cuts. This is a very important factor in beef cattle that is often overlooked. Here is a drawing representing the wholesale method of cutting beef, showing that about 28 per cent of a good carcass of beef sells for nearly 64 per cent of the total value. The high priced cuts are the ribs and loins. These parts on an average sell for about three times as much per pound as the others. Good broad, well-covered backs and ribs are absolutely necessary to a good carcass of beef and no other excellencies, however great, will compensate for the lack of this essential.

It is necessary to both breed and feed for thickness in these parts. And mere thickness and substance here is not all. Animals that are soft and patchy, or hard and rolled on the back, are sure to give defective and objectionable carcasses, even though they are thick, and they also cut up with correspondingly greater waste. The men who buy our cattle and fix their market value, are shrewd enough to know almost at a glance how much and just what kind of meat a steer, or car load of steers, will cut out, and if the producer overlooks any of the essential points, he is compelled to bear the loss.

Then, in addition to securing the general beef form and make up, together with good backs, ribs, and loins, there is a certain quality, character, style, and finish, that constitute an important factor in determining the value of beef cattle. One of the first indications of this is to be found in the skin and coat. A good feeding animal should have a soft mellow touch, and a fine but thick and heavy coat. A harsh unyielding skin is an indication of a sluggish circulation and low digestive powers. The character and finish exemplified by a clear, prominent, yet placid eye, clean cut features, fine horn, and clean firm bone, all go to indicate good feeding quality and a capacity to take on a finish of the highest excellence, and consequently to command top prices. I would not tolerate too large or too coarse bone. Coarse boned, rough animals are almost invariably slow feeders and hard to finish properly. A certain amount of size is necessary, but it should be obtained without coarseness. The present demand exacts quality and finish rather than size.

Besides these qualities, and above all, it is necessary to have vigor and constitution. We find evidence of these in a wide forehead, a prominent brisket, broad chest, full heart girth and general robust appearance; and without them other excellence will not have its highest significance.

And now, gentlemen, while I have urged the importance of those things which go to make up a finished carcass of beef of the highest value, and while, as I have stated, the block is the ultimate end of all beef cattle, I want also to state that undeveloped breeding stock cannot at all times be expected to measure up to this standard. And right here I want to say a word about our present system of show-yard competition. I believe that every fair and live stock exhibition should have its fat stock classes, and that these should be taken as the standard of the finished product. They will afford the most practical and useful lessons to be gained by the show, and the stock brought out for them will represent the culmination of the highest excellence that can be attained. The competition will be a measure of everything at its best, and in it every animal will rightly be rated according to what it is capable of producing on the block. The show ring should afford a contest of that kind, and in addition to the practical lessons, and its educational value, it would partially remedy the tendency to rate breeding stock according to the flesh carried. While heavy flesh is necessarily a factor of great importance, yet to go into a breeding herd and absolutely rate every animal as if it were to go at once to the shambles may lead to entirely erroneous results. I do not undervalue fitting; other things being equal, the best fitted should always win, but the point that I want to urge is that an animal in a breeding herd ought to be rated according to its value as a representative of that herd, and for the purpose of the herd, instead of taking rank simply as a carcass of beef in the form presented. In a fat stock ring it is proper that only the carcass be considered. In a breeding ring, an animal should be rated by its value to go on in the herd, and not simply to go onto the block. There is a well marked distinction here that should never be overlooked. The fat stock classes should be added for the lessons that they will bring, and to avoid diverting the purpose of the breeding stock classes. A sum of money equal to that given to any one breed would be sufficient to make a satisfactory classification in which fat stock of all beef breeds could compete and furnish one of the most interesting and instructive features of the fair.

In conclusion I wish to call attention to one other point, by way of emphasis, of the necessity of having the right kind of cattle to insure a profit, or rather to avoid a loss, under present conditions. There is not a very great difference in the rate of gain, or the number of pounds of increase in weight from a given amount of feed, that will be made by a representative of the best beef breeds and a genuine scrub, a Jersey or a Holstein steer. This is a fact that practical breeders and improvers of live stock were slow to accept at first. In fact they did not accept it until it was repeatedly demonstrated, and some will not concede it yet, but the evidence is constantly accumulating and it is useless to ignore facts. After all there is no well founded reason why a Shorthorn or a Hereford or an Angus should make more gain in weight from a bushel of corn than a Holstein, a native, or a scrub. This is governed altogether by the digestive and assimilative machinery of the steer. The Holsteins, for instance, are known to be vigorous eaters, and the despised scrub usually has a digestive system

like a goat—and is always hungry. Scientists have discovered that civilized man has no greater powers of digestion than the barbarian or the Indian. Neither has the improved steer better digestion than the native. The feeder is often deceived in the belief that he has a good bunch of cattle simply because they feed well and gain rapidly. Economy of production is an important factor but it is by no means all. It is even more important to have a finished product that the market wants and will pay for, than that it simply be produced cheaply.

Here, for instance, (pages 93-97) are illustrations of two steers fed at the Iowa experiment station; one is a Jersey and the other a Hereford. While

HIGH GRADE JERSEY STEER.
Fed and marketed by the Iowa Experiment Station.

they were in the feed lot, the Jersey made a gain of two pounds a day for nine months; and the Hereford 2.03 pounds for fourteen months. There was practically no difference in the rate and cost of gain. Judged by the record they made up to the time they went to market, the Jersey would take rank close to the Hereford in both rate and economy of gain. But the interesting part of the comparison came later. The Jersey took on flesh rapidly and was exceedingly fat and well finished. He was as good as it is possible to make a Jersey steer. Yet when he went to market he had to sell $2.12½ below the top quotations, while the Hereford went 10 cents above the top for any other cattle on the market. But you may say that this was partly prejudice. I used to think so, but since I have followed cattle through the feed lot and to market and onto the block, and carefully ascertaining all the facts for several years, I have changed my mind. I will show you where the difference was in those two steers. This steer (the Jersey)

belongs to a breed that has been developed for centuries for the specific purpose of making butter—that is, putting the product of its feed into the milk pail. They are rough, angular and bony, and when you fatten them, as you can do, they do not put the fat into the tissues of the high priced cuts of steaks and roasts on their back, but this steer had 190 pounds of what is termed loose or internal tallow, and fifty-five pounds of suet on a 763-pound carcass; that is 32 1 per cent of that steer's carcass was tallow. Tallow was at that time worth 4 cents a pound, while the best loin cuts were worth 19 cents, at wholesale. And besides that, this steer only dressed 57.5 per cent of beef, while the Hereford dressed 67.5 per cent. Then the Hereford only had ninety-five pounds of tallow and thirty-eight pounds of suet on an 888-pound carcass—equivalent to 15 per cent. And besides this striking difference in percentage of meat in high priced cuts, the meat of the Jersey was very much inferior to that of the Hereford. The Jersey steer went on accumulating fat around his paunch and internal organs to the extent of nearly one-third of his body weight, while he hadn't meat enough on his back to decently cover his bones. This explains why you can never get a Jersey or a Holstein or any other roughly made steer smooth, no matter how long you fatten them. There is a reason why rough cattle do not sell. These same distinctions are largely true of the native and all other improved cattle, when an attempt is made to fatten them for beef. The men who buy them don't need to kill them to find it out; they know it as soon as they see them.

So when we put a steer into the feed lot to fatten, it is all right to know that he is gaining rapidly and cheaply, but we also want to know whether he is making a 4-cent product or a 19-cent product. If he hasn't the beef type, and hasn't the characteristics of a beef animal bred into him, he will fall short of the mark. Feed alone does not make the high selling product.

Charts were used to illustrate the points of excellence in different cattle.

CHAIRMAN: Now we will have the resolutions. We will hear from Senator Vale.

MR. VALE: The following is the result of the deliberations of our committee on resolutions:

Resolved, That our lawmakers, soon to assemble in extra session for the purpose of recodification, be admonished to retain the present transportation enactments intact in all their workings and effect.

2. In the event of any revison of our revenue laws, we insist that any increase in valuation of taxable property should be equalized by a corresponding reduction of the limit of the levy as made by all bodies authorized to make the same.

3. That we protest most emphatically against the provisions of the proposed Code bearing on mutual insurance, inasmuch as it will, if adopted, wipe out entirely the farmers' mutuals doing a state-wide business and seriously cripple the local mutuals.

4. We demand, on behalf of the farmers of Iowa, the same measure of protection to the farmers' finished products, such as wool, hides, butter, cheese, eggs, etc., that may be given to the finished products of the manufacturer, who uses these as raw materials.

5. We demand the prohibition of the importation of shoddy by the general government, and favor such legislation by the states as will prohibit or greatly reduce the use of it in our country.

6. That we commend the earnest effort of the management of the State Agricultural society in the promotion of our agricultural and material interests, and, regarding this as one of the great educational institutions of our commonwealth, we bespeak for it due consideration at the hands of our general assembly.

7. That we return our sincere thanks to the citizens of Fairfield and Jefferson county for their magnificent efforts put forth in behalf of this association in their diligent attendance, their liberal kindness and boundless hospitality.

CHAIRMAN: What shall we do with these resolutions?

Moved and seconded that the resolutions be adopted; motion carried.

MR. FUNCK: I have another resolution I would like to offer, if there is no objection.

CHAIRMAN: No objection.

MR. FUNCK: I will simply say that if the dairy commissioner and the legislature have the idea that the only thing in danger of being adulterated is butter, they are mistaken and I want to mention a few others.

Resolved, That we favor the enlargement of the duties of our state dairy commissioner so as to include all food products, and the enactment of such laws that will compel manufacturers to have all packages and adulterated food products marked with the amount of adulterants contained therein.

Moved and seconded the resolution be adopted; motion carried.

Mr. P. G. Henderson read the report of the committee on officers and location.

West Liberty selected for the next place of meeting.

PRESIDENT.

J. W. Blackford	Bonaparte

VICE-PRESIDENTS.

John Cownie	South Amana
J. P. Manatrey	Fairfield
Richard Baker	Farley
Prof. C. F. Curtiss	Ames
J. H. Gerholdt	Cedar Falls
Dan Leonard	Leonard
P. G. Henderson	Central City
J. Creswell	Bonaparte
J. R. Crawford	Newton

SECRETARY AND TREASURER.

C. Murdock	Waterloo

CHAIRMAN: We have forgotten the secretary's report; will the secretary now make such a report as he is prepared to?

MR. MURDOCK (Secretary): Concerning the expenses of this association during the last year I wish to say there was something of a deficit in the treasury at the commencement of the year, and up to the the time of my starting to this convention I have made the following expenditures; this report takes in the expenditures made during the fiscal year up to the time I left my home, and is now included in the following treasurer's report for 1896.

TREASURER'S REPORT.

