

## KODBYEN

The Copenhagen Market and Slaughter halls

## KØDBYEN (THE DEAD MEAT CITY)

THE COPENHAGEN

MARKET AND SLAUGHTER HALLS



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The Copenhagen Market and Slaughter Halls, but called by everybody »Kødbyen« (The Dead Meat City), begins at the end of the fifties of the last century, when the whole question of the supply of meat and pork to the town was earnestly raised in the Municipal Council. Almost everybody agreed that the both directly and indirectly inhygienic and inesthetic conditions characterising so highly the supply and trade in meat and pork had to be improved, indeed very essentially improved. But during the negociations between the numerous parties concerned—ministries, Municipal Council, Magistracy, Slaughters' Guild, cattle-dealers, agricultural organizations, &c—so many and so various difficulties and divergences of view appeared that almost a score of years had to go, before the long considerations led to a positive result.

It was not until June 17th, 1878, that the Municipal Council voted 664,500 crowns towards the organization of a new cattle-market on the position of »Enighedsværn«—i. e. on the areas where the cattle-market is now—according to designs drawn up by Hans J. Holm, architect.

The 28th November, 1879, the new Copenhagen cattle-market was opened, and with this event a new era begins in the trade of the town in cattle and its supply of dead meat and pork. The new stables and pens could take 600 oxen, 360 calves, 600 pigs, and 4000

lambs, while at the openair beams of the cattle-market proper 1100 animals could find a place.

The following year a siding was built leading from the existing dock-sidings to the cattle-market.

The removal of the cattle-market was the first step towards a rational arrangement of the supply of the town of meat and pork and soon afterwards, the 6th March, 1882, the resolution of the Municipal Council followed to vote 285,000 crowns towards the construction of a public slaughter-house, to which the butchers working under conditions not in accordance with the requirements of the sanitary police could be sent. The 1st October, 1883, the first slaughter-houses, the so-called cells, were brought into use. They were so arranged that each butcher got his own killing room or cell. Thereafter events came thick: in 1885 254,300 crowns were voted towards enlargements of the slaughter-houses, in 1887 521,561 crowns toward the construction of a pig slaughter-house and slaughter-houses for cattle, calves and lambs, and in 1887 further 179,000 crowns for a new boiler plant and cold store.

Herewith the settling of the abattoir question of the town had reached such a state that the Municipal Council could declare the so-called slaughtering constraint, i. e. all slaughtering within the territory of the town should take place in the public slaughter-houses. From the 1st January, 1888, all killing outside the public slaughter-houses was prohibited.

Simultaneously herewith the regulations adopted December 14th, 1887, by the Municipal Council and concerning the inspection of fresh meat of cattle, horses, calves, lambs, and pigs supplied to the town for sale and manufacture came into effect. Four inspecting stations were erected: a main station at the cattle-market and three

secondary stations out in town. The secondary stations soon were laid down (the last one in 1892) and the whole inspection was then carried out on the cattle-market, where it housed until 1910, when the new pork hall was put into use and all meat-inspection (including trichina inspection and bacteriological examinations of dead meat) was transferred thereto.

In the years following the opening of the cattle-market wishes arose to get a covered hall for the trade in live stock. In 1892 these wishes were set forth very vigorously by Det kgl. Landhusholdningsselskab (Royal Agricultural Society) and the cattle-dealers' association. The Magistracy dared not take their stand to this question at the time, because it was not yet clear how the Ministry of Ways and Communications would settle the Copenhagen terminus. When this was cleared, in 1899, the Magistracy raised the question about a covered sales hall for live stock and in the same year 164,300 crowns were voted towards the construction of new buildings for pens for calves and sheep, because the prior ones had to be removed in order to make room for the projected oxen hall. Next year 387,811 crowns were voted to this end, and November 28th, 1901, the covered sales hall for oxen was opened which is still in use. It has a floorage of about 1.3 acres and accomodation for about 1600 cattle.

The fact that care was taken to let the trade in live stock take place in a covered hall turned the attention to the, hygienically seen, objectionable openair dealing in pork carried out in the early hours on Gammeltorv and Nytorv. The Magistracy raised the question and set forth the 16th April, 1907, the proposition to construct a sales hall for pork, and having treated the said question in a committee the Municipal Council granted to this end 764,520 crowns. The 15th April, 1910, the first pork hall in Copenhagen comprising,

beside the hall proper, cold stores, localities for the management, trichina-inspection, laboratories, engine plant, &c, was opened. Originally it was intended that in the new hall only pork and poultry should be dealt in, but soon after its being brought into use the agents of the hall began to import carcases of oxen, calves and lambs from the other butcheries out in the country, and the hall became, therefore, also a sales hall for dead meat. The proper hall has a floorage of about 1.1 acre and can take about 4400 swine carcases on its hanging rods.

