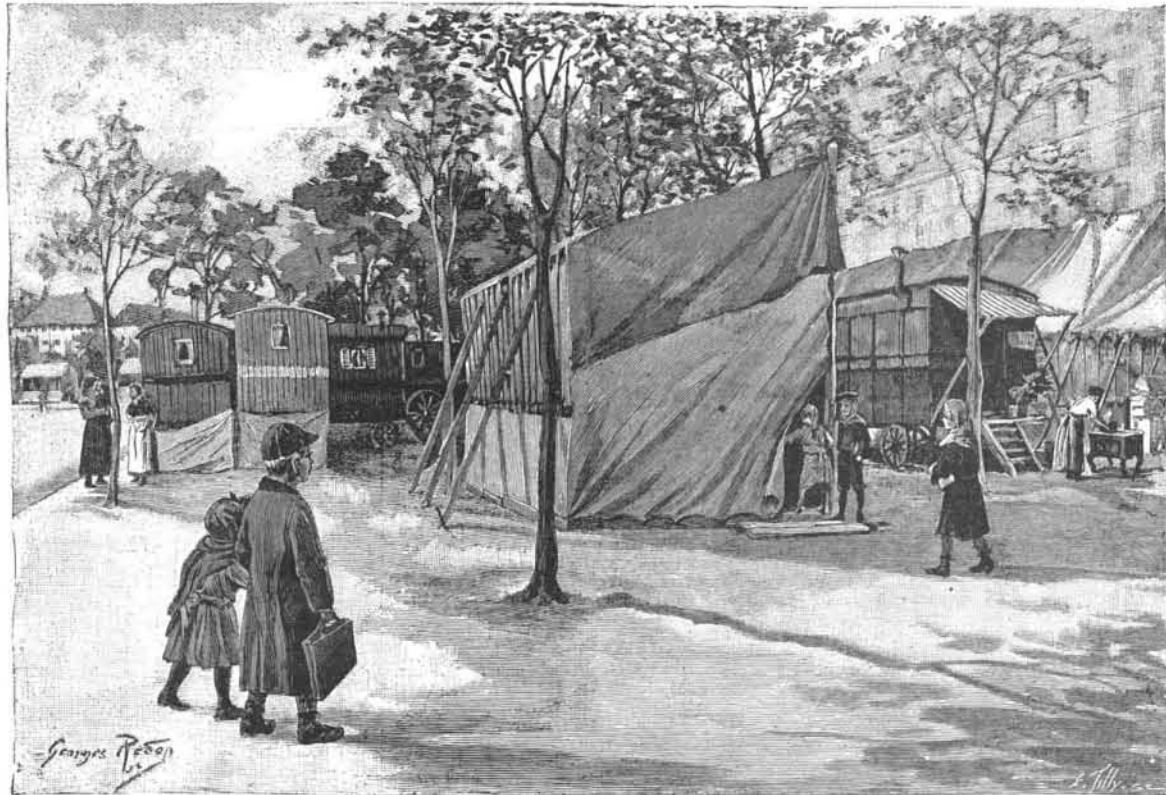


THE FRENCH TRAVELING SCHOOLS.

From early in the spring to late in the fall there is a succession of fairs in the different parts of France, some of which, as the gingerbread fairs of Paris, are celebrated. These fairs somewhat resemble our American circus with its attending side shows. A large number of caravan wagons serve to carry the families of the owners of the booths from place to place, other wagons carry tents for performances of

servants of the commanders of army corps, from grooms, and from men condemned to military service by the civil mandarins, and are still less adapted for their position than are the higher grades. Furthermore, persons rarely attain the higher military offices who, although not educated in the Chinese sense of the word, yet nevertheless, having long served in the ranks and therefore having become acquainted with a soldier's life, are well acquainted with the merits and

is only given to the old militia. The Yoons receive no instruction at all. It is sufficient to glance at their rifles to be convinced how utterly helpless such troops would be against a well armed European adversary. The soldiers have no knowledge of cleaning and examining their rifles, and certainly carry out no instructions for their preservation. It is enough to say that the soldier does as he pleases with his breech-loading rifle; he shortens it by cutting off a piece from the breech or muzzle, uses it as a handspike, or by tying two rifles together forms a litter. The rifles of the Yoons are covered with rust; frequently the back and fore sights are broken off, for the western Chinaman does not understand their use, and finally their barrels are bent and in places indented. The Yoons despise the breech-loading rifles, they do not know how to handle them, and look upon the new importation with suspicion: "We knew how to shoot from the old rifles, but are afraid to from these," they frequently complain, and we must admit that their complaints are not unfounded. The armes blanches of the Yoons are perhaps worse than those of any wild negro tribe in the interior of Africa. If to all that has been said we add that the soldier continually exists in a half-famished state, the chronic diseases from which the greater number of men in each company suffer, and the moral enervation due to idleness and opium, it is not difficult to understand what a pitiable spectacle is presented by a detachment of such warriors.