Iowa Improved Stock Breeders' Association in account with the treasurer for 1896

1895.	
November, to paid postage	$ .20
December, to paid postage	.18
December 22, expressage from Atlantic	.45
1896.	
January, to paid postage	.25
January 15, to paid express on matter to state printer	.25
February, to paid postage	.10
June 20, to paid for draft sent Lafe Young for wrapping and postage on eighty-three books sent members	7.50
June 30, to paid postage	.10
October 21-24, to paid traveling expenses of secretary to Fairfield	4.75
October 31, to paid postage and stationery	.66
November 30, to paid postage on programs to members	1.45
November 30, to paid postage	.48
November 30, to paid 500 programs	4.00
December 10, to paid stenographer for transcript of Fairfield meeting	30.00
December 12, to paid railway fare Waterloo to Fairfield and return	9.40
December 12, to paid hotel at Fairfield	4.10
December 15, to paid Atlantic Telegraph for printing programs in 1891	2.75
December 29, to paid secretary's salary for 1896	25.00
1897.	
February 20, to paid postage for December, January and February	1.60
Total	$93.22

PER CONTRA.

1896.	
By received membership at Fairfield	$77.00
By received enrolled Dr. J. C. Shrader, Iowa City	.50
By received enrolled ex-Gov. S. B. Packard, Marshalltown	1.00
By received enrolled Daniel Sheehan, Osage	1.00
By received enrolled ex-Governor Larrabee, Clermont	1.00
By received enrolled Wm. McFadden, West Liberty	1.00
1897.	
February 20, overdrawn on treasurer	11.72
Total	$93.22

Respectfully submitted,

(Signed) C. MURDOCK,
Treasurer.

The condition of the treasury will be published in due time and an opportunity given for the financial committee to pass upon it.

CHAIRMAN: What will you do with the report of the secretary?

Moved and seconded that the report of the secretary be adopted and the motion carried.

CHAIRMAN: The next will be a paper by Richard Baker, of Farley, on "Good Farming."

MR. BAKER: *Ladies and Gentlemen:* I hope you will not feel very badly, but I fear that will be your condition before I am through reading this essay. There is one thing that I will not endeavor to do, because it would be a failure any way, and that is to enlighten you on the subject of good farming, because I see you are all high-headed fellows and better posted than the essay is.

GOOD FARMING.

BY RICHARD BAKER.

The best formula we have followed in farming for profit is found in Genesis, chapter I, verse xi: "And God said, let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth; and it was so. And the earth brought forth grass and herb yielding seed after his kind; and the tree yielding fruit, whose seed was in itself, after his kind; and God saw that it was good."

Hence food for cattle first, is a law in working that must ever be obeyed. The blasting influence of the bare ground has sent many poor farmers to the insane asylum. The cattle have failed, in the field, to make a profit, because there was no grass. Herb yielding seed, rag weed, fox tail, Canada thistles, are all better than bare ground.

For comfortable clothing, wool in winter weather is better than skins that retain perspiration; wool fiber will allow sweat to escape, cotton fibre is so fine that it retains much sweating.

A flock of first rate sheep in good farming will fill the bill. Cows, in grass that is very good, will furnish milk for butter and cheese in prolific plenty, when their surrounding conditions are equal to the demands made on them. Shaded places and clean sweet water, if it springs out of the limestone rocks, is sweeter than water in alluvial deposits. Blue grass pastures that have been permanent for many years, contain the sweetest green food. Then sweet milk, sweet butter and sweet cheese can be made and sold satisfactorially all summer.

In good farming philosophical reflections intervene and sometimes touching pictures of human life. Of this sort the following has surprised us. The first purpose of clothes was not warmth or decency, but ornament; nevertheless, the pains of hunger and revenge once more satisfied,

his next care was not comfort, but decoration. Warmth he found in the toils of the chase, or amid dried leaves, in his hollow tree, in his bark shed, or natural grotto; but for decoration he must have clothes. The first spiritual want of a barbarous man is decoration, as indeed we still see among the barbarous classes in civilized countries. Hence the horned cattle must furnish hides for the tanner so as to furnish shoes, of all sorts and conditions, to suit the passing demands of all the farmer's family.

KINDNESS TO CATTLE.

"The ox knoweth its owner, and the ass its master's crib." Israel doth not know. My people do not consider. The lovers of large herds of cattle delight in seeing them enjoy life. When they feed in deep, sweet grass, being full, they feel this satisfactory condition, and congregate in an elevated place for comfort, from common black flies; these vex them. In the fly's flap is a small claw, like sharp points, they use for piercing cattle skin, so they may suck the blood from the wound. For protection from these pests they congregate in airy places, so the breeze may blow them off. Animal heat, at ninety degrees, creates expansion in cooler air, that rushing in, blows away the common black fly.

The dirt shows too conspicuously. When the air is very cold in the winter season, white steers shiver in a thin condition much more than dark steers of the same class and condition. In winter sunshine black hair absorbs the sun's rays; white hair repels them, just as a black hat is found to be less comfortable in the hottest weather than a white one of the same weight.

SHORTHORNS.

This breed of cattle is mostly found in fields and markets, roan, red and white, in streaks and patches. The question of blood, and the conformation of the cattle, as to Bates, origin and development, or Booth breeds of Shorthorn cattle, must be decided by the breeder and feeder, as long hair is warmer outdoors in winter.

HORNED CATTLE,

Or hornless bovines, have many advocates on both sides of this mooted question. In buying stocker cattle we want Shorthorn cattle. In pastures that are enclosed with a barbed wire fence, no matter how great the grass crop, hornless steers put their heads between the strands and press the wire until their shoulderblades are touched, and often break the fence to get the grass that is free from the stench of animals' dung. Many of them, after much practice, succeed in crawling through the fence, thus producing discontent in all of the remaining herd. Hence, these have to be watched in bad weather, more especially if the cornfield joins the pasture when the corn is in the ear. Having nearly one hundred in a herd we watch them in stress of weather.

Horned cattle, watching the actions of others try the same game for themselves and fail. As soon as their horns strike the wires they draw backward, shake their heads and look on. The skull containing the brain is jarred uncomfortably, and they return to their grass. Insomuch that fence-breaking by young, horned steers is not known with us.

The structure of the steer's face, eyes, nostrils and nippers are of much importance in the making of fine, fat flesh. These being all efficient in grazing, it can soon stop walking. Every muscular motion wastes fat.

GRAIN GROWING.

Where the herds are large, straw is requisite and necessary for winter feeding, so as to distend the stomach and allow the steer, or cow, to purgitate and remasticate what fodder was swallowed too soon. The refuse straw will make a bedding between the animal's belly and the bare or snow-covered ground. In winter a hiding place from the wind and a covert from the tempest, is requisite and necessary to keep cattle comfortable by night. In shed building we find a double back excellent windbreak, six-inch wide fencing nailed to break joints. This method with a layer of dead air between the boards, will allow steers to lay close enough to rough lumber to rub the rags off that were left on it by the rough saw.

In oat stubble as soon as the grain is stacked, "the plowman should then overtake the reaper," before the sun dries up the nitrogen in the stubble and its roots. When these are allowed to die and dry up by solar rays acting on their surface, the loss is a serious one. Every plant puts more into the soil it grows in than it takes out, because the stubble and the sub-structure is more. The fallow ground after plowing will become blacker, seen from a distance, by the fermentation of weeds and stubble plowed down.

Plants in passing through the animal system lose what the bovine needed to build it up; hence, "all flesh is grass" concentrated. Blue grass in permanent pasture is the sweetest of all pasture plants. In stirring when dry the fine dust enters the nostrils, smelling sweet.

STEER FEEDING FOR PROFIT

Must commence with well bred calves. They thrive best in sucking the cows, until the nipper teeth are well developed. In fact, if splendid, scale-pulling steers are wanted, now is the time to do it. When the foundations are well spread, the bones being flexible, good feeding, clean, comfortable lodging and kind treatment, will make them grow like weeds. Being now a year old, they may number 100 in a herd, if the pasture is permanent, and 200 acres in size. But economy is judicious expenditure and not close saving, as too many farmers believe. If we want to be good to our own family and customers in trade, now is the time. Never save feed to stunt steers.

FINISHING STEERS FOR CHICAGO MARKET.

The best results for us has been fodder, corn, cut, shocked, drawn on low wagons to a sheltered yard, and stacked to sweat; the steer having a mill in its mouth, does its own grinding always. If the corn is cut as soon as the glazing is perfect on the grain, the fibrous stalk, full of pith, is sweet, in corn sugar. Our steers on grass, with one feed of corn in the morning, will eat all the stalks during the day.

PASTURE GRASS BEING VERY GOOD

When the grass is snow-covered, and two feeds of corn per day is needed, ear corn is used to do it once—a peck of ears for each steer fed. Having fattened 2,000 steers in 25 years without the loss of one by founder or disease, this method having made heavy cattle for us, "'Tis best to let the well alone."

MR. BAKER: I think, gentlemen, that ends the essay, that is, all the points that are of benefit to you; but for me there has been a very good profit out of them, and I have been thankful for the success, and if I never make another dollar, I think there is enough to carry me at least until I need to be boxed up.

MR. VALE: You speak of that mode of fall fodder; you speak of fall feeding on grass; when do you begin?

MR. BAKER: I feed them just as soon as they need a feed of fodder. When the first storm comes on in the fall the cattle come up and ask for something extra in the cold weather; then the men are pulling the corn and stacking it, and we order a load of corn for the steers.

MR. VALE: Your cattle are feeding now; you begin feeding perhaps in September?

MR. BAKER: Not quite; we cut all of our corn before we commence feeding the cattle and putting it in shock. The corn was cut just as soon as the leaves began to wilt at the top, and the stalks were green.

MR VALE: How long will you be able to carry them on the corn fodder?

MR. BAKER: As long as the fodder lasts.

MR. VALE: Can you carry that fodder in that condition so that you can feed it to the cattle during the latter months of the winter, and through the rainy months of the spring?

MR. BAKER: I can give you a matter of fact on that subject. Last March I told the boys they might as well ship the steers, and they shipped them to Chicago, and we had them sold. We had seventy, but one or two were inferior, and the butcher got them, but the sixty-eight sold at $3.90. I told my son to notify our salesman to telegraph the result to the home bank in Dubuque; I got $4,565 for that bunch of cornstalks and steers.

MR. STUBBS: I do not want to interfere with your talk, but there is other fodder that is interesting us just now.

CHAIRMAN: The following letter from Brougham, Canada, was received to-day from Mr. Robert Miller, who is not present, and was unable to meet with us.

BROUGHAM, December 7, 1896.

C. Murdock, Esq., Secretary Iowa Improved Stock Breeders' Association, Fairfield, Iowa:

DEAR SIR—Your kind invitation to attend your annual meeting, being held this week, and take part in the discussion of an important subject, came some time ago. I am much obliged for it and feel very sorry that I cannot come.