In the first years the supplies to the hall were between 100,000 and 200,000 pigs, between 3000 and 10,000 oxen, and between 3000 and 10,000 fatted calves. They increased, however, so that in 1924—25 more than 300,000 swine, 44,000 oxen, and 50,000 fatted calves came in. Thereafter the hall had become too small, and in the same degree the cold stores could not take the masses of carcases which it was desired to cool. In order to remedy this lack of space the Municipal Council agreed to remove all dealing in poultry from the pork hall and to build a new hall for this purpose in combination with the pork hall simultaneously with the construction of two new cold stores. In this way a total cold store accommodation for about 2200 swine could be procured. In November, 1925, 741,900 crowns were voted to this end. The new hall and cold stores were put into use the 17th December, 1926. The hall has a floorage of about 8600 square feet.

The way in which the supply of the town of dead meat and pork and the trade therein had been regulated in the years from 1879 to 1926 meant, as compared with prior times, an exceedingly great progress, but nevertheless it was stamped by its having entered the world bit by bit and gradually. It had not become a rational ar-

rangement, neither hygienically nor economically. Scattered over a wide ground around the cattle-market the slaughter-halls stood with their cold stores, gut rooms, localities for the treatment of hides, drying of blood, scalding of calves' heads, &c, and the proper sales hall for dead meat and pork was miles far from the slaughter-houses.

These positions involved a both troublesome and enhancing transport which is quite in opposition to modern requirements to a working plan.

The slaughter-halls were employed not only for the killing and dressing of the animals, but also as a chill hall. When the carcases had been dressed, they were hung to be chilled around the killing stations, where the slaughtering went on-everybody having some knowledge to slaughtering will realize how objectionable such an arrangement is with respect both to the work and to hygiene, because the dressed carcases hang in a damp-saturated air exposed to soiling from animals lying in death spasm on the floor and from the working slaughters. In the course of years it has been deliberated many times to provide the necessary room for chill halls for the slaughter-houses, but the multitude of halls—gateway hall, gas works hall, pig slaughter-hall, shehitah hall, double hall, export slaughter-hall, horse slaughter-hall—made it impossible, for economical reasons, to construct the needed chill halls. Also in other respects the circumstances in the slaughter-house were not up to date: there was no light, insufficient ventilation, no hot water cocks for the washing of the meat and for general cleaning. To be brief, the halls had become obsolete and their scattered site prevented an economically affordable modernization.

Add hereto that the relief of the pork hall resulting from the poultry hall brought into use in 1926 had been without importance

in relation to the increase of supplies taking place in the following years. While in 1925 300,000 swine, 40,000 oxen and 50,000 fatted calves had come in, 340,000 swine, 45,000 oxen and 109,000 fatted calves came in in 1928. The tendency to increase represented in these numbers has continued. In 1933—34—the last year of the ancient pork hall—the supplies amounted to 523,000 swine, 82,000 oxen and 136,000 fatted calves. These enormous supplies induced a lack of space so hard that only the prospects of the coming removal to the new hall made the dealers bear circumstances with resignation.

Beside the above mentioned circumstances, which are all under control of the municipal authorities, the state of things in the industrial and commercial quarter of Syndergaardsgade and Mitchellsgade was so bad that the health authorities of the town required a serious improvement. Or, to say it more distinctly, owing to lack of space, age, busy use preventing necessary repairs, lease with three months' notice, &c, they were so unmodern, unhealthy and infested with rats that both the people having their work and incomes there and the municipal authorities demanded improvements.

For all here mentioned reasons, and for still more, the Magistracy raised again, in 1928, the question of a re-arrangement of the market and slaughter-halls. A concurrent reason was that the western gas works had been discontinued so as to make available its large area, 18 acres, in immediate vicinity to the slaughter-house territory. This rendered a gathering possible in consistent order of organs necessary to the provision of the town with meat and pork: sidings with their ramps, ramps for cattle motor vans, market halls for live stock, lairages for animals to be slaughtered and for animals to be exported, slaughter-hall, chill hall, cooling room, cold stores, sales hall for dead meat and pork, buildings for factories and busi-

ness, &c. This consecution order shows the rational way by which the supply of meat and pork should some to a town. And starting from this order the Magistracy filed on June 3rd, 1930, a proposition concerning a re-arrangement of the market and slaughter-halls. March 5th, 1931, the Municipal Council voted 16,067,500 crowns, and later on 2,655,000 crowns were granted, so that the total appropriation amounted to 18,722,500 crowns.

