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AMERICAN HIGHER EDUCATION

Both State and Church Schools Are Necessary—Trustees and President in Our System Have Unusual Functions.

The inaugural address of Edmund J. James Ph D., LL D., last Tuesday, on the occasion of his formal accession to the presidency of the Northwestern university, of Evanston, Illinois, contains interesting statements in relation to higher education. He said, in part: We have first of all the state university founded by the state and supported by public taxation—the institution which seems to the German and the Frenchman the only legitimate and unquestioned form of higher instruction. Its very strength as a moral force lies in the fact that it represents the things common to all parties—the things all parties can agree upon. It emphasizes the points of agreement, ignores differences and thus becomes a more powerful agent in unifying the community.

Its critics have called attention to the danger of political influence in its control and management. It is certainly a real possibility. Instances have occurred of its malign influence, and every citizen should set his face against such every approach to it. But this very contest to free the university from politics is a matter of importance. It is a matter of importance to people with higher education, and through this contest will come a higher and better public sentiment which will not be without its influence for good in countless directions.

There is more subtle criticism of state universities, viz.: That owing to the things which constitute this excellence in certain ways it is impossible for them to cultivate adequately the field of politics and theology with all the limitations on historic science which such a condition sets. This is rather a reason for the existence in our educational system of other forms of higher institutions side by side with the state universities than any valid objection to the latter. And it must also be said that the absolute necessity of treating these subjects to some extent even in these schools and of treating them only in the most important and effective way has contributed to the introduction of a more tolerant and scientific attitude of mind toward these subjects throughout the community—of itself a most valuable service for which as a community we are indebted to this class of institution.

Even in the organization and management of these state universities our American communities have preserved the principle of liberty more fully than might have been expected. While they have compelled all taxpayers to bear a portion of its burden they have not carried the principle of compulsion further. They have not required attendance at these institutions as a condition of admission to any career of public or private activity. They have not, generally speaking, associated any peculiar privileges with graduation from such schools. They have associated themselves with providing the facilities for higher education and have required the same examination and tests of their own students as of others in all examinations for the public service—civil and military.

This same principle of liberty has permitted the evolution side by side with the state institution of a system of institutions organized, supported and controlled by the church. That there has been a need for such schools in the past is amply proven by the existence of scores of them scattered throughout the country from one end of it to the other and while the numbers are perhaps lately diminished relatively, they were never in so vigorous and hopeful a condition as today. Of the 400 institutions included in the list of American colleges and universities by the United States commissioner of education 350 are set down as founded or controlled by one or another branch of the Christian church. Of the total number of students two-thirds are given as registered in such institutions. And even if we strike out those schools which though founded by the church have grown beyond its control or do not recognize in any way its right to representation in their management,

still the number of distinctly church schools is very large and their place in our system of education a strikingly important one.

Because these great church organizations have interested themselves in education as such, they have interested each of their members in this same great work and have thus contributed to the development of educational institutions throughout the masses of the people which has shown itself beneficial in countless directions.

This same principle of liberty combined with other circumstances which we need not further describe has led to another unique development in American education, and that is the founding and endowing of full fledged universities by private individuals. The great foundations of Johns Hopkins at Baltimore, of Clark at Worcester, of Stanford at Palo Alto, form not only in American education but in the educational movement in Canada, England and Australia, as well as in the United States. This founding of universities by private initiative is a striking characteristic of our system.

The first characteristic, then, of our American system of higher education is the hearty co-operation of state, church and private effort in the work of founding and developing a group of institutions which, taken as a whole, should supply the need of higher training. And the educational welfare of the country demands that this co-operation shall continue, at least for an indefinite time to come.

We, as a people, cannot afford to let the interest of the state, of the church, or of private individuals in higher education languish or die. It is a striking testimony to the essential oneness of the American people, to the essential soundness of our educational life that all these different institutions are working consciously toward the same end—that the fundamental qualities of American citizenship are developed in all alike, and that the ideals of all these various institutions in this respect are the same. The alert will awake, conscious of his kind, the prudent, painstaking, truth-loving scholar is the product of all alike.

Another peculiarity of American universities distinguishing them from those of Europe is the form of government. The non-professional, non-expert board of trustees. English institutions of higher learning are in the control of their faculties or appointed by the state, or more often by the board itself. These trustees are often business men, sometimes not college graduates themselves; often professional men—nearly always men who have had no other connection with educational work than that involved in their duties as trustees.