I feel sure that the sheep industry is one in which there is more to learn than in any other, and I feel just as sure that no other will as well repay the trouble of getting a little learning. I speak from experience when I say that sixty-one years ago my father made an importation of sheep from England, and that since then without importation, we have each year had a balance on the right side in their account. This country has not enough good sheep, and any person that will get a few and give them a little attention will be assured of a better return for this outlay than for any like amount of expense and trouble in other directions. Those with an ambition to start in mutton sheep often make the mistake of buying some large breed that has for generations been fed summer and winter in England, and that will not graze and thrive well on the best of pastures. They are only good for crossing on range ewes. The Shropshires are the largest breed that find their own living in England, so I would recommend them to the American farmer, and the Cotswold to the man who wants something bigger for the range. Wishing you all the success that a meeting, held for such a worthy object, deserves,

I am sincerely yours, ROBERT MILLER.

CHAIRMAN: I just want to thank the association for their forbearance in putting up with me for the past two days. We expect to have our meeting again next year and would like to have all of you come and join us.

SECRETARY: I also received a letter from Professor Henry of the Wisconsin experiment station, sending his regrets to the association and expressing his intention of being here next year.

CHAIRMAN: We will now adjourn to the banquet hall.

APPENDIX.

SIXTEENTH ANNUAL MEETING

OF THE

Iowa Shorthorn Breeders' Association,

IN

COLUMBIAN HALL, FAIRFIELD, IOWA,

DECEMBER 8 AND 9, 1896.

OFFICERS FOR 1896.

PRESIDENT.

H. D. PARSONS ..... Newton

VICE-PRESIDENTS.

T. R. WESTROPE ..... Harlan
W. W. VAUGHN ..... Marion
JOHN CRESWELL ..... Bonaparte

SECRETARY AND TREASURER.

C. W. NORTON ..... Wilton Junction

DIRECTORS.

E. C. HOLLAND ..... Milton
J. N. DUNN ..... Waubeek
O. H. LYON ..... Rockford

PROGRAM.

TUESDAY, DECEMBER 8TH, 7 P. M.

Welcome—Hon. John Manatrey, Fairfield.

Response—Prof. C. F. Curtiss, Ames.

Annual Address of President—H. D. Parsons, Newton.

Appointment of Committees.

Why I am a Breeder of Shorthorns—Dr. J. G. Shrader, Iowa City.

What has the Shorthorn done for the West—C. S. Barclay, John Manatrey.

How to conduct a Successful Public Sale—Ben Elbert, Des Moines; Martin Flynn, A. C. Cooley.

WEDNESDAY, DECEMBER 9TH, 9 A. M.

The Pros and Cons for the Silo. General Discussion.

The Shorthorn for the Dairy; What are the Qualifications and how made—Hon. W. K. Boardman, dairy commissioner; J. H. Dunn, Waubeek; M. H. Brinton, Ellsworth.

Paper—Prof. James Wilson, Ames.

The Situation; Its Demands—A. L. Harrah, Newton; J. R. Crawford, Newton; John Myers, Kalona.

Treasurer's Report.

Report of Committees.

The Shorthorn Bullock and Native, with illustrations of each showing their relative value—Prof. C. F. Curtiss.

The most Profitable Cow for the Iowa Farmer—Wiley Fall, Albia; I. Barr, Davenport.

Also, papers by Rev. Springer, Libertyville; Wilber Dale, Fairfield, Henry C. Wallace, Dr. Frank S. Tufts, and others.

IOWA SHORTHORN BREEDERS' ASSOCIATION.

AMES, Iowa, December 7, 1896.

Mr. C. W. Norton, Secretary:

DEAR SIR—I notice you have me on for response to address of welcome Tuesday night. I cannot get in until the late train arrives.

Very truly yours,

C. F. CURTISS.

NEWTON, Iowa, December 5, 1896.

C. W. Norton, Secretary Iowa Shorthorn Breeders' Association, Wilton Junction, Iowa:

FRIEND NORTON—I am very sorry indeed, to say to you that it will be impossible for me to attend the meeting at Fairfield, as I am compelled to give my attention to other business matters next week. I should have liked very much to have been with you at our meeting. Enclosed you will find $1 to pay my membership fees.

Hoping that you may have a good attendance and an interesting meeting, I am Sincerely yours,

H. D. PARSONS.

WAUBEEK, Iowa, December 7, 1896.

C. W. Norton, Fairfield, Iowa, President Iowa Improved Breeders' Association:

DEAR SIR—I have been suffering from the effects of a cold for several days. Am much better now, but will not be able to meet with you at Fairfield. Please tell Mr. Murdock. I have always enjoyed these breeders' meetings. Trust you will have a large attendance and pleasant and profitable time this year. The future seems to look brighter, especially for the cattle business. Weeds can be easily raised in Iowa; so can scrub stock; but to raise profitable crops and stock in this day requires brain work with the use of muscle. So, success to the Improved Stock Breeders' association. Yours respectfully,

J. N. DUNN.

The sixteenth annual convention of the Iowa Shorthorn Breeders' association convened in Columbia hall, at Fairfield, Iowa, Tuesday evening, December 8, 1896, at 7 o'clock.

The association was called to order by the secretary, C. W. Norton, of Wilton Junction.

CHAIRMAN: The first regular thing on the program is the welcome, by Mr. J. P. Manatrey, of Fairfield.

Mr. Manatrey addressed the association as follows:

Mr. President and Gentlemen of the Iowa Shorthorn Breeders' Association:

We are glad to see you. We had hoped to see a larger attendance. I see some faces from near and far.

The worthy secretary says on the program, "welcome by Hon. John Manatrey." Can't say where he found the title; I have a few friends who call me governor, but not honorable.

On behalf of the city of Fairfield and Jefferson county, and the blue grass region of southeastern Iowa, it becomes both my pleasure and duty to welcome you to our city.

We have looked forward to this meeting, when our people might meet you men face to face and hear your papers read and discussed, with much interest. We have known that your association was composed of no ordinary class of men; that your membership includes the ablest, most practical and intelligent men of the state, and what state or nation can excel Iowa in her men and women, or all that goes to make up manhood or womanhood?

Again, Mr. President, and gentlemen of the convention, we bid you welcome, and trust your stay may be a pleasure to you and your words of wisdom and experience of much value to us.

[Applause.]

CHAIRMAN: Response by Curtiss of Ames; he is not here and we will ask Mr. Cownie, of South Amana, to give the response.

MR. COWNIE: *Mr. President, Ladies and Gentlemen:* This is rather short notice to be called to respond to an address of welcome, but as it comes from my friend, Mr. Manatrey, and through him from the citizens of Fairfield, I think there will be no difficulty at all on behalf of the Shorthorn Breeders' association to accept the hospitality of the city of Fairfield for the next few days.

We come here representing one of the greatest, if not the greatest industry in the state. We have had of late what has been called hard times; and, while we regret that the present conditions exist, we look forward now to a better future. We believe that the turning point has come and that the live stock industry, the breeding of fine stock and improvement of the herds of Iowa will go on and go forward as it has never done before.

We come here without prejudice, with rivalry, but no prejudice; we come here to exchange experiences, to swap ideas, hoping to improve the live stock industry of Iowa.

We have heard of Fairfield; we have heard of your public spiritedness; we have heard of your great library; we have heard of your schools and churches, and allow me to assure you that we shall feel at home among you. Gentlemen, I thank you. [Applause.]

Music by the Orpheus quintette, of Fairfield.

CHAIRMAN: The next subject, "Why I am a Breeder of Shorthorns," is by Dr. J. G. Shrader, of Iowa City. Is Dr. Shrader present? He will likely be here in the morning and we will pass that subject.

The next subject is "What has the Shorthorn done for the West?" On account of the death of the Hon. Pliny Nichols at West Liberty yesterday, the probabilities are that Mr. Barclay will not reach here before to-morrow. The next on this subject is Mr. Manatrey. If Mr. Manatrey will open this subject, we will get others to follow. He will break the ice and let us all take hold as best we can. Mr. Manatrey would like to have us call on Mr. Holland and he will follow later.

MR. HOLLAND: Why, I didn't come expecting to take part in this discussion at all. For my part I would a great deal rather someone else start the subject.

CHAIRMAN: Well, I will call on another. Mr. Campbell, I will call for you; I guess you will have to break the ice.

CHAIRMAN: I will call for volunteers.

A. J. BLAKESLEY: Mr. President, I have been in Iowa a a great many years, and have bred Shorthorns among other classes of animals, and I believe Shorthorns have done more for the cattle interests of Iowa than all the other breeds we have ever had in Iowa. Of course there has been more of them, but there is a combination of good qualities in the Shorthorn, and the people have recognized it. The Shorthorns are considered to be good beef animals. Some claim the Herefords are as good, or better, and stand a little more, perhaps, of hard usage and being wintered behind straw stacks and in front of fences, but Shorthorns have been known to respond best on the whole to any cattle. The Polled Angus have done finely, but in connection with the beef qualities the Shorthorns have aided the market, and they are not boasted of as great milkers. They have been handled so as not to promote the milking qualities. They run with their calves through the summer, and of course we can not build up good dairies by that process, but it is not always so.

Last summer I sold a Shorthorn cow to an old gentleman in the city of Grinnell, where I live. He came along and asked

me if I had a good cow to sell, and as times were pretty hard I offered to sell her cheap. I said I had a good cow and would sell her for $60. I sold her calf when young for $15. He said that is too much money to pay for a cow. Says I, come along out; I am just going to milk her. He went out with me, and I got fourteen quarts. He then said he would give me $50, but I said no, give me $60. He came back the next day and said, I guess I had better put that $60 into one instead of two cows, so he took her. I said winter is coming on, and you give her feed and shelter and she will give you good returns all winter. He came along about six weeks after, and says that cow does splendidly. I asked him how she did in milk and butter, and he says there are four or five in the family, and we use all the milk and cream we want, and my wife makes ten pounds of butter a week, and, he said, I am satisfied with her.

There are a great many Shorthorns doing this sort of thing if they are taken care of. I don't believe the steers in my neighborhood are much better than they were ten years ago, but they are better than they were twenty-five years ago, and it is due to the Shorthorn, and the people are coming to the idea that we must have a genuine Shorthorn animal for breeding; and I believe, with these gentlemen, that we must have good animals and not scrubs.

MR. HOLLAND, of Milton: What the Shorthorn has done for the cattle interest down in our neighborhood: It has not been but a few years that we have had anything else but Shorthorns, and it has got so that the people are not as careful as they should be in selecting their sires, hence there has been a good many bad animals. Here of late we have had other grades, and but very little credit has been given to the Shorthorn, whereas the principal improvement has been through the Shorthorn.

CHAIRMAN: Mr. Collins, would you like to add a word?

MR. COLLINS: I don't know whether I have anything to say or not; I would have to agree with you all, and I don't like to do that; I would like to be contrary.