Immediately after the granting of the money the building operations were taken in hand, and the 6th June, 1931, the foundation stone of the great establishment was laid. The document written on hog-skin and capsuled in a soldered-up lead tube, which was bricked up with the first stones, has the following wording:

## »THE COPENHAGEN CATTLE-MARKET »was opened November 28th, 1879.

»THE PUBLIC SLAUGHTER-HOUSES OF COPENHAGEN

»were commenced in 1883. They were fully put into use

»January 8th, 1888, at the

»INTRODUCTION OF SLAUGHTERING CONSTRAINT

IN COPENHAGEN.

»The 15th April, 1910, was opened »THE SALES HALL FOR MEAT, PORK, POULTRY AND EGGS,

»which was enlarged several times, first time in 1921,
»last time in 1926 simultaneously with the addition
»of new cold stores and a
»POULTRY HALL,

»which was put into use the 17th December, 1926.

»The 3rd June, 1930, the Copenhagen Magistracy proposed to sthe Copenhagen Municipal Council to replace the old slaughter-halls by a new and modern slaughter-house and to assign to the pub-slic market and slaughter-halls of Copenhagen the grounds of the sancient western gas works in order to remove thereto the sales hall swith surrounding factories and commercial establishments positioned between the police head quarters and the goods terminus.

»The Municipal Council sent the proposition to a committee con»sisting of: O. Andersen, head-porter, M. F., as chairman, Mrs. Ka»ren Braae, H. J. Eiø, director, C. N. Espersen, editor, A. Fløtkjær,
»ship's carpenter, Ernst Jensen, master mason, Mrs. Anna Johansen,
»Jens Johansen, manager, F. K. Madsen, journalist, M. F., A. Meis»ling, dr. med., health officer, Th. Pedersen, chauffeur.

»During the treatment of the proposition by the committee the »Magistracy proposed several modifications, amongst others to re»build the slaughter-halls next to the Halmtorvet as a central for »land carriage to Copenhagen.

»The 26th February, 1931, the committee gave its opinion, accordsing to which the Municipal Council granted the 5th March, 1931, \$\int\_0.67,500\$ crowns of the funds for re-building and new constructsion of the market and slaughter-halls &c. The work was started sin April, 1931.

»Mayor of the 4th section of the Magistracy was P. J. Pedersen, wand municipal architect was Poul Holsøe, R. DM. &c, who was when head of the works. Director of the Copenhagen market department and slaughter-halls was Henning Koch.

»The deposition of the first stone took place on June 6th, 1931, with co-operation of Anders Jensen, R. DM. &c, landed proprietor, whead of the Slaughters' Guild, J. Theilmann, R. DM. &c, landed

»proprietor, chairman of The Co-operative Danish Bacon Factories, »T. G. Jungersen, R., director, chairman of The Society of »Tradesmen at the Copenhagen Pork Hall, and O. Andersen, M. B., »M. F., head-porter.

»Copenhagen, dated this 6th day of June, 1931.

P. J. Pedersen,
Mayor of the 4th section of the Magistracy.

Henning Koch.«

The demolition of the buildings within the territory of the market and slaughter-halls, on the position of which the new buildings had to be constructed, and the clearing of the large gas works territory were soon done, and the building operations were forwarded as much as possible. The 5th October, 1932, the new slaughter-hall with chill hall and cold store were ready. They were inaugurated on the said day. The first creature was shot by Anders Jensen, head of the Slaughters' Guild, the second by Valdemar Olsen, chairman of the Trade Union of the Copenhagen Journey-men Butchers.

The floorage of the slaughter-hall is about ½ acre. Of this area 46 killing stations for great cattle occupy about three eighths of an acre, where about 700 animals can be killed in a normal labouring day. About 4300 square feet of the hall are adapted for killing calves and lambs, and about 1500 can be killed here in a normal labouring day. Besides, two killing stations are arranged for killing horses. An adjoining room has accommodation for the killing of a few animals on days where no slaughtering takes place in the hall proper.

Along the eastern side of the hall, rooms are provided for the emptying of guts, scalding of calves' heads, and emptying of stomachs, a guardroom for veterinary surgeons, and a waiting-room for journeymen butchers. Above these rooms the first floor comprises localities for the further treatment of guts. Along the southern side of the hall the municipally appointed staff of veterinary surgeons, hall officers, stampers, &c, have their dress-changing rooms, wardrobes, bathing and dining rooms.