Our boards are either—as in the case of state universities—appointed by the governor or elected by the legislature of the people—or appointed by the church, or more often by the board itself. These trustees are often business men, sometimes not college graduates themselves; often professional men—nearly always men who have had no other connection with educational work than that involved in their duties as trustees.

To these boards is entrusted by law full authority to prescribe courses of study, to appoint and dismiss professors at pleasure and to prescribe their duties in detail if they so desire. The foreign student looks at this delegation of one of the most important functions of society to a set of busy men, who cannot be expected to have expert knowledge of the subject, with amusement not unmingled with amusement. If higher institutions of learning are to serve their real purpose they must at some point be brought under the influence of public opinion; they must come in contact with the daily life about them. Some means must be provided by which the life blood of the great pulsating world around them can flow in and through them, purifying, cleansing and purging them. Some common organ must be developed which can bring the university and the

world of outside activity together. This end has been attained in our American device of boards of trustees and I believe that a large part of the extraordinary development of our higher schools is due to the fact that through these boards of trustees it has been possible to bring outside influences to bear on the internal management and spirit of these institutions. All this is aside from the very significant fact that they have been most important elements in securing that public interest which has turned such streams of wealth into the treasuries of our schools without which our recent progress would have been impossible.

Another unique institution characteristic of our American system of higher education is that of the presidency. The American university president has no exact counterpart in the educational scheme of any other country. He is a development peculiar to the United States, an outgrowth of peculiar educational and financial conditions. He is theoretically supposed to be an educational leader and a practical business manager combined in one. He is not only expected to outline an educational policy in a broad way, but also to keep an eye on the educational administration of the university even into its very details. It is ordinarily made his duty to enforce the rules and orders of the board of trustees and see that every instructor is performing his duty toward the institution and the students. He is expected, moreover, to plan a scheme of financial support for the institution and devise methods of keeping its needs before the public. He must also see that this money once obtained is wisely spent.

In the public mind, at any rate, he is entrusted with responsibility for all the details of discipline from providing safeguards against the silly pranks of freshmen or the wild excesses of upper classmen engaged in celebrating athletic victories, to determining the attitude of the institution toward fraternities and sororities.

In fact, the position in its functions and responsibilities has become an almost sacred office. No man, however able, however experienced can possibly perform all its duties. I have had the rare good fortune to work in the very closest relations with two of the ablest university presidents whom this country has ever produced—remarkable not only as educational leaders of the first rank, but as men of extraordinary powers for general effectiveness in anything they undertake. Dr. William Penner, late provost of the University of Pennsylvania, the ablest native-born citizen of Philadelphia, a man of extraordinary insight and far-reaching mental powers, and President William H. Harper, who you all know as facile princeps in this field, I have known several other able university presidents and I am sure that I am not reflecting upon their ability or their good will when I say that I have never known a university president who fulfilled so approximately the functions which his position theoretically placed upon him; for the simple reason among others that it transcends human ability.

ENORMOUS MEAT INTERESTS

How the Packing Combine Conducts Its Vast Enterprises.

Very few people realize the enormous extent of the packing industry in Chicago, which has been gradually developing during the last 15 or 20 years. Armour & Co., only one of several firms engaged in that business, kill daily an average of 40,000 hogs, 21,000 sheep, and 15,000 cattle, an average of 50,000 head of live stock per day, which, counting 300 working days to the year, makes a total of 25,000,000 head per year.

The area of land occupied by the several packing plants of Armour & Co., is as follows:

Chicago 160 Acres

Kansas City 65

Omaha 31

St. Louis 29

St. Paul 14

Port Worth 16

Total area 315

The total output of these establishments, including dressed beef, hams, bacon and 600 or more by-products, averages annually more than \$200,000,000 in value and includes many curious and interesting features. People know very little of the enormous variety of articles manufactured in connection with the slaughterhouse business from which the packers derive their profits.

For example, Armour & Co. manufacture from 25 to 30 miles of sandpaper every day and an equal amount of every cloth, which is used by the furniture factories, shoe factories and others. The company is compelled to do this in order to utilize a cheap quality of glue for which there is no market and which would otherwise be wasted.