CHAIRMAN: Well, we will pass to another subject: "How to Conduct a Successful Public Sale," by Mr. Elbert. I think he is not here, and we will pass that subject for the present. Would you like to take up the question of the silo to-night, or will you take that up later? Perhaps we had better hear from Professor Wilson now.

PROFESSOR WILSON'S PAPER.

Domestic animals present variations conformable to their varying ancestors, the prevailing characteristics being those that represent the dominant blood in their breeding. These variations enable the skillful breeder to lead his herd in whatever direction he pleases, by careful selection of the type and characteristics he desires, and remorseless rejection of what does not come up to h's requirements. These are the governing principles that underlie all successful breeding. If we want the beef form we select those that put the most meat on the prime parts; if we desire milking qualities, we select good milkers as breeders We cannot evolve from a breed what is not one of its characterics, of course, but we can make dominant by selection whatever manifests itself, even occasionally. Iowa to-day wants milking cows that will fatten well when dried up, or whose calves will make first-class beeves The state wants early maturing stock that will be fit for the butcher at as early an age as possible, and this combined with milking qualities of a high order.

The history of Shorthorn cattle tells us that their early improvers found them good milkers, and that this quality has remained a leading feature of the breed down to the present time on their native pastures. The American has bred the Shorthorn for beef in so many cases that the milking feature has been rendered latent in many herds, especially in the corn-growing regions of the west. Exceptions have been numerous enough to prove that milking qualities are fundamental in the breed, and by selection, with breeding for milk and feeding for it, this characteristic may become dominant. In selecting Shorthorns for this double purpose we must be satisfied to sacrifice some of the prominent points of beef cattle. We cannot afford to push the young heifers designed for the dairy as we would if they were intended for early-maturing beeves. The dairy cow must have room for her udder. She will not fill on the hindquarters as the beef cow will. Nor will her calf, but she may have a well-developed back and ribs, where the high-selling cuts are found. The principal difference between the Shorthorn cow and breeds used exclusively for dairy purposes for long periods of time, is the inability of the special dairy cow to mix fat with her flesh, while the Shorthorn has this quality. The Shorthorn after milking for a number of years in the dairy, and supplying the farm with acceptable feeders meanwhile, will fatten rapidly and make excellent beef. She may be used as a milker and breeder of feeding steers for several years while attaining her fullest growth, and then fatten into high-selling beef.

This theory of a farm cow is based on intelligent management. The average Shorthorn cow is not what is wanted, as we have here now. It is based on possibilities warranted by what has been done and is being done

by many breeders who milk. Habit is inherited and transmitted. Whoever would have a good milking herd of any breed must not skip a generation and expect the next to give milk as freely. The habit must be kept up and those desiring to get assistance from the sire in breeding toward milking, must use the progeny of good milkers. Feed has much to do in developing milking qualities. We should feed for the product we desire, and the ration to induce milk-giving should resemble milk in its ingredients. The dairy cow suitable for the Iowa farmer is quite a different animal from the one best suited to exclusively dairy conditions. We have superabundance of fat-making material, and the dairy cow with us is prone to fatten. Iowa conditions are likely to encourage early maturity beyond desirable limits; feeding properly will check this and to this end the dairy farmer who feeds his young stock should be continually on the alert to make distinctions between the feeding of his cows and his feeding steers. We can lead the Shorthorn breed back, where desirable, to the good milking qualities of their early ancestors by selecting for milk, breeding for milk, feeding for milk, and keeping up the milking habit.

[Applause.]

HENRY WALLACE: I simply rise to call your attention to one matter. Some time last summer Mr. Coburn, of the Kansas State Board of Agriculture—and I do wish we had as fine a secretary in all the states as he is—sent about thirty or forty questions pertaining to dairies to about twenty men of national reputation on dairy lines. The questions covered about every possible point that any man could think of, but the first one was this: Given the Kansas conditions, (then he went on to describe in detail the conditions, which I will not take time to do,) what would be your first choice of a breed of cows to meet these conditions? Now, when the answers came in, twenty-two out of twenty-four men from all over the eastern states and Canada and the western states, and all men with more or less reputation on dairy lines, made their choice of the milching Shorthorn cow. I never saw such a complete and harmonious opinion on any one subject as there was in that paper. All that is copied and given to the world in the pamphlet "Cow Culture," and it contains more information of that kind than any paper I have ever seen or heard of. The first sixty pages are taken up with answers to these questions.

Two or three years ago I visited a herd in Dublin, Ireland; there were about 200 head of cattle upon the place, all Shorthorns, three-fourths of them roan, a few red and some white. The cows were all milked and the calves raised by hand, and the gentleman told me his sale of bull calves had averaged £40, which is about $218. He did not have but one over 12 months old. I never saw a better lot of young calves, and not one ever sucked a cow. They were fed one-third oats, one-third corn and one-third ground flax seed, either soaked or cooked, and made into a paste and thinned with skimmed milk. [Applause.]

CHAIRMAN: Any further remarks? If not, we will listen to some music, and will close our exercises for the night, as it is now 9 o'clock.

SECRETARY NORTON: The committee on resolutions, to consist of Professor Wilson, John Cownie, E. F. Brockway, E. G. Holland and Mr. Manatrey, will report to-morrow morning at 11 o'clock.

MR. STUBBS: I want to say to the citizens of Fairfield that I want you to take an interest in this matter and show these gentlemen, who have come here to discuss these questions which are of importance to all, that we appreciate their coming. We have some of the most prominent men in the state of Iowa here. Let every man take it upon himself to come and bring his family, and let us fill this room. These discussions are not only beneficial, but instructive. I hope each and every one of you will come and fill this room at every session. They have honored us by giving us the session here, and we should appreciate it. [Applause.]

WEDNESDAY, 9:00 A. M.

SECRETARY NORTON: The hour has arrived and our president, Mr. Parsons, is not present. I received a letter from him stating he regrets his inability to meet with us, etc. Our vice-presidents seem to be absent, too. Who is to be your presiding officer this morning? We have Mr. Barclay with us, who has been an old president of our association in years past. Mr. Barclay's name is proposed, and as no negative voice is heard, Mr. Barclay will please take the chair.

MR. BARCLAY: This is pressing a man into service pretty early in the session, and as you know, I am not given to making speeches or reading papers, I will therefore take up the business of the association.

SECRETARY: I will just state, Mr. Barclay, that we have had our welcome, which was excellent, and a good response last evening—very good—and we discussed the question,

"What Has the Shorthorn Done for the West?" and had Professor Wilson's paper. And that is as far as we got. The balance of the program is before you.

CHAIRMAN C. S. BARCLAY: Gentlemen, the first subject we have for discussion this morning is: "Why am I a Breeder of Shorthorns?" by Dr. J. G. Shrader, of Iowa City. Is Dr. Shrader present? The next subject, "How to Conduct a Successful Public Sale," by Ben Elbert, of Des Moines; Martin Flynn and A. C. Cooley. Are any of the gentlemen here? Well, there are gentlemen here who have had experience in conducting sales, and can give us a good talk on that subject. We will be pleased to hear from anyone who has anything to say on the subject.

SECRETARY: I would state that I have received this morning a letter from Mr. Parsons regretting that it is impossible for him to be here with us, and also a letter from Mr. Dunn, of Waubeek.

MR. BROCKWAY, of Washington: Mr. Chairman—in regard to conducting a public sale—that is what I came to the meeting for particularly. I propose to have a sale in February, and I want to learn how to conduct one. And I hope some of these gentlemen present, who have had successful sales, will tell me to-day just how to do this thing. I would like to request if there is anybody here who has held one, that they will tell how it is done.

MR. MYERS: I would suggest that we pass that over and see if Mr. Elbert will be here later; he has been so successful with sales. And we had better pass the subject over until we know that he will not be here. He is well posted and has been very successful with sales.

CHAIRMAN: Is Hon. W. K. Boardman present? And Dunn, of Waubeek, is also on for a paper, and M. H. Brinton, of Ellsworth.

SECRETARY: I have letters from Dunn and Brinton stating that it was impossible for them to be here.

CHAIRMAN: The question to be discussed by Professor Wilson is: "The Situation—Its Demands." I think that is a very good subject to open the meeting with this morning, because it covers every phase of the subject you can take up.

PROFESSOR WILSON: One of my colleagues, Professor Curtiss, is here, and as I do not know what his subject covers, I think it would be well to give him a hearing.

CHAIRMAN: These professors from the Agricultural college are in the habit of getting things badly mixed, and they always want to shirk a duty and put it on to the other fellow from the same place. Now, Professor Curtiss' name comes after Wilson's but we will be glad to hear from him now.

PROFESSOR CURTISS: Mr. President, I appear to be on your program here, and I have some thoughts to present. I notice, however, that you are passing over a part of it. Here is another subject, "The Situation, Its Demands." However, I am willing to abide by your wishes if you want me to come on now.

CHAIRMAN: Your name seems to come farther down, but we will be glad to hear from you now.

SHORTHORN BULLOCK AND NATIVE, WITH ILLUSTRATIONS OF EACH, SHOWING THEIR RELATIVE VALUE.

BY PROFESSOR CURTISS.

Mr. President, Gentlemen of the Shorthorn Breeders' Association:

The subject assigned me for discussion is the Shorthorn and native, with illustrations of each, their relative value. Here are the illustrations. I have taken for representative of the Shorthorn a high grade steer pur-

GRADE SHORTHORN STEER.
Fed at Iowa Experiment Station.

chased from a farmer in the vicinity of the college, who keeps a herd of grade Shorthorn cows, uses full blooded sires and patronizes a creamery, milks all his cows and raises the calves by hand.

We bought this calf for $5, and raised him on separator skim milk and corn meal, with a little flax seed added, until weaning time, and after that on corn and oats, with bran and corn meal added, and roots during the winter when we were fattening him. At the age of 26½ months that steer weighed 1,624 pounds, having made an average gain per day of 2.06 pounds. That steer was the best steer in Chicago on a day when there were 26,000 cattle there. And he was from the best milking cow in that farmer's herd. The farmer said repeatedly, when he came to the college to see the cattle when they were being fed, that that steer was out of his best milking cow.

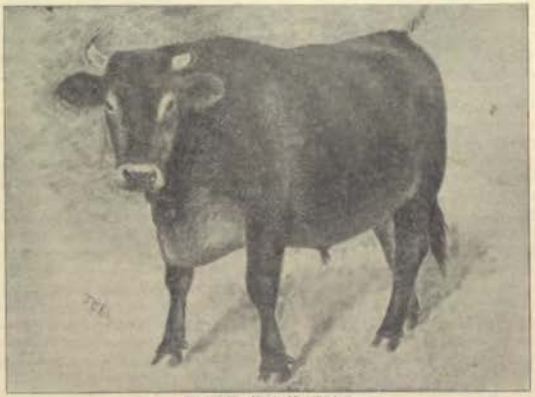
Now we have here an illustration of the extreme primitive type. That is a native Brazilian cow and, as far as I can learn, a fair sample of that kind of a cow. We do not have a great many of that type in Iowa, but we have many that approach it. In a great many localities we have a nearer approach to it to-day than we had ten, twelve or fifteen years ago. The herds, to a considerable extent, have been neglected, and this is a matter for very serious consideration.

