carcase made to travel along the line. The carcase is next lowered to the floor, the hide taken off, the head and feet cut off, and the internal parts removed. The carcase again travels along the trolley­line to a place where it is divided into halves, which then, after washing, travel to the refrigeration-room, being trimmed while on the way. The extent of the business may be judged by the fact that over 400 cattle arc killed per hour in the slaughtering-room. The cooling-rooms are so large that 13,000 halves of beef hang there at one time. The method of dealing with sheep is very similar. The animals are driven into narrow alleys, then into the slaughter­room, where their throats arc cut. They next travel along a route where their skins and the internal organs are removed, and finally pass into the cooling-rooms. Swine are raised in the slaughter­room on to the trolley-line by a chain attached to the animals’ feet and to a solid disk or wheel, which in revolving carries them until a mechanical contrivance throws the chain upon the trolley-line, where a knife is plunged into their throat. In its subsequent passage the carcase is scalded, scraped by a machine through which it passes, later-decapitated, the internal parts removed, and the interior washed. The carcase then travels to the cooling-room.

In 1904 a British departmental (Admiralty) committee on the humane slaughtering of animals recommended that all animals should be stunned before being bled, and, with a view to sparing animals awaiting slaughter the sights and smells of the slaughter­house, that “ cattle should, when possible, be slaughtered screened off from their fellows. This can be arranged in moderate-sized abattoirs by dividing up the side of the slaughter-chamber opposite to the entrance doors into stalls somewhat similar to those in a stable, but considerably wider. For quiet home-grown cattle a width of 10 ft. is sufficient, but where wilder cattle have to be killed a wider space is probably desirable. It is important that these stalls should be so arranged as not to screen the operations of slaughter from the view of the inspecting officials. Immediately after the carcases have been bled, they should be moved on to and ‘ dressed ’ in an adjoining room, screened off from the view of animals entering the slaughter-chamber. This is easily accomplished by hitching a rope (from the winch, if necessary) round the head or forelegs of the carcase, and by dragging it along the floor for the short distance into the ‘ dressing room. ’ The slaughter-stall should then at once be flushed down with the hose, so as to remove all traces of blood. This method leaves the slaughter spaces clear for the next batch of animals, whereas under the existing system there is either a loss of time through the slaughter spaces being blocked up with dressing operations, or else the next batch of animals on being brought into the slaughter-chamber are confronted with mutilated and disem­bowelled carcases.”

The provision of public slaughter-houses enables control to be exercised over the methods of slaughtering. The above-mentioned committee state that they practically tested a large number of appliances designed for felling and stunning animals previous to "pithing,” among which they mention the Bruneau and Baxter masks, the Greener patent killer, the Blitz instrument, and the Wackett punch, all of which are suitable for quiet cattle or horses. In view of the difficulty of adjusting these instruments in the case of wild or restive animals, the committee express the opinion that the poll-axe when used by an expert is on the whole the most satis­factory implement, but they recommend that no man should be permitted to use the poll-axe on a living animal until he has gone through a thorough course of training, firstly upon a dummy animal and secondly upon dead bodies. Calves, the committee state, should be stunned by a blow on the head with a club. With respect to the method of slaughter of sheep the committee discuss the method usually adopted in England, which is “ to lay the sheep on a wooden crutch and then to thrust a knife through the neck below the ears, and with a second motion to insert the point, from within, between the joints of the vertebrae, thus severing the spinal cord.” Observations made for the committee by Professor Starling showed that the interval between the first thrust of the knife and complete loss of sensibility varied from five to thirty seconds, and they there­fore recommended that sheep should be stunned before being stuck, a practice required in Denmark, many parts of Germany, and Switzerland. It is necessary that the sheep should be struck on the top of the head between the ears and not on the forehead. The insensibility produced by the blow was found to last fully twenty seconds, a period sufficiently long for the killing to be completed if the animal is laid on the crutch before being stunned. The stunning of pigs, the committee recommended, should be insisted upon in all cases, and not, as sometimes at present, only practised in the case of large pigs which give trouble or with a view to the avoidance of noise.

The Jewish method of slaughter by cutting the throat is con­demned by the committee after careful observation and after re­ceiving reports by Sir Michael Foster and Professor Starling, the chief objection to this method being that it fails in the primary requirements of rapidity, freedom from unnecessary pain, and instantaneous loss of sensibility.