There is unidirected transport of the animals in the slaughter-hall. The live animals are led in to the killing stations by transverse drives, and when they are dressed, they are run, while hanging in travelling crabs on an elevated rail, by other transverse paths to the chill hall, from which they can be run into the cold stores while still hanging on the elevated rail. The live animals never meet the dressed ones and cannot, therefore, soil the ready meat, which is, from a hygienic point of view, of the greatest value—particularly when seen on the background of the conditions in the ancient slaughter-halls.

Each killing station is provided with an electrically driven winch, from which the carcases can be released automatically to the hanging device of the crab. Besides, basins of stainless steel with cold and hot water for the cleaning of the butchers' tools are arranged at each killing station. At other places there are special desinfecting basins, also of stainless steel, with cocks for water and steam for the veterinary surgeons to desinfect their knives.

As soon as the animals have been dressed and inspected by the veterinary surgeons in the slaughter-hall, they are run out into the chill hall extending along the whole western side of the slaughter-hall and having a floorage of about 1/3 acre with hanging accomo-

dations for about 980 carcases. Here they remain until the caloricity has left them, whereupon they are carried into the two cooling rooms of the cold store.

Just as the chill hall is built in immediate continuation of the slaughter-hall, so the cold store is built immediately up to the chill hall. The cold store has three sections: a cooling room 3200 square feet large for great cattle with place for about 300 carcases, a cooling room about 2000 square feet large, and between these two rooms the cold store proper having a floorage of about 7200 square feet and containing 100 cold store cells lent on hire to the butchers of the town who have here their stocks of dead meat.

Before being carried from the cooling rooms to the cold store the carcases are divided into halves or quarters. By means of particular lowering winches they are lowered from the elevated rail, and after their being quartered they are placed on a low tubular rail (about 7ft over the floor) leading to the cold store and from there—still covered—to the sales hall for dead meat and pork.

For the placing of the carcases on the tubular rail hanging hooks are used running on a wheel with ball bearings.

Outside the cold store is a continuous cantilever roof 23ft broad, under which the slaughters' carriages bringing goods to or from the cold store can stand protected from sun, rain, or snow. Under the roof the tubular rail runs, which has connections with the chill hall and cold store and on which the carcases are carried to the sales hall. From here the tubular rail proceeds into the central corridor of the so-called connecting building leading direct to the sales hall.

Beside the said transport corridor the connecting building contains a series of localities in two storeys. In the ground floor there are rooms for thawing out meat arriving in winter in a frozen state

and for condemned meat on its way to the incinerator. Besides, there are store rooms, rooms for materials and dirt tubs, &c. For the cold store workers, cleaners, hall officers, stampers, carriers, and samplers there are rooms for dress-changing with bathrooms and lavatories, and for dining. In the first floor the veterinary surgeons nest. Here they have office rooms, dining and dress-changing rooms, bathrooms, and lavatories. Besides, there are laboratories for the bacteriological meat-inspection and for the trichina-inspection. There are also dining, dress-changing, bathing, and toilet rooms for the staff of the said inspections.

As already mentioned, the central corridor of the connecting building leads to the sales hall for dead meat and pork. This hall, which was put into use the 15th April, 1934, has an area of about two acres, and together with the cold stores it covers 2.5 acres. For comparison serves that the area covered by the Town Hall is about 2.2 acres and Forum, the so-called Monster Hall, has an area of 1.5 acres. The tubular rail leading from the cold stores of the slaughter-hall and from the ramps into the hall branches off into two large fields divided by a central passage 16ft wide all over the hall. Between the branches are passages 8ft wide. Here the wholesale merchants of the hall have their stands. The transport track in the pork hall, supply passages and cold stores has a total length of about 4.35 miles. About 7000ft hereof are occupied by the stands of the dealers with hanging accommodations for about 7000 pigs (in the prior pork hall only about 440 could be held). At both sides of the hall there are series of gates leading to an openair pentroof 26ft broad, under which the carriages bringing carcases to and from the hall can stand protected from the weather.

Most of the supplies to the hall come per railway from the abat-

toirs of the country. They are led in to the ramps of the hall, where they are unloaded from the railway carriages and hooked on the tubular rail in their transport hooks. Some of the wares—to a continuously increasing extent—come to the hall on motor vans and are carried in through the side gates. Finally, carcases are also brought to the hall direct from the public slaughter-houses in Copenhagen.