About a year ago I was looking around, observing the cattle of Iowa and Nebraska, and I found that a range bred steer averaged better than those bred on the Iowa farms. There is this fact, that those who have observed closely will notice, the range cattle are being continually improved. The business is in the hands of a few men, and they appreciate the value of good blood. They are using nothing but the best sires, while the quality has been allowed to decline on a good many farms on account of the hard times and the use of poor sires.

[Attention was here called to illustrations of a high grade Shorthorn steer, a native Brazilian cow and a high grade Jersey steer.]

While these two illustrations are before you, I want to say that there is not a great deal of difference between the amount of gain these three animals will make in the feed lot from a bushel of corn. That may not sound like a very orthodox statement and I suppose a good many will not be inclined to accept it. I know that when a question like that was raised a few years ago, it created a storm of opposition. Breeders of improved stock are slow to accept that kind of doctrine, and in fact a great many do not accept it. The statement is this: The native animal will make practically as much gain in the feed lot as the improved animal. Perhaps not quite; the difference is very small, though. The native animal will make practically as many pounds from a bushel of corn as the improved animal; that is, the native unimproved steer makes as good a showing from the standpoint of gain as the animal of improved blood.

A great many people are slow to believe that, but the evidence is continually accumulating. It is useless to ignore facts. We are often misled about the quality and value of improved blood when we look to the results in the feed lot. Unfortunately we have not a complete record of that kind of an animal from start to finish. We have some that will illustrate the same principle quite well. Here is a representative of the milk breed; a high grade Jersey steer, shown in very high flesh. That steer made practically as much gain, and at substantially the same cost per pound, as the other steer. When these steers were put on the market the Jersey steer sold for $2.12 below the top of the market; the other steer sold at the top of the market. This steer dressed 57¼ per cent net beef; the other dressed 64 09 per cent net beef. There was, you see, a considerably larger per cent of beef in the carcass. There was a difference of over $3 per hundred in the two steers on the market.



GRADE JERSEY STEER.
Fed at Iowa Experiment Station.

This Jersey was well fed, and was as good a steer as it was possible to make out of a Jersey; he was extremely well finished and filled out for a Jersey, and while he was as fat as any animal need be for beef, he was compelled to go $3.12 below the top price. You may say that was prejudice, and that Chicago markets do not pay the real value. But when this steer was put on the block he had 190 pounds of internal tallow, and fifty-five pounds of suet; or in other words 32.01 per cent of that steer's carcass was in fat. The other steer had about ninety-five pounds of internal tallow, or about 15 or 16 per cent of that steer's carcass was in fat; just about one-half as much loose fat in him as the Jersey had.

Now, that fat was worth 4 cents a pound; the highest priced loin cuts and rib cuts were worth 15 cents a pound. So, you see, that while this steer was putting one-third, or nearly one-third of his weight into cheap products, the other one was putting his into high priced meat products.

This steer is one of a breed that has been bred and developed for generations to make dairy products, to convert the feed into milk and butter. Now when we feed him, instead of putting the meat where we want it, it simply accumulates on the inside. There was cheap fat piled up around

the internal organs to the extent of one-third of the entire weight of the steer; and the meat of this steer was very inferior to that of the other, because it was not in the parts that sold for the high prices. This is the reason why the cattle sold so far apart, and why there was a difference of over $2 a hundred in the value of them.

Now, this animal is a representative of a breed that is always inclined to be rough and angular. The Holstein is the same. They are developed for dairy purposes. They are not intended for the block at all. The real difference comes in the value of the finished product. The difference in value was practically $2 per hundred. And these are the reasons why that value existed. In the first place, there was 8 per cent more carcass, and in that carcass there was at least 15 per cent more meat, and that meat was very much better than the meat found in this animal.

Now, the fact exists that where we take a native or a representative of the milk breeds, and where they have that rough, bony and angular frame and try to make a superior product, no amount of feeding will make it. It is not strange when you think of it that this animal will gain as much in the feed lot as the other, because that is governed almost entirely by the digestive system. In fact, some of the natives have a stronger digestive system than the improved breeds, because some men pamper their Shorthorns and feed them injudiciously. This kind of an animal is never overfed. It has a digestive system a good deal like a goat, capable of digesting anything. Now, the Holstein is known as an exceedingly vigorous feeder; that is one of their characteristics.

But the real point of difference comes when you take that rough, angular frame and try to make beef of the best quality and put therein the high-priced products. The feed lot will not make it. It is said "feed makes the breed." And it is a large factor, but when you take this animal, utterly lacking in beef qualities, no amount of good food will ever compensate for the deficiency. That is the real practical difference that exists between the Shorthorn and the native. The native has not been bred to flesh up in the parts we want to make the valuable cuts. You will always have that unalterable rough bony frame, and that is the reason why a rough animal does not sell.

The men who buy cattle know at a glance how much meat a steer, or carload of steers, will cut out. An animal comes as near going on its merits in the Chicago stock yards as anywhere. A man simply looks at an animal, sizes him up, and buys him for what he is. They buy the cattle as they come before them, on their merits. Of course, there may be individual cases where an animal does not sell on its merits, but as a general thing they do. So it is when a load of big, rough, native cattle go in there; they may have made a magnificent record in the feed lot, and they may go $1 below the market.

Feed, of course, will be a large factor; it will help very materially. You may take an animal of that type, take the native, and feed them and make a good record, and feed them up to the highest degree of excellence it is possible to reach in that kind of an animal, but you can never make a really valuable carcass of it.

I want to call your attention to a few other beef illustrations, to show where the valuable parts of the carcass are found. There is the Chicago

wholesale dealers' method of cutting beef. The chuck is really the shoulder cut; the rib and chuck cuts are is divided between the fifth and sixth ribs; the rib and loin are divided between the twelfth and thirteenth ribs; the shanks separate at the shoulder. Here is the dividing line between the chuck and rib, here between the fifth and sixth ribs. In actual practice they cut that just as close to the shoulder blade as they can cut it; and back here they divide the rib and loin between the twelfth and thirteenth ribs, and here they cut right back to the hip joint and run the knife clear down to the flank in order to get as many pounds of the animal into this high priced part as possible. Here is the front line, drawn here, just back of the shoulder blade, as close as they can get it. And the back extremity of the loin cut comes as close on the hip joint as they can get it. Now you can see the importance of having an animal that is good in the middle; that has a good even side line; that carries that thickness along this line clear down to the lower rib. These features do not come on the milk bred animal, and they do not come upon the unimproved animal. And when they are not bred there they can not be put there by one generation of feeding. I do not wish to be understood that it would be absolutely impossible to ever get these qualities without improved blood. If you would begin with one of these and feed and select them with care for generations, you could bring up another breed of them.

You can never fill up these rough backs. That is the reason why a rough animal does not sell. A rough animal is lacking in this thickness and the valuable cuts.

Here are the percentages: The ribs and loins of this Shorthorn averaged 27 8-10 per cent of the weight of the carcass, and they sold for 63 9-10 per cent of the total value; less than one-third of the weight of the carcass sold for almost two-thirds of the total value.

So you can see what it means if you neglect the essential parts. We must get more weight and more of the carcass into the parts that the Chicago market pays the highest prices for. Now that expresses, I think, in a large measure, the difference between the native or the unimproved animal and the improved. The difference is not in the feed lot. This is often misleading. A man may think he is doing well if he has a nice, big bunch of cattle that have made a better record than his neighbor, who has high grade cattle, but when he comes to put them on the market the qualities of excellence are not there, and a great many do not understand why they will not sell. While there may not be a great difference to the untrained eye, the man who buys knows the difference, and he buys them upon their merits. [Applause.]

MR. ————: I would like to ask the professor if there is not a point he has overlooked. He states that that steer was from the best milk cow the farmer had, and he also states that he had a characteristic for the beef qualities. Now, I want to ask if they can both be combined in the same animal?

PROFESSOR CURTISS: Yes, to a large degree. It is possible, and entirely practicable, to combine these qualities in one animal. Though it is not possible to attain the highest degree of

excellence in both milk and beef in the same animal, but it can be obtained to a profitable degree.

Upon this point I have an illustration of the sweepstake dairy cow at the London dairy show. In that contest there were Jerseys, Red Polls, Shorthorns, Holsteins; and out of the whole lot the only cow that made over three pounds of butter a day was a great big, blocky cow—the sweepstakes Shorthorn.

While the cow illustrated here is one we have in the college, she has been tested, and is recorded in volume 36 of the Shorthorn record. Her average for seventy seven days was thirty-one and four tenths pounds of milk, and her butter was one and thirty-five one-hundredths pounds per day. Butter is sometimes a variable quantity. Some of these cows are tested to show enormous records, but where the Babcock milk test is applied the majority of these records fall short.

MR. NORTON: Here is the extreme native and a pretty good representative of the Shorthorn. Now, along the lines of early maturity, suppose you wanted to get both of these in the market at, say, 12, 18 or 23 months old. Give us your opinion how you would come along with regard to their proclivities for early maturity.

PROFESSOR CURTISS: That is a pretty wide question, and one that I might present a good deal of data upon if I had taken the pains to go into it.

When you take an animal of this kind (the native) it is impossible to reach that degree of early maturity that will give you this finish, and excellence at this age. You must have the older animal. That is true of the native steers, when the native blood predominates. It is necessary to feed until they are 3 years old in order to reach their highest excellence. This type (the Shorthorn) will reach that excellence at 2 years, or under. In fact, there would have been a better record if he had been sold at that age. They were fed as skim milk calves. By taking a calf from the start, and feeding it on until it is ready to go to market, we tested the point of highest profit on purpose to get the lesson out of it. At 18 months old that animal would have gone to market and sold for as much as it did at 26, and would have given a larger margin of profit. When you take a young animal of that kind and feed it in a uniform way, as it advances in age it costs more to make a pound of gain; more when the animal is 3 years old than it does when the animal is 2 years old. There is more size

there; more feed required to keep up the animal heat in winter, and a certain amount is required to keep up the machinery, to keep the machinery of the body in motion, and that increases in proportion as the animal advances in size. And the digestive system of an animal of that size will not act as rapidly as the digestive system of a calf. The calf is capable of utilizing its feed and rendering a better account than the yearling, and the yearling better than the 2-year-old. Of course the matter of maturing at different ages is affected to a certain extent by the conditions that may exist at the time. It may be to the advantage of a man to sell them when they are a year old, and it may be to his advantage to keep them until they are 3 years old.