We know all about the chicken in a meringue, the calves' tongues, the hot tamales, the corn beef hash, the pork and beans, the stewed kidneys, the condensed soups, the lard and pickled pork which we find in the groceries bearing the Armour labels, but most people have never heard of the beef, iron and wine, the desiccated brains, the chewing gum, the lactative tablets, the impregnated ox gall, and other patented medicines, the anhydrous ammonia, the bladders, shaving soap, scented hair, canned frogs' legs, racoons and opossums which constitute a large part of the product of the Armour factories. The catalogue of these products fills a little book of 78 pages, and from it one can learn a great lesson in economy, for it teaches that not an ounce, not an atom of the carcass of a steer or a hog or a sheep or a chicken is wasted, but from the tip of the horn to the tip of the tail every part

is preserved and devoted to some useful purpose. Each of the 600 different articles is made according to formulae, essentially different in specific particulars, and orders for every one of them require special and distinct preparations.

Armour & Co. have between 6,500 and 7,500 employees connected with the administrative and commercial departments, from managers to messenger boys, and between 15,000 and 20,000 persons engaged in manual labor at their several plants. The payroll amounts to about \$10,000,000 a year. These employees are scattered among more than 600 branch houses in different parts of the United States and foreign countries. There is not a city of any size in the world at which the company is not represented. They own 5,000 refrigerators for the transportation of meats, chickens, eggs, fruit and packing-house products. Their different plants in the west and southwest are connected by about 5,000 miles of private telegraph wire, and from 60 to 75 telegraph operators are employed, according to the season.

In addition to the business I have described Armour & Co. operate all the elevators on the St. Paul and Burlington railway in Chicago, with a capacity of more than 20,000,000 bushels of grain. This branch of the business was established and developed by the late Philip D. Armour and was one in which he was deeply interested.

The present head of the house is J. Ogden Armour, and when I asked him why beef was so high this year he said it was due to several reasons: first, the scarcity of cattle; second, to the demand of the working people for a better quality of meat than they have been in the habit of using. "This is due to the prosperity of the masses," said Mr. Armour. "During the hard times the mechanics and laboring class of the population got along with as little meat as possible and bought only the cheaper cuts, but since they have been better off they are buying sirloin and porterhouse steaks and the more expensive cuts. But the chief reason for high prices is that the supply of live stock has not increased in proportion to the population."

There is always a variation in the cattle supply. One year stock will be plenty and the next it will be scarce, and prices vary according to the supply. "During the hard times the mechanics and laboring class of the population got along with as little meat as possible and bought only the cheaper cuts, but since they have been better off they are buying sirloin and porterhouse steaks and the more expensive cuts. But the chief reason for high prices is that the supply of live stock has not increased in proportion to the population."

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SUFFERED MANY YEARS With a Complication of FEMALE DISEASES.

Two Robust Women Who Owe Their Restored Health and Usefulness to Pe-ru-na.



Tens of Thousands of Testimonials Received Yearly.

Thankful Women Who Have Been Cured By Dr. Hartman's Free Treatment.

Miss Ruth Emerson, 72 Sycamore street, Buffalo, N. Y., writes:

"I suffered for two years with irregular and painful menstruation and Pe-ru-na cured me within six weeks. I cannot tell you how grateful I feel. Any agency which brings health and strength to the afflicted is always a welcome friend, and today the market is so filled with useless and injurious medicines that it is a pleasure to know of so reliable a remedy as you place before the public."—Miss Ruth Emerson.

"I want to do what I can to let the whole world know what a grand medicine Pe-ru-na is. For eleven years I suffered with female troubles, and complications arising therefrom. Doctors failed to cure me, and I despaired of being helped. Pe-ru-na cured me in three short months. I can hardly believe it myself, but it is a blessed fact. I am perfectly well now, and have not had an ache or pain for months. I want my suffering sisters to know what Pe-ru-na has done for me."—Miss Marie Johnson.

The above testimonial is from Miss Marie Johnson, 11 Columbia, East Detroit, Mich., was Worthy Vice Templar in Hope Lodge, No. 6, Independent Order Good Templars. Miss Johnson, as so many other women also have done, found in Pe-ru-na a specific for a severe case of female weakness.

Pelvic catarrh is a phrase coined by Dr. Hartman, covering all that large class of diseases that used to be known as female weakness. The lower portion of the abdomen is called by anatomists the pelvis. The organs contained in this portion of the body are known as the pelvic organs. There are several of them, very delicate and very subject to catarrh. Few women escape entirely catarrh of these organs. While each case presents some minor difference as to detail, they are all in reality alike.