Between the ramps and the proper hall are the four cold stores, two of which are intended for dead meat and two for pork. The cold stores together have an area of  $^{1}/_{2}$  acre and can hold about 4400 carcases. At both sides of the hall in the first floor offices for the cattle-dealers are established. Over the cold stores there is, besides, a large common canteen for all persons employed within the territory of the Kødbyen and with accommodation for 500 guests. In the opposite end, towards the Flæsketorvet—the place surrounding the pork hall is called Flæsketorvet, i. e. the pork-market—is a restaurant.

Beyond the Flæsketorvet—towards the Halmtorvet—is the new poultry hall. It is surrounded by a block of business-houses and has two large yards at both sides. From these yards the supply to the hall takes place through a series of doors and gates opening to both of the yards. The proper hall has a floorage of about ½ acre. The stands are in its central part and along both sides. Between them are passages 13ft broad for the customers. Facing the Halmtorvet is a smaller hall for the dealing in live poultry particularly bought by the Jews of the town. Around this small hall are cold stores, lavatories, and localities for the staff of the hall.

The area of the carriage-ways and auto-parks of the Flæsketorvet and the streets leading thereto, viz. the Slagterboderne, Høkerbo-

derne and Kødboderne\*), amounts to about 4 acres. On the porkmarket and in the various yards, stands for cycles are erected in the open air and under pentroofs. About 2000 cycles can be placed therein.

Around the pork-market and the streets leading thereto the multitude of wholesale businesses dealing in dead meat and pork wares in various forms are situated. Their localities are equipped with all modern installations according to the necessities of the individual trades and manufactures. All has been done to make the circumstances in which the trades are performed as safe as possible in respect both to the work and to hygiene. The rooms are provided with installations for central heating, steam, central cooling, hot water, cold water, electric light and power, and gas. Everywhere there are lifts for the transport af goods. In the factory buildings smoke stoves, curing cellars and cold stores are arranged.

The floorage of the buildings for hire amounts in total to 10.6 acres.

All technical supplies—except gas, which is forwarded through subterranean mains—take place through a net of tunnels having a total length of about 8000ft. The pipes and conductors are differently coloured, each colour indicating the supply passing through the pipe or conductor in question. For instance, the central heating pipes are red, central cold pipes white, cold water pipes blue, and so on.

All the said pipes and conductors come from the engine-house in Ingerslevsgade. Beside the large engine-hall, this house contains workshops, offices and sitting-rooms for the engine-house staff, transformer-rooms, stores, tank-rooms, &c. On its flat roof is the irrigator of the cooling plant. The steam utilized in the engine-house is sup-

<sup>\*)</sup> The names of the three streets mean: the butchers' booths, the grocers' booths and the dead meat booths.

plied from the H. C. Ørsted works. The pipes croos the goods railway on a bridge constructed heretofore for the transport of coal to the western gas works.

Near the engine-house is a smaller incinerator intended only for the sweepings of the institution containing, of course, great quantities of small meat offal and the like, which it is desirable, for hygienic reasons, to burn instead of carrying it to the dumps.

The new slaughter-hall made superfluous the two large slaughter-halls facing with their gables the Halmtorvet at the entrance to the slaughter-house. To relieve the traffic in the central part of Copenhagen these halls were re-built and adapted for the land carriage of this town. The land carriage hall has a central double passage for carriages and along its sides two single passages, so that in all there are 4 carriage ways along the ramps. In the hall there are ramps for at least 64 carriers, and the hall has an area of about two thirds of an acre.

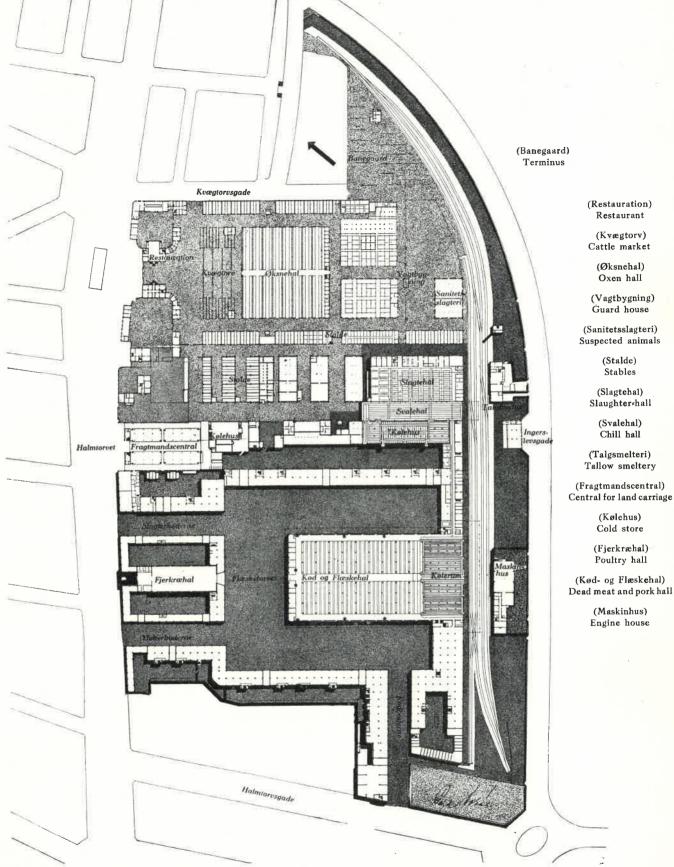
The ground occupied by the market and slaughter-halls extends from Kvægtorvsgade to Halmtorvsgade and from the Halmtorvet to Ingerslevsgade. It has an area of about 1,663,000 square feet or between 37 and 38 acres.