I found in Kentucky this summer when I was there, great big steers 3 years old and 3½ years old, that were just being finished for market. I asked why it was, and they explained it in this way: They have a wonderful amount of blue grass and mild, open winters, and they pasture their cattle out all winter; let them graze the year round; in this way it costs but little to keep them to full maturity and they make more by doing so. But this is a matter that is determined by the conditions in different localities.

HENRY WALLACE: Is there any indication that the improvement of cattle add to the length of the intestines and increase the digestive powers?

PROFESSOR CURTISS: I am not aware of any data or evidence bearing directly upon that point; I do not know that we have any. I know there is in relation to the hog, but I have seen nothing in relation to cattle.

MR. MEYERS: We want to know and learn just how to start a bunch of steers.

PROFESSOR CURTISS: I think that nine out of ten times our cattle are fed off of feed and fed into a general derangement of the digestive system. I think that careful feeding is one secret of successful feeding that many practical feeders overlook.

It is pretty hard to outline a course of feeding that would be suitable for all occasions, because it will vary in different localities, or on the same farm in different seasons. It depends upon what time of year you want to start them. I think the guiding principle to be kept in mind is to feed them largely on bulk feed in the beginning. I would always rather feed them snapped corn than to have it husked or shelled, because

that is less liable to produce derangement of the digestive system. Now, if they are being started in the fall, I think that a very good practice is to keep them on grass; good pasture; there is no place where a good clover pasture will give as good returns as when starting a lot of steers. Let them go on very gradually; that is the important point in putting them on the feed or in making any change; make the change very slowly and with exceeding care. I would give a bunch of steers that are coming to corn—at least seven or eight weeks. I think your best results in the end will come from putting them up gradually and taking the even three months; our best records have been made when we took three months before getting them on full feed. Just increase it a little freqently and keep their appetites coming. I have noticed this in regard to a great many records: It very frequently happens that the highest gains are at the start, and then they begin to go down. That is unnecessary. Good gains should continue to the last. Some of our best gains at the station have been made at the end of nine or ten months' feeding and on cattle that went directly to Chicago and topped the market.

MR. MANATREY: What do you consider full feed?

PROFESSOR CURTISS: Just what they will eat up clean; I would not feed more. And as a rule they will eat more under these conditions than when they have grain before them all the time.

MR. MANATREY: You speak about preferring to feed them corn and cob meal. I remember some ten years ago in Chicago when some of those expert stock buyers there claimed they could run their hands over a brute and tell whether he was fed on corn; but of course the most of those articles were written by men that sold different feeds; some of those fellows were standing in with the men who sold the feed. [Applause.]

PROFESSOR CURTISS: As to grinding corn, the only really successful machine I know of for grinding is the burr; the corn needs to be ground finely. I do not mean that other machines will not make good meal, but that it requires a better machine, and the stone burr is far more satisfactory. We have had it ground in both ways; we have had the best steel, and yet we have always got better results from the burr.

MR. MEYERS: The common stone burr?

PROFESSOR CURTISS: Yes. But as far as this question of feed is concerned, there is nothing in that. The quality of the animal will be all right, whether you use corn meal or corn and cob meal. We have always used some oil meal, mainly to give them a little better finish, put on a mellow touch and keep the hair in good condition. We can use a little of this product to excellent advantage in making a high finish.

Where cattle are put up to a high feed on the start they are in a very bad way to make good results. Frequently they never recover from it. The cattle we have fed have gone on and made higher average gains in the last month than in any former month that they were on feed. We only crowd them for about ninety days at the close; these cattle were fed six or seven months without being given quite all they wanted, until within the last ninety days, and then we crowded them for all they would take and clean up, and if they got to leaving any, we would cut down on the rations.

MR. MYERS: Some steers will feed smooth and some will feed rough—get lumpy.

PROFESSOR CURTISS: That is something that is to a considerable extent influenced by breeding and also by feeding. I would keep it out of the breeding stock as much as possible. If they are rough and patchy you have an inferior and cheap carcass and a carcass that is not desirable for the butcher. They do not make the nice carcass that those do that feed smoothly. The softer food, bran and oats, and especially roots, will benefit that condition. If we fed on corn alone, we would have more rough carcasses. Roots keep them smooth and fresh and in a mellower condition.

MR. FAILOR: In regard to the grinding of corn. The Homestead, Wallace's Farmer, and other papers brought this question up before the people some time ago, and I tried to grind feed with the steel burr, but it did not prove a success with me. I would like to be informed, if possible, why that cannot be done. My individual personal experience has been that it did not pay me to do it, and I was unable to find any plan by which it would pay.

PROFESSOR CURTISS: Well, that is a question that cannot always be answered alike. Answering it for this year, I would say no, at the price corn is. In fact it costs 20 per cent of the value of the corn crop to get it husked. It costs in some localities 10 cents a hundred for grinding, where you go to a

mill. Just take an illustration; the maximum cost for grinding is 10 cents a hundred and corn is not worth over 20 cents a hundred. So grinding this year at the present prices is out of the question. You can better afford to feed a little more grain and waste a part of it. Let the hogs take up the waste and let it go to waste rather than to pay out twice the value of the feed that will be wasted, to get it ground. With hogs following the feeding cattle, the waste will be practically nothing. And most assuredly it will not pay to grind feed this year at the present prices.

On this grinding question, just one word more. I do not believe it will ever pay to grind the soft new corn at this time of the year with hogs following; I do not believe if corn was worth 50 cents a bushel it would pay to grind fresh, palatable new corn.

MR. WALLACE: Whenever you see an editor advocating the grinding of feed for hogs, you had better look through his paper and see how many advertisements of feed mills he is carrying and you may learn that he has had instructions from the business manager.

CHAIRMAN: We have quite a long program yet and we have only a short time for it. The next is, "Why am I a Breeder of Shorthorns," by Doctor Shrader; is he here? Is there any other gentleman wants to take three minutes on that subject? The next is, "How to Conduct a Successful Public Sale," by Ben Elbert, of Des Moines. Is he present? We will pass that, then. Has anybody anything to say upon this subject?

MR. MYERS: I will only say a few words. In the first place, be sure and get what the people want and then prepare them and have them in condition. I believe that is about all. A great many persons think it is the man that makes the sale, but I think it is the goods he has. Mr. Elbert always has what the people want and they are never disappointed, and that is the reason he is so successful. It is not the man that makes the sale.

MR. MATTHEWS: I want to take issue with that man. We all know that Mr. Elbert got some of his best cattle from Vale. Colonel Vale just lost one-third of the value of the sale by mismanagement. I have attended a great many public sales, and I have been interested in several myself, and had some pretty costly experience myself; and my observation and experience leads me to the conclusion that there is as much in the man as

in the cattle. I know a little about Mr. Elbert's success in the sale business, and it is as much in the man as in the cattle. I know their firm takes down the name of every man they hear of that owns half a dozen cows. They ask every friend they meet, "Who do you know that is liable to buy some Shorthorns?" They each have a book, and are continually taking names. They keep a memorandum of every item that will help their sales. They issue from three to five times as many circulars as any one I know who runs public sales. They usually run larger advertisements than other people. Then, when sale day comes, they treat everybody on the ground very well indeed. Everybody has a good word to say for Elbert. And this is true of every sale I have ever attended. When a stranger comes into a town and speaks well of the man who is making the sale, it helps; and it helps, also, to feed the crowd well before the sale begins, and it helps to bring the cattle into the ring in the right way. And I will say, in regard to the sale of Colonel Vale, that he brought into his sale some of his famous Waterloo cattle, and then brought in what he considered some of his inferior cattle, and of course sold them for lower prices; bringing these other cattle in and making them sell for lower prices, tended to drag down the higher prices.

MR. MYERS: I know something about Mr. Vale's cattle. Mr. Vale has had some very fine cattle, and he has had some common ones, too. These were the ones he sold, and wished to sell. When the fine ones sold, they sold high, but he was trying to sell the class of cattle the people did not want.

When the Elberts make a sale they usually have what the people want, and they advertise the sale and people know of it. Mr. Vale's high grade cattle sold all right, but when he brought the cheap ones in they sold cheap.

CHAIRMAN: "The Pros and Cons for the Silo." Has anybody anything to say on that subject?

MR. BAKER: What is measured out by you will be measured back, is as applicable in the cattle business as in the classic ethics.

CHAIRMAN: We will pass the subject, "The Shorthorn for the Dairy," as Hon. W. K. Boardman, J. H. Dunn and M. H. Brinton are not present. The next will be the treasurer's report. (Report was written.)

Moved and seconded that a committee be appointed to confer with the Fine Stock Breeders' association in regard to the

transfer of the cottage on the state fair grounds to that association.

Carried.

CHAIRMAN: The next thing will be the report of the committees.

RESOLUTIONS.

WHEREAS, God in His providence has called to Himself Pliny Nichols, one of the early fathers of this association, a gentleman whose life as an intelligent Iowa farmer has dignified the industry and added much to the sum of general intelligence along lines of breeding and feeding and Shorthorn history,

Resolved, That this association tender to his family and friends our sympathy in their bereavement, and assurance that while life lasts his genial fellowship, Christian deportment, and ripe knowledge along agricultural lines will be held in grateful remembrance by us.

Resolved, That the president of this association send a telegram to John McHugh, tendering him our heartfelt sympathy in his protracted sickness.

Resolved, That we cordially thank the citizens of Fairfield for their numerous courtesies to us while holding our annual meeting among them.

CHAIRMAN: Gentlemen, you have heard the resolutions; what shall be done with them?

Moved and seconded that they be adopted.

Motion carried.

CHAIRMAN: The next will be the report of the committee on nomination of officers. (Report read.)

What shall be done with the report?

Moved and seconded the report be adopted.

Motion carried.

CHAIRMAN: The next on the program is "The Most Profitable Cow for the Iowa Farmer," by Wiley Fall, of Albia, and I. Barr, of Davenport. Neither of these gentlemen being present, we will go on to the next paper by Rev. Mr. Springer, of Libertyville.

REV. MR. SPRINGER: I received a communication from Mr. Manatrey a few days since announcing that I was down for a paper, and he said that there was no subject assigned and that I was to choose my own subject. I have written a paper, but I do not know that it has any particular subject.

Mr. President and Gentlemen of this Association:

I cannot express the pleasure I feel to be permitted to attend this meeting and for the acquaintance of the members of this association. In the thirty years of my experience in handling improved stock, I have found it to be true that the men engaged in that business, as a class, are intelligent, honorable and trustworthy gentlemen Indeed, I know of no class that rank higher for integrity than those engaged in this industry. I also feel special pleasure because there is something in the atmosphere of this gathering that seems to say that there is a brighter day soon to dawn upon the business, the interests of which you are here to consider.