Pelvic catarrh, therefore, is a generic term that covers all cases of catarrh of the pelvic organs. There is no cure equal in promptness and permanency to a short course of Pe-ru-na.

Pe-ru-na does not relieve these cases by temporarily mitigating some symptom, but by removal of the cause. Many a woman can testify that local treat-

ment does not permanently cure. A large multitude of women are constantly going from doctor to doctor.

Miss Ruth Emerson received local treatment with little or no result.

In Pe-ru-na these women find a prompt and permanent cure. Thousands upon thousands of testimonials to this effect are received by Dr. Hartman every year. The good that Pe-ru-na has accomplished in this class of cases can scarcely be overestimated.

Imitations of Pe-ru-na. All good things are imitated. The world is full of imitations of gold, imitations of diamonds and imitations of everything that is costly and useful.

Pe-ru-na has come to be recognized as the greatest remedy for catarrh in the world. At first competitors tried to deny this and insisted that their remedies were just as good. This was found to be impossible, however, and now imitations are springing up everywhere.

Pe-ru-na is imitated in the kind of bottle. Imitators think that if they get a bottle that resembles the Pe-ru-na bottle, they will be able to sell more of some alleged catarrh cure.

The color of Pe-ru-na is imitated. Sometimes the taste. The claims that are made for Pe-ru-na are imitated verbatim.

The literature concerning Pe-ru-na is limited.

The style of advertising Pe-ru-na is limited. All this is done to reap some of the benefits to which Pe-ru-na is so justly entitled.

Incidentally Pe-ru-na is injured by cheap imitations, and yet it is a great compliment to Pe-ru-na to have such a host of imitators. Why do they single out Pe-ru-na from among the proprietary medicines? Simply because Pe-ru-na is the greatest seller in the world. Everybody knows this.

To successfully palm off an imitation of Pe-ru-na even for a short time is sure to be a money-making scheme, but no one who has ever taken Pe-ru-na can be fooled on these imitations. No conscientious druggist would sell one of them. Every purchaser should look carefully at each package of Pe-ru-na he buys, to be sure that he is getting only genuine Pe-ru-na.

If you do not derive prompt and satisfactory results from the use of Pe-ru-na, write at once to Dr. Hartman, giving a full statement of your case and he will be pleased to give you his valuable advice gratis.

Address Dr. Hartman, President of The Hartman Sanitarium, Columbus, O.

STRANGE CORNERS OF UTAH.

