

THE WORLD'S COLUMBIAN EXPOSITION—INTERIOR OF WOMAN'S BUILDING.

The accompanying illustration shows the interior of the Woman's building, looking from the north corridor over and across the rotunda in the central part of the building. This building is two stories high, with a series of rooms on each side which open into this rotunda, both on the main floor and in the gallery. The rotunda is 70 feet long by 65 feet wide and reaches through to the roof of the building, where it is covered with a skylight. The walls of this rotunda are hung with pictures exhibited by the United States, Great Britain, Germany, Austria, Italy and other countries, while the floor is occupied by forty or more cases in which there are displayed the choicest specimens of the handiwork of women in all parts of the world. Scattered about among these cases are pieces of statuary in marble and bronze. Across the south end of the building, seen in the distance in the picture, is the south wing, which is devoted to exhibits from foreign nations. The north wing, immediately back of the spot where the picture was taken, contains exhibits of the United States and also a few foreign exhibits. On the ground floor are salesrooms, together with other rooms devoted to the display of exhibits. Much of the southern end of the gallery in the south wing is devoted to an overflow exhibit room, and in this and the adjoining room, called the organization room, are the headquarters of fifty or more philanthropic and religious societies. Along the west or right-hand side of the gallery are exhibit rooms, record rooms, a library fitted up with much taste and the Connecticut room. On the east gallery or left-hand side, as seen in the picture, are the Kentucky, Cincinnati and California rooms, each fitted up and furnished by women from these places. The California room is especially rich in the display of redwood, with which the room is entirely finished and mostly furnished. In the north wing of the building, immediately back of the corridor from where the picture was taken, is the Assembly room, in which all the meetings under the auspices of the Board of Lady Managers are held, and opening out of this is the model kitchen, where frequent lectures and lessons in cooking are given. Since there have been threats of war between France and Siam, the Siamese exhibit in the Manufactures and Liberal Arts building has attracted more than usual attention. This exhibit was described in the SCIENTIFIC AMERICAN of July 1.



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Dogs as Draught Animals.

Among the reports from the consuls of the United States for July is the following, from the American consul at Liege, Belgium:

The first distinctive institution that attracts the attention of a stranger in Belgium is the working dog. From time immemorial this hereditary loafer has been given over to pleasure; but, like certain other of the privileged classes in this revolving world of ours, he has had his day—at least in Belgium. Such amateur service as he has rendered in the past in aiding the shepherd, guarding the household, and rushing with sledges through the frozen regions of the north is too much in accordance with his instincts to be classified as labor; so it is here, for the first time in his history, that the necessity of doing something for which a natural repugnance is felt (and this, I believe, constitutes the essential difference between work and play) has been forced upon him; but, like the old *noblesse*, he accepts the change cheerfully and patiently performs his task. Sentimentalists, taking no thought of the man or even of the woman whose burden he shares, may complain that he is greatly wronged; but sensible people must rejoice that he has at last been set to work and compelled to earn his own living.

Liege is a city of large wealth and great industrial activity, possessing the largest manufactory of machines and machinery in the world and employing as many horses as any other town of its size in Europe, and yet for every horse at least two dogs are to be seen in harness on its streets. They are to be met at all hours of the day, but in the early morning the boule-

vards are literally alive with them. Traffickers (mostly women) with gayly painted carts drawn by well-fed dogs are then seen striving to be first in the market place. A pretty bare-headed Walloon peasant girl moving briskly at the side of a flower cart drawn by a stalwart mastiff is a pleasing vision to the early riser. But not only the gardener, but also the butcher, the baker, the grocer, the porter, the expressman—common carriers of all kinds, indeed—engage his services. His step is so much quicker than that of the horse that he will in an hour cover twice the distance and carry with him a greater burden in proportion to his size.

Six hundred pounds is the usual draught of an ordinary dog, though a mastiff is often taxed with as much again. They are driven single, double, and sometimes three and four abreast, and are hitched, indifferently, in front of, beneath, or behind the cart or wagon. When the vehicle is loaded, the driver walks, directing its course and in emergencies laying his shoulder to the wheel; but when the load has been discharged, he often mounts the box and rushes like Jehu through the streets. It will not surprise those who know that the steam engine was familiar to the Romans as a toy to be told that the hollow revolving cylinder used in squirrel cages has been turned to account here in the movement of light machinery by enlarging its scale and substituting "Fido" for "Bunny." I have also seen him treading an endless belt in the service of a wood Sawyer. A gentleman of Liege, retaining his fondness for lounging upon the boulevards after losing

the use of his legs, had a perambulator so constructed that a Danish hound which had been his companion for years could be hitched and almost concealed between the wheels, and now appears as regularly in his old haunts as any of his friends. The hound is not only as happy as when he loitered at his master's heels, but is manifestly proud of the service he renders him.