The purpose of the large establishment hos been to satisfy to the hygienic requirements of a large city as concerns its supply in victuals of animal origine, and at the same time it was desired to centralize and to rationalize the wholesale in dead meat and pork and the administrative accessories attached thereto.

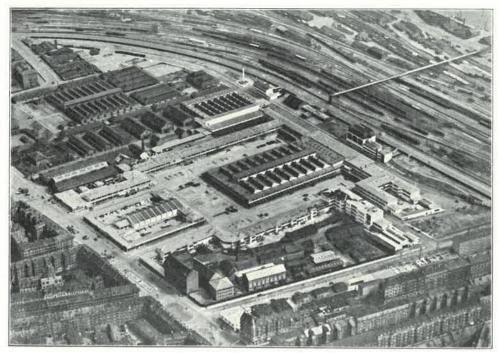
The Kødbyen may rightly be designed as the chief market of this country for meat and pork. It has not been built for the present time alone but with a perspective pointing out into future. If enlargements should become necessary in the course of time, suitable reserve areas are available, and furthermore the Municipality have ensured the bargain in 25 years of the large area at the corner of Halmtorvsgade and the Halmtorvet, where at present the manufactures of the firm Alfred Benzon stand.

With the Kødbyen a new feature has been added to the physiognomy of Copenhagen as a commercial town. As seen from a commercial and factorial point of view, it is a very comprehensive establishment with an exceedingly great capacity, which will no doubt be able to solve the problem: to supply in the first instance Copenhagen and, besides, great parts of the country with dead meat and pork in a hygienically secure and commercially profitable way.

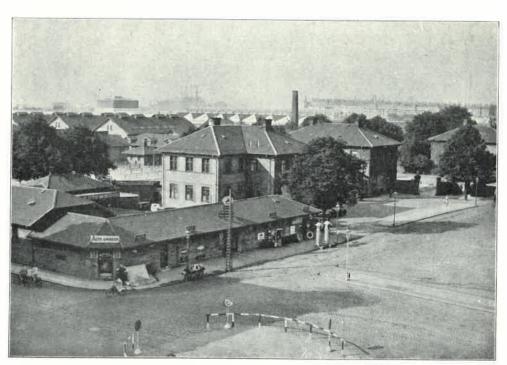
Henning Koch.



Kødbyen. 1:3000.



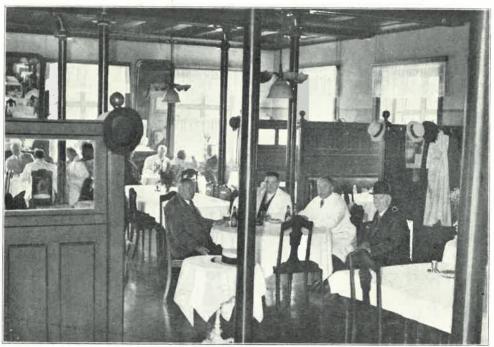
The Kødbyen, as seen from the west.



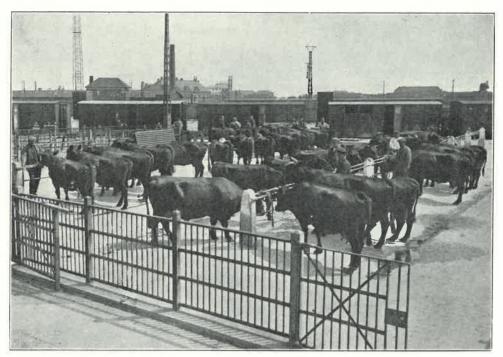
Lookout on the Kødbyen from the Halmtorvet.