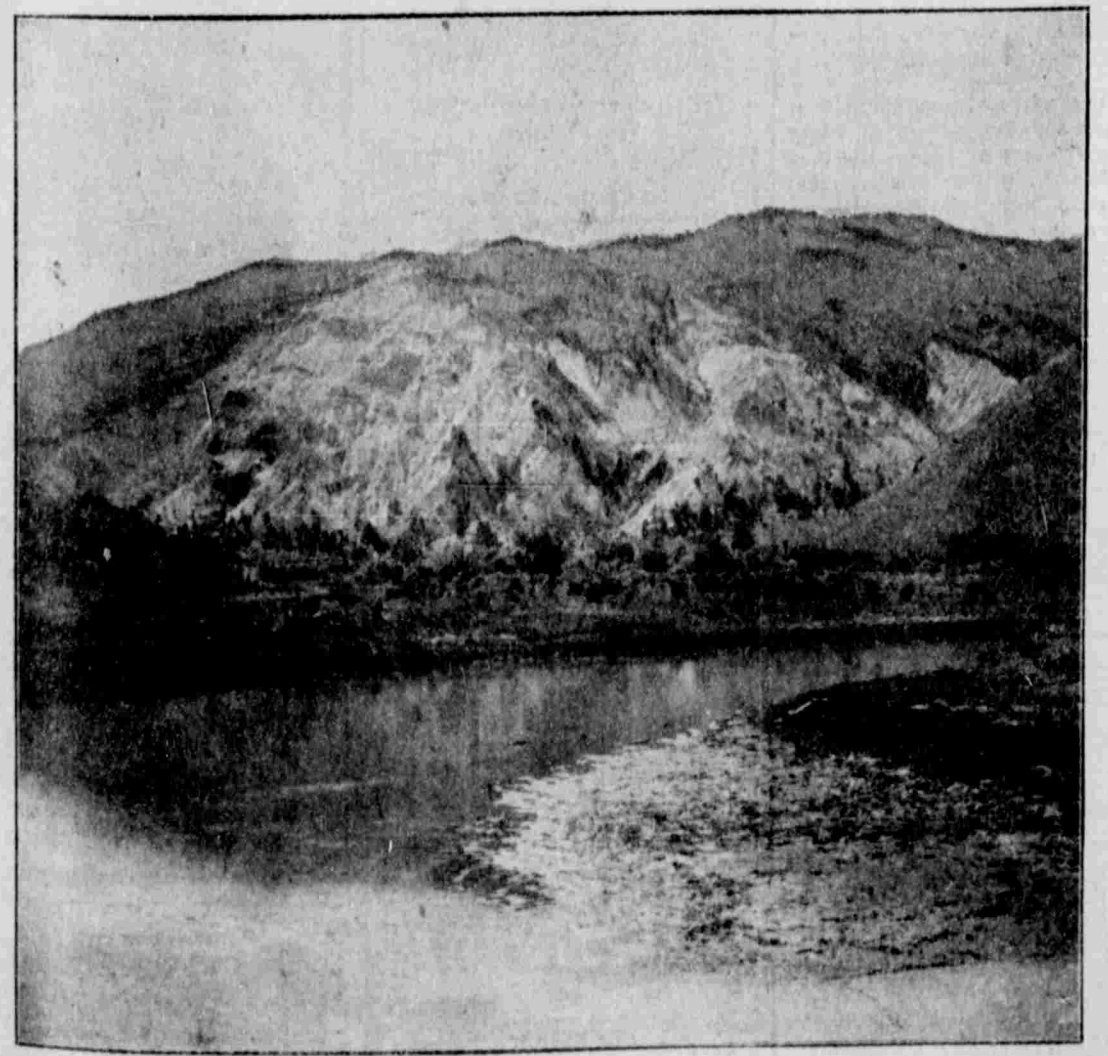


Photo by C. R. Savage.

ALUM MOUNTAIN.

Alum is a common compound in chemistry and its use is manifold. But a mountain of alum is a rarity. Nevertheless Utah has such a mountain; and an interesting curiosity it is. It is situated on the Rio Grande Western railroad in Sevier county, a county that has much rugged, unique and picturesque scenery, particularly along the river and canyon of the same name both of which are shown in the accompanying half-tone. The light faced eminence that rises in the back ground, just beyond a bend in the river, the placid crystal waters of which contribute to the attractiveness of the scene, is Alum Mountain which contains enough of the chemical to supply the cheap baking powder concerns of the world through all the ages to come.

"Packers would always rather handle low priced than high priced beef," continued Mr. Armour, "because more of it is sold and there is a larger percentage of profit. Presently, however, the fresh meat business depends upon low or moderate prices, and the packing industry is today actually dependent upon by-products for its dividends. This is simply because nothing goes to waste, we are constantly bringing out new things and bringing down the business to the closest detail. It is only by handling enormous quantities, with great economy, and system, that money can be made in the meat business, and that is the reason why so few people go into the business."

"Cattle only yield on the average from 50 to 60 per cent of dressed beef, and it is necessary for us to utilize every particle of the remainder of the carcass in order to cover the interest upon the money invested to pay for the labor, the transportation and material used and leave a profit. In the old days when each butcher killed his own beef nearly half of it went to waste, and yet he made a profit of not less than 25 per cent and usually 33 per cent. Nowadays, with the business organized and systematized to the very highest degree, our profits are seldom more than two per cent after utilizing every atom of the animal slaughtered. If we did not handle an enormous volume of products we could not do any business at all. Two per cent upon a total of 250,000,000 seems to be a very small profit, and it can only be obtained by the most careful economy. It is very different from a profit of 33 per cent upon a business of \$5,000 or \$10,000."

"What has become of the difference between the 33 per cent profit that was derived by the butcher in old times and the 2 per cent reported by the packing house industry today?"

"The greater part of it goes to the

man who raises the cattle," replied Mr. Armour. "The rest is distributed among the hundreds of thousands of men who are employed in the stock yards, the slaughter houses, the packing houses and by the transportation companies who handle the goods. In old times the transportation companies had very little to do with it. The local butcher bought his beef on the neighboring farms, drove it in on the hoof and sold it to people within sight of the pasture upon which it was raised. Today the population of the country is so great that the local farms cannot begin to supply even a small percentage of the demand in any locality; and the beef, pork and mutton eaten by the people in the villages, and even in the farmhouses, as well as the cities of the central and eastern states, must be transported thousands of miles before it reaches the slaughterhouse and hundreds of miles after it is killed and dressed."