The smoke of the furnace, the clatter of the shops and the hum of the factory mean employment for vast multitudes, who, in consequence of a lack of remunerative labor, have been scant of bread for their families and destitute of meat upon their tables. This mass of idle men in our country has caused a large decrease in the consumption of the products of our farms. The return of business prosperity cannot fail to stimulate the prices of these things. Many other considerations betoken a more prosperous era in the different branches of husbandry.

The portion of country represented by the members of this association is so well adapted to the stock raising business that an intelligent view of the situation, it seems to me, indicates that this magnificent state of Iowa, so rich in its cereals and grasses and so well supplied with such excellent water, must offer special inducements to persons wishing to engage in any legitimate branch of the cattle business. I emphasize the word legitimate, because the raising of scrub stock is not legitimate. It may be in Texas, but not in Iowa. I do not believe that God intends that this fair portion of His heritage, upon which He has lavished so many of His choicest gifts, should be devoted to the business of raising scrub cattle. It is to my mind, manifestly, a violation of His design that scrubs should have a footing here at all. This glorious blue grass region was evidently made for the Shorthorn—the red, white and roan—the old reliable of the bovine race. The Shorthorn, like Alexander Selkirk, may well adopt the language, "I am monarch of all I survey; my right there is none in Iowa to dispute." The conviction is growing upon my mind that this state is destined to be the center of the breeding and raising of pure bred stock, and especially pure bred cattle. Illinois and other states further east have had a history in this business, of which they may feel a commendable pride, but land there has advanced in price to a point that farmers, in a great measure, have felt obliged to discontinue the business. The states south and west have not so large an area so well adapted to the production of the cereals and grasses, and further north the climate is so severe that the business, as I believe, must focalize here in this great state, where the very choicest land can be obtained for such reasonable prices.

The cattle are here. No better herds of Shorthorns exist upon the earth. The importation of Shorthorns to improve the herds of Iowa is scarcely a necessity, except, possibly, for the purpose of introducing fresh blood. I have no war to make upon other improved breeds; they possibly all have their places as well as their points of excellence; but the person that has something better than the Shorthorn surely has something of very great value. Any one having a good herd of the red, white and roan has good reason to be content.

The breeding of pure bred stock is not without its discouraging features. These can more easily be pointed out than remedied. I mention first the fact that when the intelligent and successful breeder retires from the business, he seldom leaves a member of his own family to perpetuate the business, and thus the practical wisdom secured by long years of study and experience is practically lost The herd is sold, and much of the stock goes into the hands of persons of little or no experience. What a sad loss is the removal of such men as Thomas Bates, Abraham Renick, Colonel Vale and others. If wide awake young men, thoroughly trained by such intelligent and skillful masters, could remain to perpetuate the business and utilize the wealth of wisdom possessed by such distinguished men, how it would tell upon the success of this great industry. I also note in this connection the tendency of so large a proportion of our bright and intelligent young men to leave the farm and enter other pursuits in life. Why this tendency? Who can solve this problem? A well known educator remarks in substance as follows: "The average western farmer toils hard early and late, often denying himself of needed rest and sleep. For what? To raise corn. For what? To feed hogs. For what? To get money with which to buy more land. For what? To raise more corn. For what? To feed more hogs. For what? To buy more land. And what does he want with more land? Why, he wishes to raise more corn, etc. And in this circle he moves on until the Almighty puts a stop to this consummate folly."

Whether or not this is a fair criticism of the average western farmer, it is an undeniable fact that by far too many of us are slow to perceive utility in anything except that which will at once add to our material wealth. Can it be that this kind of drudgery drives the bright and brainy boys from the farm? If this be true, you say, educate them; give them broader views of life; enlarge their capacity for enjoyment. If the education is truly symmetrical—if there is physical, brain and heart development, it lifts him away from the brute and up toward God. It increases a man's capacity for doing and enjoying. It doubles and quadruples him, and enables him to give more to the world and receive more from it; makes him occupy a larger space in God's universe. But what are the facts with respect to our educated young men? Is education a solution of the problem of holding them upon the farm? Statistics show that more than 60 per cent of the male graduates become professional men, and 3 per cent only are farmers.

A young man enters high school. Immediately he begins a course of training exactly suited to fit him for professional life. The branches of study which lawyers, doctors, ministers and editors have ever found advantageous to them in their spheres of labor are made most prominent in the school, and not one branch especially adapted to the wants of the husbandman.

Professional men have, for the most part, arranged our text-books and courses of study. Is it then surprising that we find therein just those branches and methods which are exactly calculated to fit the student for professional life? Do you ask what the modern high school will do for the farmer? I answer, it will make a professional man of him; and the figures are not wanting to prove the assertion. About 50 per cent of the laboring classes in the United States are farmers, and yet only 3 per cent of the graduates settle down to spend a life in husbandry. Now, I seriously

submit, gentlemen, is not this one of the chief obstacles in the way of a high degree of success in the business you represent to-day?

Men of broad culture—up-to-date, brainy men—are not the kind that encourage the rearing of the unprofitable scrub and regard the lordly thoroughbred as only a thing of fancy. If the farmers of this country could have an intelligent appreciation of the facts so clearly brought out in the able address of Professor Curtiss to-day, the demand for pure bred Shorthorn bulls would be so greatly increased that the breeders of this country could not supply it. As much as we feel the need of more intelligence in all the branches of husbandry we should not be too severe in our criticisms upon the educated young men who do not remain upon the farm. Brains are in demand in this country. Brains are the most costly commodity in the market. The position that offers the largest money is the place where the brain of the country gravitates. What we need is something that will secure the education of the masses; that will furnish an ample supply of highly cultured men for the professions; and also a sufficient number to meet the urgent demands of husbandry.

Gentlemen, allow me in conclusion to suggest that the introduction of any system that will secure the education of the masses of our young people and retain a sufficiently large share of them upon the farms of this country, will contribute wonderfully to the prosperity of this great enterprise with which you are connected, and indeed every other interest in agriculture.

PROFESSOR WILSON: That paper is the first one I have ever listened to in the state of Iowa along that line, and I am grateful to the gentleman for it. He is far-seeing and bright enough to comprehend the wants of the farmer. The state of Iowa would have received 280 acres of land from congress, but old settlers will remember that in getting the land without a railroad, eighty acres had to be taken off, so that Iowa got 200 acres. It was the intention of congress to educate the children of the farmer and mechanic along the line of their life work; among all the states in the Union, Iowa has taken the best care of her grant; she has the largest income now. A committee of farmers were made trustees of that grant in early days. The state of Iowa now has her agricultural college and now the great question comes up, what shall we do with it? There has been a great deal of money spent on it; the difficulty was in the organization of this institution and getting teachers necessary to teach these farmer boys, and they are not to be found now. You can telegraph to the east for a carload of scientists of any kind and you will get them, but if you telegraph for a man to take Curtiss' place (I illustrate by him because you have heard the paper the gentleman has read), you cannot find him.

There is very little sympathy existing now in the state of Iowa for our kind of work.

About two weeks ago I went down to Washington to represent our institution at a meeting of the different institutions of the states of the Union. I went there to find something that would help me in building up the education in this line; I don't know half enough. And what did I find there? I did not find them insisting upon Greek and Latin, but I found them insisting upon French and German. What shall we teach up there? Why, we take him into the dairy and make him a first-rate butter and cheese maker for the first thing; then we teach him about the soil, the relation of the plant to the soil and of the plant to the animal. These are the things we are trying to teach. The hope that I have is this, that we may be able up there to educate teachers. That is the hope. We cannot get them anywhere. You cannot send for them. And I want to close by saying how gratifying it is to me, after six years of work at Ames, to find one man who is in sympathy with our kind of work. [Applause.]

MR. COWNIE: The gentleman, in his very able paper, has referred to the fact that there is only about 3 per cent of the graduates of our high schools who become farmers, and the presumption is that the other 97 per cent embark in some of the professions and so-called learned professions. Now, I don't blame them at all. When a graduate embarks in the law business and gets his first case, he gets a retaining fee; whether he wins or loses the case, he proposes to present his bill just the same. If he loses his case he will tell his client that the law and the facts were against him. It would have been an utter impossibility to have won the case. When a physician is employed he makes his fee whether the patient lives or dies; he sees that his bill is paid whether he does the patient any good or not; if the patient dies, it is because of heart failure, even if it is a surgical operation; the operation was performed in the most scientific manner, but the patient died. But they get their fees just the same. It is not that way with the farmer or the improved stock breeder. If he makes a blunder in his business, he has to pay for it and suffer the consequences. I don't blame the 97 per cent for taking to the professions. They can get along without brains, but the stock breeder can not. [Applause.]

ADDRESS BY MR. CAMPBELL.

The great pleasure expressed by Professor Wilson because of Mr. Springer's commendation of the agricultural college tempts me to make an effort towards adding to that pleasure. It is true, as Professor Wilson says, the college has in years gone by received more kicks and cuffs than commendation. I have sometimes joined in harsh, and possibly unjust, criticism of the management and methods of what was once incorrectly and scornfully called "the cow and cabbage" college of Iowa. Years ago there was much ground for unfriendly feeling towards that institution. I recall an experience I had about twenty-five years ago as a member of the committee on ways and means of the House of Representatives. The president of the college came before us, asking for an appropriation. He was met with a sharp challenge that his college was doing nothing in the way of enlightening farmers or fitting its students for agricultural pursuits. The president was boldly challenged to name a single graduate who had taken to the farm, or in any shape given evidence that he had learned anything about agriculture. The president was nervous, fidgety and rattled. He really knew very little about his college beyond the salary he drew. This was in those halcyon days of reconstruction, when anything which would pass as loyalty was supposed to be all right and above criticism. The worthy old president was then, or had been a short time before, giving a practical lesson in disproof of the theory of that famous Irish statesman, Sir Boyle Roche, "that nothin' barrin' a bird could be in two places at wonst." He was at one and the same time a resident with his family in Wisconsin, a carpet-bag United States senator from Florida, and president of our "cow and cabbage" college. He, of course, knew little of the latter, and being unable to answer the challenge of the granger regarding the output of his institution, he, as I distinctly remember, approached my seat and expressed great joy when I came to his aid with the assurance that I knew at least one graduate who had not wholly forgotten the farm and its needs. The joy of the president was set back a little when, in response to his eager request for name and details, I stated that the young graduate was at that time a traveling agent for the sale of patent pitchforks, post augers, harrow teeth and hay rakes. True, this was not much, but it was more than the committee expected, and the president got his appropriation.

But all this is now changed. In recent years the college has become an agricultural college in fact, as well as in name. With my old friend, Professor Wilson, "Tama Jim," in one of its chairs, it must perforce be away ahead of its record in the carpet-bag days. When that college gives to us such graduates as Professor Curtiss, we can well afford to take back all our former unkindly criticism.