Let it not be forgotten that the Belgians are among the most refined and cultivated people on earth, and that this new use of the dog is one of the latest and most approved developments of their civilization. Thirty years ago, I have no doubt a dog in harness would have excited as much remark in this city as he would to-day in Louisville or Memphis, though he is now as well recognized an institution of the people as the mule is in either of those cities.

Rigorous discipline and the long habit of wearing muzzles seems to have subdued the belligerent instincts of these dogs, for they now meet as strangers at the crossings without those supercilious inspections and hostile demonstrations which characterize both men and dogs till they have received the last touches of civilization. There remains, however, a rudimentary love of the chase, of which the artful driver often avails himself to quicken their speed; though, as Lord Chesterfield in his excessive refinement is said to have laughed without cackinnation, they have learned to hunt without barking. But a more interesting incident of their labor is the complete extinction of the sheep-killing propensity. Gentlemen bred in the country assure me that this offense against pastoral

morality is no longer known in Belgium—a reformation which would in itself justify the harnessing of all the dogs in America.

The expense of feeding them where a number are kept or when placed, like horses, at livery is from 5 to 6 cents per day, horseflesh and black bread forming the staple of their food; though here, as elsewhere, the maintenance of one or two in a family is practically without cost. The expense of shoeing, no small item to the keeper of horses, is also saved.

All the experiments of breeding which have from time to time been tried for the improvement of horses are now being made to produce a dog of special fitness for harness. Newfoundlands and rough-coated St. Bernards are ruled out on account of their hair. The mastiff has been found too long in the back and legs, and it is thought a desideratum to graft the splendid chest and breathing capacity of the bulldog upon this stalwart stock. Markets are established, where they are bought and sold like their equine collaborators at Tattersall's, and it is no unusual thing for a compactly built and well-broken dog to sell for \$20 or \$25.

It is the fashion in America to bewail the loss of power at Niagara, though no thought is taken of that equal force which is running to waste at the very heels of the people. Since the days of Caligula horses have fed upon golden oats, and yet an energy which is free, always at hand, and aching to be employed is still everywhere ignored. Without having the census at hand, I assume that there is a general average of one dog to two electors in the United States, giving us, in round numbers, a canine population of 7,000,000. Estimating the strength of a dog at 500 pounds—and it is a low estimate—we have an idle force in America of 3,500,000,000 pounds, or a power which, like faith, if once exercised could remove mountains. But it is not in its mass, but in the simple divisions in which we find it, that its value consists.

Though the inanimate forces are doing the heavy work of the world, a multitude of minor tasks to which they cannot be profitably applied remain to be performed by man and his domestic assistants. For them the horse possesses superfluous energy, and his maintenance is too expensive for the poor. They are left, therefore, to this clean, cheap, noiseless, and intelligent animal—the dog—who, besides being out of business—for even hunting dogs are following hunting nobles into oblivion—seems to be specially fitted by nature to meet the requirement.

There is not an article of merchandise, from a ton of coal to a loaf of bread, sold in any of our cities which

might not be more advantageously delivered by dogs than by horses. The noise made by hucksters, particularly in early morning, in our residence streets is a source of great annoyance to the sick and nervous, and the substitution of the gentler ways of women and the silent trade of dogs would be hailed by them with joy. Nor would their employment be without a certain municipal advantage, for the litter made by horses is the most fruitful source of dirt in our cities, to say nothing of the great saving in the wear and tear of pavements.

Liege, June 3, 1893.

Electrical Power for Brick Machines.

In Auburn, Me., Mr. Charles Dunn, one of the most progressive brick manufacturers in New England, has arranged an electric motor to do the work of horses in grinding. In all yards where horses are used it is an established fact that one of the greatest troubles experienced in the windlass and treadmill is the rapid decline of the horses, as the strain upon their shoulders is so great that they succumb in a very short time. Other New England manufacturers are adopting the use of electricity in their plants, and with such excellent results as to premise the opinion that it will soon become universal, so says the *Clay Record*.

A SILVER DOME FOR THE DENVER CAPITOL.—Seven thousand square inches of the dome of the capitol building are to be covered with silver, two ounces to the square foot.—*New York Press*.