"There has been a considerable advance in the price of cattle recently," said Mr. Armour. "On June 1, 1902, the mean price of 'good-to-extra' steers was \$7.10 per cwt.; in 1900, \$5.37, and in 1901 it was \$5.75 per cwt.; in 1900, \$5.37, and in 1901 it was \$5.75 per cwt. On June 1, 1902, dressed beef was \$10 per cwt. on the same date in 1901 it was \$7.37. In 1900 it was \$8, and in 1901 only \$8.37. The lowest price for dressed beef in recent years was in June, 1890, when it sold at \$6.37 per cwt."

Notwithstanding the variations of prices for live cattle, the margin between beef on the hoof and beef on the hook has kept about the same year after year as a matter of necessity as well as policy. Even if all the large packers were combined into a single corporation they could not enforce higher prices than the value of beef on the hoof would justify. If such a thing was attempted capital would flow into the industry and competition would ensue just as it has done in sugar refining and other industries. The history of organized industry shows that whenever an attempt has been made to unduly raise prices competition has

compelled a reduction below the former level."

Mr. Armour called my attention to the following table from Murray's Price Current, which shows the variation in the average cost of cattle, sheep and hogs in the west for the last 20 years:

	Per 100 pounds—	Cattle, Sheep, Hogs,
1882	\$6.65	\$4.95
1883	5.70	4.74
1884	5.95	4.65
1885	5.25	4.00
1886	4.70	4.15
1887	4.30	4.40
1888	4.75	4.60
1889	4.05	4.45
1890	4.55	4.35
1891	4.80	4.10
1892	4.65	4.55
1893	4.65	4.20
1894	4.20	2.10
1895	4.70	2.30
1896	4.20	2.10
1897	4.60	2.15
1898	4.80	2.71
1899	5.40	2.75
1900	5.25	2.70
1901	5.45	2.95

The following table shows the mean price of "good to extra" steers in Chicago and of "good to extra" fresh beef in Boston on the 1st of June of each year from 1890 to 1902, the difference between the price of live and dressed beef and the percentage of margin:

	Actual differ-	Pct. mar-
Steers, Beef,	once, 800.	
1890	\$4.72	\$1.65
1891	5.70	2.12
1892	4.37	2.12
1893	5.62	2.37
1894	4.17	2.02
1895	5.37	2.42
1896	4.10	2.77
1897	5.02	2.35
1898	4.90	2.35
1899	5.20	2.32
1900	5.37	2.62
1901	5.75	2.75
1902	7.10	2.60

Everything about the Armour pack-

ing plant is done by electricity and the most ingenious automatic contrivances.

There is an elevated railway running between buildings and through all the streets and alleys, with over five miles of track, ten electric motors of 25-horsepower each and 3,000 cars built in different styles adapted to the special purposes for which they are used. It is the only railroad of the kind in existence, and its utility was shown last year, when 25,000,000 pounds of meat and other products were transported from cutting floors and factories to warehouses and railways for domestic and foreign transportation.

The power plant of Armour & Co. is one of the largest in the world, covering a ground space of 300 feet square and up to date in every feature. The coal and ashes are handled by automatic gravity contrivances. The boiler plant consists of 24 vertical water tube boilers of 150 horsepower each, and will be increased by 1,200 horsepower within a few months. There are four massive refrigerating machines, two of 400 tons and two of 800 tons capacity daily, which will be increased by 1,200 tons capacity very shortly. The entire plant is as nearly fireproof as can be made.

The canning department is also the largest in the world. Cleanliness is the chief characteristic, and no private kitchen in the land is neater. By the use of machinery manual labor has been reduced to a minimum, and long continued chemical experiments have enabled the cooks to retain all the natural flavors of the different meats they handle. The laboratory is under the charge of a chief chemist, with its assistants, who are always busy making tests and devising novelties for the meat department.

Armour & Co. build their own cars and have a tin factory where all their cans and pails for preserved meats and lard are manufactured. There is a complete printing establishment also, where they do all their own lithographing and printing and manufacture their own books and stationery. In fact, everything except the raw material is made on the ground.—William E. Curtis in Chicago Record-Herald.