The information and wise counsel given to farmers by Professor Curtiss during this meeting, absolutely disarm criticism of his *alma mater*. He is a product of our State Agricultural college, of whom the people of Iowa should be proud. I deeply regret that more of our farmers have not been present to hear him. If every breeder and feeder of cattle in this county had listened to his teaching here, and then if one-half of them should during the next five years carefully follow the lessons taught, I feel quite sure that Jefferson county, at the end of those five years, would have a profit in actual cash double as much as all the cost to us of the agricultural college during all the years of its existence.

Having thus expressed my appreciation of work done in the college and at this meeting by Professor Curtiss, and my thanks to the college for making in his person such a brilliant exhibition of its good work, I shall ask your patience for a short reference to another line of instruction which is understood to have found favor with college management, not only at Ames, but in other colleges—state, Presbyterian, Baptist, Methodist, etc.—that is the addition to the college courses in recent years of the careful study of those elevating and highly moral and intellectual problems involved in the games of baseball and football. It is true that we old fellows may not fully appreciate these additions to the curriculum, probably because we cannot come to the front with the expert sluggers, who, in these studies, are supposed to bring credit to the schools. We cannot forget that years ago we saw colleges whence issued fairly good scholars, men eminent in law, literature, theology, mathematics, languages and statesmanship, but all of whom, alas! lacked in such accomplishments as marked the records of the Tipton Slasher, Tom Sayers, Yankee Sullivan, John C. Heenan, John Morrissy, John L. Sullivan, the big Boston brute and bruiser, Pompadour Jim (Corbett), Lanky Bob (Fitzsimmons) and scores of other roughs and rascals, all of whom excel in the line of accomplishments which many of our colleges—Ames among them—are putting well to the front while seeking popular approval. Now, I am not disposed to underestimate the necessity or utility of knowing how to do all that was done by the worthies whom I have named, but I risk the expression of my doubt whether a state or religious college, supported by state taxes or church collections, is an absolute prerequisite to the production of trained bruisers. Few, if any, of the galaxy of great names found in the roster of the prize ring enjoyed college training. They, or most of them, learned to be bruisers, brutes and blackguards without help from preachers, professors or presidents of colleges. Yet I suspect that among the humblest of the gang matches, perhaps masters, could be found for the very best output of any Iowa college, whether of the state or church class.

True, this is only the opinion of one past the years of usefulness, and unskilled in modern methods of making scholars, and it is with some regret (though with a duly modest doubt regarding my fitness to pass judgment) that I learn that the trustees, professors, or somebody in authority at Ames, have organized a picked class in the new line of study, football, and have sent the pupils of this class out on a mission to heathen parts in order to give to the semi-barbarians in the region west of us a taste of our civilization, and of the high character of the training to be had at our great "cow and cabbage" college.

But just here I trust I may be allowed to express a doubt as to the wisdom of their selection of a territory wherein they seek to exhibit their wares. It is published that the Ames football team which goes forth conquering and to conquer, goes to Nebraska, Wyoming, Colorado, Montana and Dakota on its confident hunt for scalps. It is possible the boys may bring home trophies from these semi-barbarians whom they expect to enlighten in our state college. There is room for doubt. Just beyond the territory now menaced by the prowess and culture of Ames are to be found real barbarians who may have been giving lessons to their half brothers on the eastern border. Some years ago, while in Salt Lake on business, I visited an old soldier acquaintance, Colonel Conna, then in command of Camp Douglas, a military post a few miles east of the city. When about to go back to the city I was asked to stay a few minutes and see some fun. Just outside the line was a band of Digger Indians; they were hungry; the post butcher had just killed a sheep; the entrails and offal were taken out and thrown to the Diggers, and then I first saw the game of football. I did not know then, nor for years afterwards, that it was football. The Indians wrestled, and fought and punched each other, wallowed over each other on the muddy ground, rolled and kicked and wallowed again and again, and at last, tired out, they stood up all covered with blood and dirt on torn clothing, and grunted defiance. This was the first inning. Soon the good butcher finished dressing a calf, and its insides were thrown to the Diggers. Then began the second inning, or second half as it is now called. This was in all respects like the first, only a little more so. They had tasted blood, and like all football fellows were a little madder than when they first entered. They howled and growled and rolled in the mud, plowed up the ground with their knees and their noses, just as the football fellows do, and came up just like the latter, covered with mud, and altogether dirty and nasty and ragged. There was, as is at the close of a football game, entire absence of anything indicating the student, the scholar or the gentleman. This, as I have said, was my first sight of a football game. I did not then know it by that name, but I know it now.

A year or so ago, invited by a preacher-professor, I went to a football game on a college campus not far from here. There my years of darkness gave way to light. I soon saw that college football was the Digger Indian fight for guts reproduced in all its glory and shame and ugliness and dirt. True, I had at my elbow the preachers and college professors instead of the army officers who witnessed the hog-wallow and rough-and-tumble of the Diggers. The dress and bearing of these spectators differed little from what I had seen at Salt Lake. The dress and bearing of the performers here resembled still more closely the Salt Lake type. We had the same ugly, coarse, scowling mugs, the same indescribably filthy garments, and the same bloody noses. I am not yet satisfied that Digger Indian accomplishments are just the right thing for our state colleges. Professor Wilson doubtless understands the proprieties better than I do, but if he will take my advice he will send his boys into some territory other than that lying near my friends, the Diggers, the original footballists. They, I fear, may have given lessons to their friends on the east, and if so, the Wilson boys from Ames are likely to come home shorn. [Applause.]

MR. EVANS: I want to ask one question. There has been some criticism about our college. Has the gentleman any means of telling us the per cent of graduates of that college who have become practical farmers?

PROFESSOR WILSON: I have not the whereabouts of the gentlemen who have graduated, but I think for a few years there was not much of agriculture taught there. But with regard to the boys who come there. They come from the farm generally; they have scraped all the money they can get together; they have worked during vacation and they have got help from their parents and friends to enable them to come to school, and when they have farms they generally go to work on them, but the majority have not a farm and they have to earn it. If you gentlemen who have boys and farms will send me the boys, I will send them back to the farm.

CHAIRMAN: Mr. Manatrey wished me to say that the books are open for membership; it will cost you but $1. There are several who were not here last night and had not an opportunity to join us.

THOMAS LOUDEN: I think the last gentleman hit on the point that keeps the boys from farming. I think public opinion has a good deal to do with it. I attended college and went back on the farm and probably will remain there; no farm boy has too good an education. It is a means to the end. You require a general knowledge and on a great many subjects. But public opinion is with the man who follows the profession, and the fellow who has more brains ten to one, is nothing but a granger. I tell you it takes moral courage to be a farmer. And so I think that public opinion has a great deal to do with it. You take a man who has been through the mill and has gone back to the country, and you cannot influence him.

I claim again that no farmer educates his sons too well, and if you show me an intelligent farmer who has intelligent sons, I say it gives the sons a good opportunity to take hold of the business and conduct it themselves.

We are living in an age that is making rapid changes. There are a great many people who do not like physical labor, and there are many on the farm who do not like it. But there are all kinds of improved machinery to be had now. Farmers must be self-sustaining. Money made on the farm must pay for itself, and if there is anything else needed it must all come from the farm.

If a farmer will give his sons an opportunity to conduct part of the business themselves, and let them understand that part of the means that is made is their means, I think you will find them contented and happy and ready to remain on the farm. But if there is no machinery, no good stock of any kind, or any of the conveniencies, he will leave the farm in disgust and will probably never return; he had no interest there.

If you go to the colleges and take fifty different boys who have half their course mapped out, out of that number I don't believe you will find one who has planned to be a farmer.

I believe that it requires as high a degree of intelligence to run a good farm successfully as it does in any other business. The idea of education is all right, but keep your good, common horse sense along with it and you will be all right.

HENRY WALLACE: I do not believe that any person in the state, or at least very few persons, realize the work that is being done at the agricultural college since Wilson and Curtiss have been connected with it. My younger brother was one of the first students there; my sons have been there since, and up to the time when Professor Wilson took charge there was very little agriculture taught at the agricultural college. And he has had to work under conditions which would have appalled an ordinary man, and I am simply surprised at the results. If I had forty sons, unless I was educating them for the ministry or for the law, I would send them to the agricultural college.

MR. NORTON: I have had two sons graduate from there, and one was a farmer. The other would have been, but his health failed, going to Arizona as territorial veterinary surgeon.

CHAIRMAN: The hour has now arrived for closing, and we will adjourn until this afternoon, when we all hope to meet again at the Improved Stock Breeders' association.

REPORT OF THE SECRETARY.

To balance	$ 5.27
Railroad fare, Wilton to West Liberty, no charge	
Railroad fare, West Liberty to Cedar Rapids, no charge	
Hotel bill at Waterloo	1.00
Railroad fare, Waterloo to Osage	1.91
Railroad fare, Osage to Waterloo	1.91
Lunch	.15
Railroad fare, Cedar Rapids to Waterloo and West Liberty, no charge	
Paid Mr. Long, reporter, Osage meeting	5.00
C. R. I. & P. to state fair	5.00
Trunk to fair grounds, herd books, etc	1.25
Furniture, cots, one dozen chairs, for cottage	2.00
Nine meals	2.25
Trunk to Rock Island depot	1.25
Expense, Fairfield meeting, printing 300 programs and 300 envelopes	3.50
Stamps	1.50
Railroad fare, Wilton to Fairfield	2.54
Hotel bill at Fairfield	3.40
Railroad fare, Fairfield to Wilton	2.34
Paid stenographer	5.00
Message, John McHugh	.75
Total	$45.82

A committee was appointed by the two associations, viz: Messrs. Fitchman, Vale, Barclay and Manatrey, to confer as to the advisability of buying the Shorthorn cottage by the Improved Breeders' association. There is an indebtedness to the amount of $116 remaining since the cottage was built, and the building needs painting and some repairs before the next annual fair. The committee took no action in the matter further than to defer it for one year. Those wishing to aid in a donation to the cottage fund, or payment of $1 annual dues, will be credited for the same and a copy of the annual report sent them by the secretary.

C. W. NORTON,
Wilton Junction, Iowa.

NAMES OF MEMBERS.

J. P. Manatrey, Fairfield.
C. W. Norton, Wilton Junction.
E. C. Holland, Milton.
E. F. Brockway, Washington.
J. G. Myers, Kalona.
Chandler Bros., Fairfield.
A. J. Blakely & Evans, Grinnell.
W. J. Cubit, Morning Sun.
R. W. Lamson, Fairfield.
John Davies, Fairfield.
B. L. Norton, Durant.
C. Murdock, Waterloo.
F. F. Tailor, Newton.
John Cresswell, Bonaparte.
Wallace's Farmer, Des Moines.
John A. Evans, West Liberty.
W. W. Vaughn, Marion.
James Wilson, Ames.
C. S. Barclay, West Liberty.
H. D. Parsons, Newton.
B. F. Myers, Corning.
W. P. Young, Mt. Pleasant.

Moved secretary's report be approved as read.
Carried.

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APPENDIX.