placed as to be isolated, and approached by wide roads, so that if cattle are driven through them there should not be interference with the traffic. If possible, the slaughter-house should be con­nected with the railway system by a branch line, with a platform which has an impervious surface capable of being readily cleansed and disinfected. The most convenient shape of the site is a rectangle or square, having one side abutting on the principal road and another side bounded by the railway. A cattle-market is usually provided in connexion with the slaughter-house, and the position should be such that cattle brought by train can be taken immediately into the cattle­market and from the market or the railway to the slaughter-house. The cattle-market should be entirely separate from the slaughter­house area. Osthoff states *(Schlachthöfe für kleine und mittelgrosse Städte)* that the area of the slaughter-house should be as follows:—

Sq. Metres.

Towns of 5,000- 7,000 inhabitants . 0∙40 per inhabitant.

,f 7,000-10,000 „ . 0∙35 „

„ 10,000-50,000 ,, . 0∙30 ,, ,,

„ over 50,000 „ . 0∙25 „ „

It is of course assumed that the population derives the whole of its meat-supply from this source.

The parts required, according to Dr Oscar Schwarz, are: (1) an administrative block; (2) a slaughtering-hall, with a special room for scalding swine; (3) cattle lairs; (4) room for scalding and cleansing tripe and intestines; (5) an engine-house; (6) separate slaughtering-room, with lairs for animals suffering from, or suspected to be suffering from, contagious disease.

In small towns the slaughtering-hall and room for cleansing intestines may, to save cost of construction, be under the same roof. A necessary adjunct is a cold chamber, to which carcases can be removed from the slaughtering-hall. The actual slaughter­ing compartment has been built on two plans—one providing a separate slaughtering-room for each butcher, the other a common slaughtering-hall. The latter is greatly to be preferred, inasmuch as it is the only arrangement which gives adequate opportunity for inspection by the officials whose duty it is to examine the meat. The slaughter-house in Berlin was constructed on the separate-room system; but the system gave rise to difficulties of inspection. During recent years in Germany the practice has been to construct slaughter-houses with common halls. The part occupied by each butcher at the time of slaughtering is, however, sufficiently dis­tinguishable, and at Hamburg the position of the hooks hanging from above divides the hall into separate areas, each of which has an entrance from without. Schwarz gives the following as the most convenient arrangement of the buildings: The administrative building (with the house of the superintendent) at the entrance, so that from it the entrance and whole place can be seen. In the vicinity should be a weighing-machine for cattle. The centre of the area is occupied by the slaughtering-halls, and the lairs belonging to them are only separated from them by a road or passage way. The manure-house and tripe-house must be easily accessible from all the slaughtering-halls, but not in direct communication with them, or smell from them may enter the hall.

The manure-house must abut upon a road, to enable its contents to be removed without passing through the premises. Next to the tripe and pig-scalding houses is the engine-house. The building for diseased animals, with the slaughter-house for them, must be isolated from all other buildings. All buildings should be so arranged that they may be capable of extension as the population of the town increases. By the provision of grass plots and trees every effort should be made to relieve the premises of the dreary appearance they will otherwise present.

Cold chambers, although not included among the absolute essentials for small slaughter-houses,. are an almost necessary adjunct, for they serve for the preservation of the meat after slaughter, and are indeed absolutely necessary when the slaughter-house is of large size. The cold chamber should be situated opposite the slaughtering­halls, so that carcases can be conveyed by overhead carriers directly from these halls to it. Within the cold chamber are separate com­partments or cages of different sizes, rented by butchers, who are thus able to preserve their meat and draw upon their supply as their business may require. The cold chamber is therefore a great convenience to the butchers, and is a source of profit to the authority owning the slaughter-house. A frequent adjunct to large German slaughter-houses is the "Freibank," at which is sold at low price cooked meat of quality which renders it unfit to be sold under ordinary conditions.

Much depends upon the design and details of construction of the several component parts of a public slaughter-house, upon the provision of adequate lighting and ventilation of the buildings, upon the construction of walls, floors, and fittings which are imper­meable and can be readily cleansed, and upon the provision of an abundant water-supply. It is essential that the buildings should be well lighted, especially those which are used for the slaughtering operations, or for any detailed examination of meat which may be needed—such, for instance, as for trichinae.. The material generally used for the floor of the slaughtering-hall is cement or granolithic pavement which must not present so smooth a surface as to be

slippery. The floor must have an adequate fall, so that the washings may discharge into a system of drainage.

The plans of the public slaughter-house of Neusalz on the Oder and of Düsseldorf well illustrate the provision which is now made respectively for a small and for a large town. The writer is indebted to Dr Schwarz for the plan and a description of the slaughter-house at Neusalz. It was completed in October 1899, and is erected on the Oder below the town, on land of an area of 8500 square metres. The building was carefully planned by the town architect, Herr Brannaschk, so as to admit of increase within the next 10-20 years. Brickwork is used for the construction of the buildings, and the roofs are of wood and cement. The walls of all the rooms except those of the administrative block are lined partly with polished stone, partly with cement, to a height of two metres above the floor. The floors consist of stone slabs set in cement (fig. 1).

The administrative block (*A*) is situated at the entrance and is a three-storey building, containing an office, a room for examination of meat for trichinae, and dwelling-rooms for the superintendent. In the central block (*B)* two slaughter-halls are provided (*a*) for swine and *(b)* for cattle and sheep. With these are associated (c) an engine-house, (*d*) a boiler and fuel room, (*e*) a workshop, (*f*) a passage communicating with the two slaughter-halls, (g) a cold chamber, *(h)* ante-rooms to the cold chamber, *(i)* dressing-rooms for assistants, and *(k)* stabling. The cold chamber has an area of 169 square metres and contains 28 cells of various sizes. In order to attain an even temperature of 2° C. to 4° C., air rendered cold by

the ammonia process is conveyed to the room by channels. In the engine-house (c) are a 48-horse-power engine, the cooling machines, and the water-pump, which pumps water from a well into two cisterns situated in a water-tower over the passage between the two slaughter-halls. In the outbuilding (C) are (a) and (*b*) the gut­washing rooms for cattle and swine respectively, (*c*) an ante-room with (d) openings for manure to be thrown into carts. The road *(e)* slopes downwards, so as to enable a cart to be driven below the openings through which the manure is discharged. In the out­building (D) are (a) a horse slaughtering-room, *(b)* a stable, (c) a bathroom, *(d)* a room in which the floor washings are treated chemically or by filtration before discharge into the river, and *(e)* a urinal. In the outbuilding *(E)* are (a) a stable for sick animals, *(b)* a slaughter-house for diseased animals, (c) a sterilizing-room for meat to be subsequently sold in *(d)* the “ Freibank,” (e) a stable for horses, and (f) a cart-shed. The slaughter-house is lighted with electric light. The cost of the buildings is about £19,000, and provides for a population of 20,000 to 25,000 inhabitants.

The slaughter-house at Düsseldorf is on a more extensive scale. It was erected at an estimated cost of from £162,000 to £175,000, and covers an area of about 23∙2 acres. Provision is made for each department to be practically doubled in size. It is unnecessary to describe it in any detail, but it may be noted that it has a market associated with it, and that separate slaughter-halls are provided for large cattle, for small cattle (sheep and calves), and for swine (fig. 2). The population of Düsseldorf was 212,949 in 1900