Main entrance to the cattle market. (On the right hand: the management building).



Ancient cattle market restaurant.



Ramps of the cattle market.



Sales hall for great cattle. (Floorage: 1.3 acres; binding accomodation for 1600 animals).



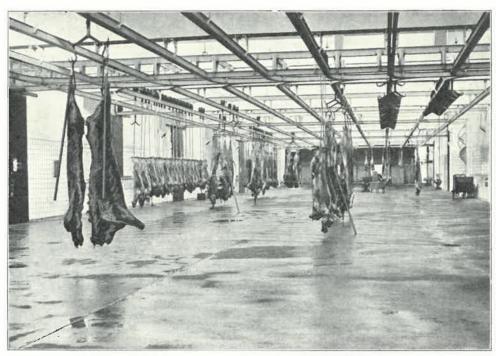
Pens for calves and lambs.



Slaughtershall. (Floorage: 1/2 acre).



Dressing.



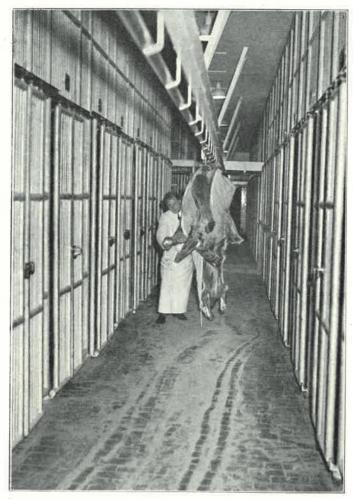
Chill hall. (Floorage: 14000 square feet; hanging accommodation for 980 carcases).



Cooling room for great cattle. (Floorage: 3200 square feet; hanging accommodation for 300 carcases).



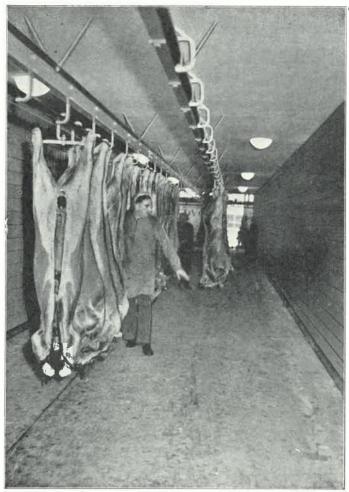
Discharge ramp of the pork hall.



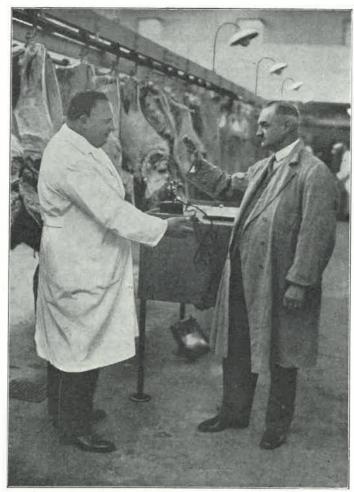
Passage between the cells of the cold store. (Floorage: 7200 square feet; number of cells: 100).



Cold store cell.



Transport passage with slide track from the railway ramp to the sales hall for dead meat and pork.



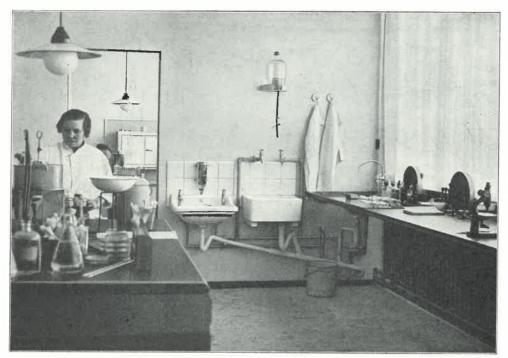
A bargain is closed by handshake.



Sales hall for dead meat and pork. (Floorage: 2 acres; hanging accommodation for 7000 carcases).



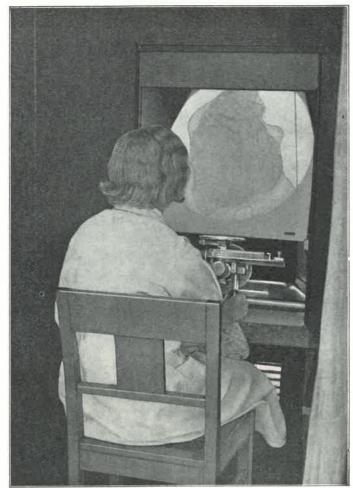
Under the pentroof of the pork hall.