The use of public slaughter-houses has not been found to affect the prices of meat, although one of the numerous arguments used by butchers against being required to slaughter in public slaughter­houses was that they would have this effect. Inquiry on this subject by a Swedish veterinary surgeon of Stockholm, Kjerrulf, of 560 towns possessing public slaughter-houses, elicited replies from 388. Of these, 261 towns declared that as a result of the compulsory use of the abattoirs and compulsory meat inspection the price of meat had not been raised. In the case of twenty-two towns prices rose temporarily but soon reverted to their.normal level. In many cases it was alleged that the temporary rise was due, not to the abattoir, but to other causes, notably the scarcity of live stock *(Our Slaughter-house System* by C. Cash, and *The German Abattoir* by Hugo Heiss, 1907).

The increasing recognition in European countries of the need for inspection, at the time of slaughter, of the flesh of all cattle intended to supply food for man, the necessity for the provision of public slaughter-houses to make such inspection practicable, the convenience which these slaughter-houses afford to those engaged in the business of butcher, combine to ensure that, at any rate in all populous places, they will in time entirely supersede private slaughter-houses, which offer none of these advantages. No doubt the provision of public slaughter-houses will continue to be opposed by the butchers’ trade so long as private slaughter houses are permitted, and, as already stated, local authorities in England are discouraged from making public provision by their inability to prevent the continuance of the use of all existing private slaughter-houses. Probably the extension to English local authorities of the power which the law of Scotland gives to the commissioners of Scottish burghs of closing private slaughter-houses when a public slaughter-house has been provided, would facilitate the much-needed substitution of public for private slaughter-houses. (S. F. Μ.)

**SLAVE COAST.** The name given to that part of the coast of West Africa extending from the river Volta to the Niger delta; forming part of the Guinea coast (see Guinea). From the beginning of the 16th to the end of the 18th century this region was a principal resort of the Europeans engaged in the slave trade. Politically the Slave Coast is divided between Germany, France and Great Britain, the German section forming part of Togoland (*q.v.*), the French section the seaboard of Dahomey *(q.v.),* and the British section the Lagos province of Nigeria (see Lagos).

**SLAVERY.** It appears to be true that, in the words of Dunoyer, the economic regime of every society which has recently become sedentary is founded on the slavery of the industrial professions. In the hunter period the savage warrior does not enslave his vanquished enemy, but slays him; the women of a conquered tribe he may, however, carry off and appropriate as wives or as servants, for in this period domestic labour falls almost altogether on their sex. In the pastoral stage slaves will be captured only to be sold, with the exception of a few who may be required for the care of flocks or the small amount of cultivation which is then undertaken. It is in proportion as a sedentary life prevails, and agricultural exploitation is practised on a larger scale, whilst warlike habits continue to exist, that the labour of slaves is increasingly introduced to provide food for the master, and at the same time save him from irksome toil. Of this stage in the social movement slavery seems to have been, as we have said, a universal and inevitable accompaniment.

But wherever theocratic organizations established themselves slavery in the ordinary sense did not become a vital element in the social system. The members of the lowest class were not in a state of individual subjection: the entire caste to which they belonged was collectively subject. It is in the communities in which the military order obtained an ascendancy over ' the sacerdotal, and which were directly organized for war, that slavery (as the word is commonly understood) had its natural and appropriate place. It is not merely that in its first establishment slavery was an immense advance by substitut­ing for the immolation of captives, often accompanied by cannibalism, their occupation in labour for the benefit of the victor. This advantage, recalled by an old though erroneous@@1

*@@@1 Servus* is not cognate with *servare, as* has often been supposed; it is really related to the Homeric *dpεpos* and the verb είρω, with which the Latin *sero* is to be connected. It may be here mentioned that *slave* was originally a national name; it meant a man of Slavonic race captured and made a bondman to the Germans. “ From the Euxine to the Adriatic, in the state of captives or subjects, . . . they [the Slavonians] overspread the land, and the national appellation of the *Slaves* has been degraded by chance or malice from the significa­tion of glory to that of servitude ” (Gibbon, *Decline and Fall,* ch. lv.). The historian alludes to the derivation of the national name from *slava,* glory. See Skeat’s *Etym. Dict., s.v.* ; see also Slavs.