FRENCH TRAVELING SCHOOLS—EXTERIOR APPEARANCE.

various kinds, and in addition to the sale of trinkets and eatables, the dime museum features are not forgotten. In many cases the fairs are held without the walls of the city or town, as then the eatables are not subjected to the municipal tax (octroi). In this nomadic kind of life the question of the education of the children of these people was a serious problem which was not solved until about three years ago, when Miss Bonnefois founded a traveling school for the children of the forains, as their parents are called. There are at present two of the schools for Paris and its immediate neighborhood. Huge caravan wagons are used. These wagons are eighteen feet long and ten feet wide. The light filters through the green linen sides, for the improvised schoolhouses have no windows. Blackboards, maps, and all the usual paraphernalia of the school room are provided. The children range from about eight to fourteen years and the hours of instruction are from eight to ten in the morning and from two to four in the afternoon. The schools follow a fixed itinerary from spring to fall, while in the winter they remain stationary. As the children would be apt to be transferred from one fair to another, the method of instruction in the schools is identical, so that a student may have a lesson in the school at Grenelle in the morning and recite his or her lesson at St. Denis in the afternoon. The parents of the children recognize the advantages of education and are disposed to help the schools as much as their very limited resources will permit. We are indebted to L'Illustration for our engravings.

The Chinese Army.

The well known Russian traveler Grum Grijmailo has described in a masterly manner, in the Historical Magazine, the typical characteristics of that part of the Chinese army the men of which are called "Yoons," or the bravest. Among his remarks are the following:

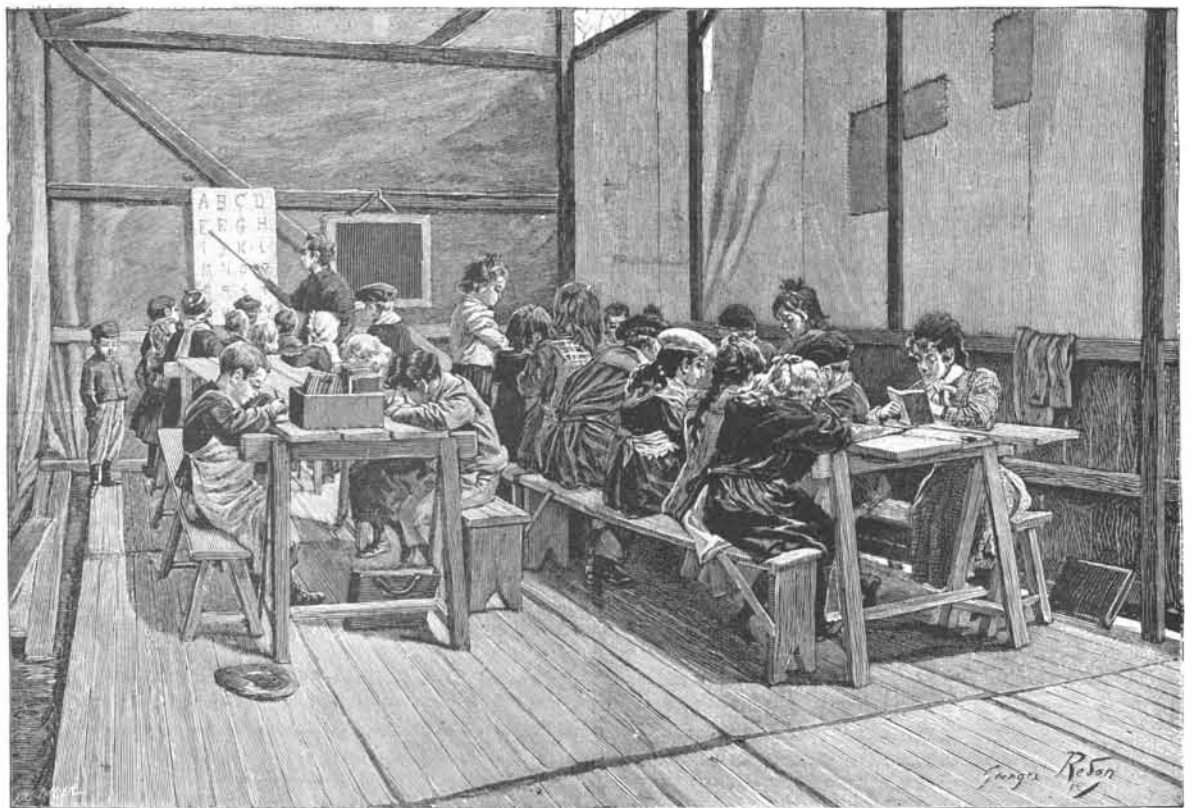
Chinese soldiers march anyhow. Their armament is in the highest degree varied; one has a rifle; a second, a sword; a third, both rifle and sword; a fourth, a spear; in fact, so diverse is their armament that it is impossible to describe the numerous variations. The non-commissioned officers possess revolvers and swords, but the officers are entirely unarmed. At first sight this seems remarkable, but one speedily becomes accustomed to this characteristic peculiarity of the Chinese army; the more so when one suddenly recollects that the greater number of Chinese officers receive no special training in the knowledge of their duties, and that scarcely a tenth part of them even know how to shoot. . . . This latter is still more remarkable, but is nevertheless a fact. Shooting with the bow, on horseback and on foot, fencing, and skill in carrying and hurling weights—such is the syllabus of the present imperial examination for the highest grades, that is for doctors of military science. As regards the lower grades, they are recruited from the