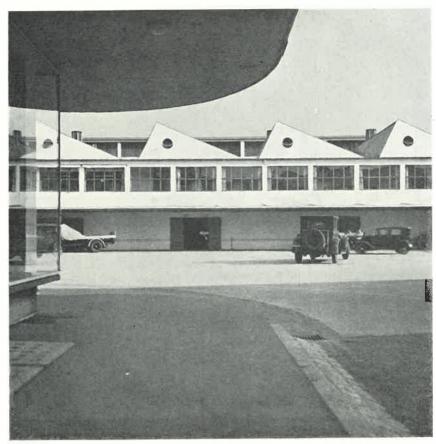
Bacteriological laboratory.



Hall for trichinasinspection, (Samples of pork are placed in compressors).



Trichinoscopy.



Pork hall, as seen from the Kødboderne.



Canteen.



Poultry hall. (Floorage: 1/3 acre).



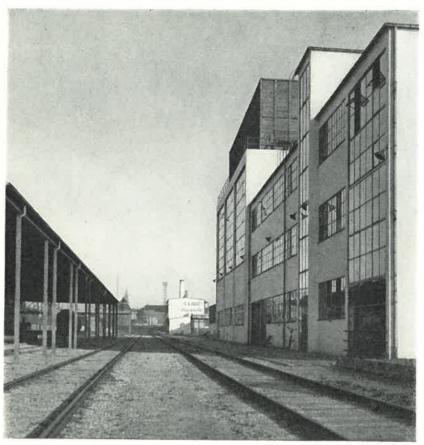
Parking on the Flæsketorvet.



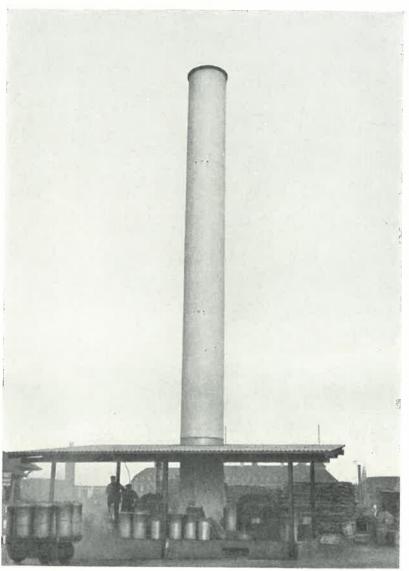
Lookout on the Flæsketorvet (on the left hand the roof of the poultry hall).



Business yard.



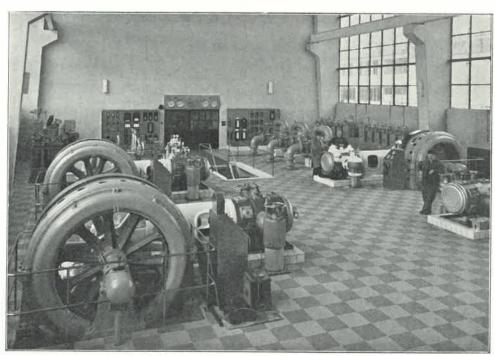
Terminus with engine-house.



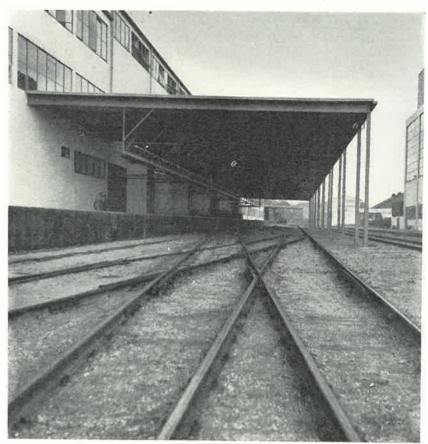
Incinerator.



Land carriage hall,



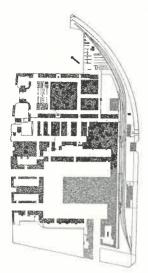
Engine=hall.



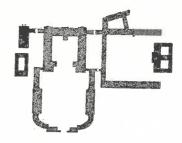
Pentroof of the terminus over the loading ramp.



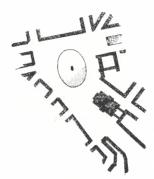
The Kødbyen, as seen from the south.



Kødbyen.



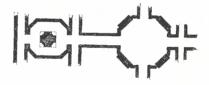
Christiansborg.



Kongens Nytorv.



Raadhuspladsen.



Marmorkirken.

Amalienborg.

Comparison of areas.