defects of those parts of the army among which the greater part of their life has been passed. Various utterly senseless acrobatic feats (for instance, they turn somersaults, in order to deceive the enemy by a pretended wound, and simultaneously enable them to touch him with their long lance, or, still better, compel the feeble infantry to attack and deal blows with their exceptionally heavy and long spears), roaring to frighten the enemy, certain strange dances at stated intervals, in which unaimed fire is carried on, solely to create noise; in fact, even in the present day, the chief importance is attached to bows, pikes, and halberds.

Such are the chief elements of instruction of the army. The parades are characterized by the quantity

Magnetic Properties of Asbestos.

Mr. A. C. Swinton says: "In some recent experiments Mr. J. C. M. Stanton and I found that, employing a very strong electro-magnet, a piece of ordinary white asbestos millboard, about $4 \times 3 \times 1-16$ inches in size, and weighing one-half ounce, was easily lifted through a vertical distance of one and one-half inches, and when in contact with the magnet pole the asbestos board would support four ounces in addition to its own weight. Lumps of hard asbestos, such as are used in gas fires, as also pieces of soft asbestos cotton packing, were also strongly attracted, and when some of the latter was placed on the magnet pole and the current turned on and off, the individual fibers could be seen in movement. Further, it is quite easy to permanently magnetize a piece of asbestos millboard, when it will behave exactly as a magnet both in attracting and repelling a compass needle. The principal constituents of asbestos are stated to be magnesia, silica and alumina, with some oxide of iron. No doubt it is to the presence of the last named substance that the magnetic qualities are due. White asbestos is, however, understood to contain but small traces of iron—much less than the colored varieties—and consequently the degree to which it is magnetic seems surprising. In any case it may be well to warn experimentalists that asbestos is not a suitable substance to employ in connection with delicate instruments where any un-



FRENCH TRAVELING SCHOOLS—INTERIOR VIEW.

of ornamental arms and frequent genuflexions. An immense number of glittering banners, the moans of the rebecks, the yells of the soldiers, their whimsical grimaces, or, on the other hand, their stealthily crawling toward an imaginary enemy, all this throws into ecstasies of delight the appointed military inspectors and corps commanders, who naively imagine that the whole range of military science is included in such childish folly. Besides, even such instruction as this

suspected permanent magnetism might be productive of serious error."

ELECTRIC welding has been used to remedy blow-holes in defective castings by first drilling out the defects and then heating the casting and introducing scraps of steel, which are melted by electricity, making a perfect joint without a seam or flaw of any kind.