

OCTOBER 27, 1900.

Scientific American.

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THE UNSCIENTIFIC CHINESE.

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The Chinese are unscientific. They lack the power of invention. They are without the creative or inventive faculty. They have a certain sort of practical



CHINESE TOP SPINNING.

common sense; indeed, they have a large amount of practical sense, which enables them to accomplish all that we are able to do, but in a very primitive fashion.

No science has ever originated and been carried to any degree of perfection in Asia. No great invention was ever made and developed by an Asiatic in Asia. No Asiatic people have ever been noted for being a



CHINESE CHILDREN EATING A MEAL WITH CHOP STICKS.

scientific people. Astronomy, which originated in Asia, was scientifically classified by the Greeks. There is no reason why these statements about the unscientific character of the Asiatics should cause the noses of Europeans and Americans to twitch in derision or pride, for there is another fact equally momentous in favor of the Asiatics, viz., no religion has ever originated and been carried to any degree of perfection outside of Asia.

This unscientific character of the Chinese could be illustrated in many different ways; but let us confine ourselves to the examination of their toys, in which only the most simple scientific principles are used. The Chinese have never gone beyond the stage where they look upon toys as merely playthings for children. Toys, however, are more than this. There is a philosophy underlying the production of toys, as old as the world and as broad as life; a philosophy which, until recent years, has been little studied and cultivated, but which, like its near relations the sciences of cooking and healing, has been driven by the stern teacher, necessity, to a self-development for the good of the race. Playthings are as necessary a constituent of childish needs as food or medicine, and contribute in a like manner to the health and development of the child. They are the tools with which he plies his toy

trades; they are the instruments with which he carries on his toy professions; they are the goods he buys and sells in his toy business; the paraphernalia with which he conducts his toy society. Nay, they are more than this; they are the animals which serve him, the associates who entertain him, and his offspring from which comes no posterity.

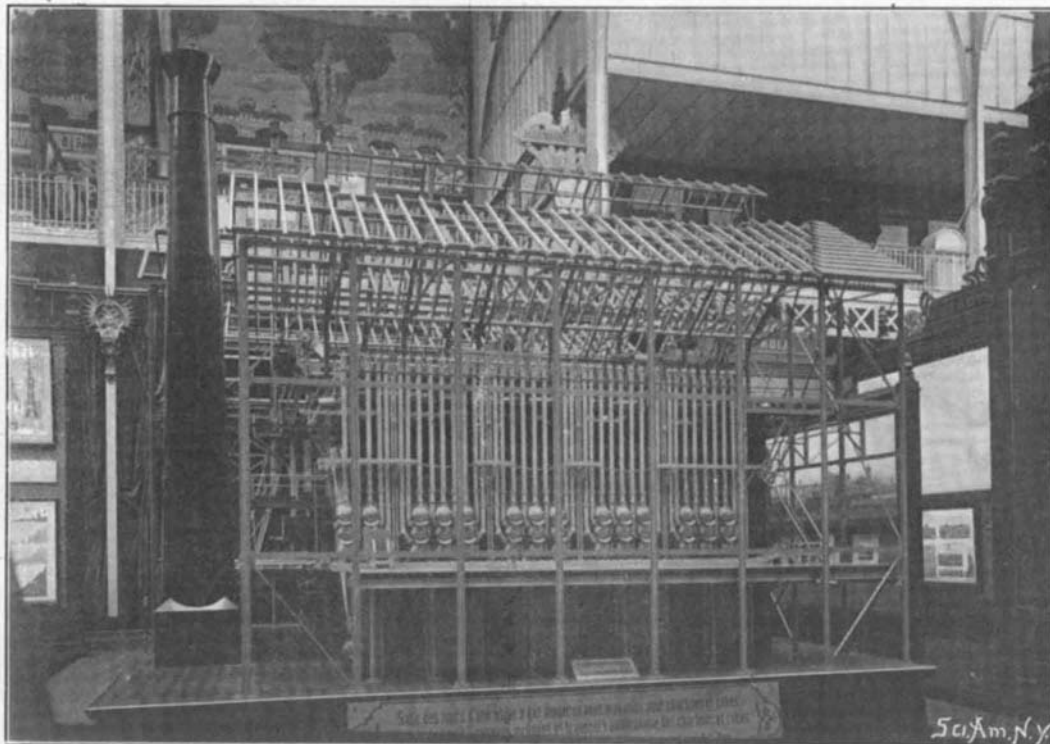
The Chinese do not know this. They do not know that toys are Nature's first schools; that the child with his toy shovels, spades, and hoes learns his first lessons in agriculture; that with his hammer and nails he gets his first lessons in the various trades; that her mud pies and other confectionery give her her first lessons in the art of preparing food; her toy dinners and play-house teas her first lessons in entertainment; and her dolls her first lessons in the domestic relations and affections. As a consequence we need not hope to find the business of toy making or the science of child-education in a very advanced state in China. Child's play and toy making have been scientifically studied and organized into a business in Europe, as is seen in the modern kindergarten and great toy factories and children's book publications. But the toys which are manufactured in these great business establishments in Europe are still made by poor men and women in Oriental homes.

One of the best Chinese toys is the bamboo top. It is made the same, spun the same, and whistles the same as our tin top. Another, of a similar nature, but double, the two being on the two ends of a carefully turned axle, is called a K'ung Chung, and is spun by two sticks and a string. The string is wound around the axle once, and by jerking one of the sticks the top is made to spin. An old man from whom the writer purchased a dozen or more of the toys was able to spin them in a great variety of ways. Tossing it over or under his foot, or up into the air, he caught it on the string again, and would then put the sticks under his leg, behind his back, and in every conceivable position, making the top not only sing, but howl. That old man had been making those toys thirty years with a knife, saw, and sandpaper or file, but it had never occurred to him that he might invent a machine to do the work, and open a large toy factory. He made toys in the forenoon and went out to sell them in the afternoon or on market days.

The first toys to attract the attention of the child are rattles. The Chinese have a great variety of kinds made of wood or tin, gorgeously painted with a water-color, which is soon transferred from the face of the toy to the face of the child. The second style of toy to attract the attention of the child is the doll or animal. The Chinese have a great variety of this class of toys, all very crude. The nose of the doll is sewed on, its ears pasted on, and its queue stuck into its head, while its eyes and other features are painted on. They know nothing about opening and shutting their eyes, simple as that principle may be, and they have made the same mistake in their clay dolls and animals that is made by the manufacturers of our own rubber goods, viz., the same whistle that makes the dog bark, the cow low, the child cry, and the horse neigh, also makes the hen cackle, the bird whistle, and the cock crow.

They have toy carts, but it has never occurred to them to make a self-propelling cart by a concealed spring, because, forsooth, they cannot make the spring. They have music carts which emit sounds, but not music.

They utilize, whether they understand or not, the principle of the expansion of air by heat, and construct toy lanterns with a paper wheel in the top, fastened to cross-bars, on which are hung men and women riding



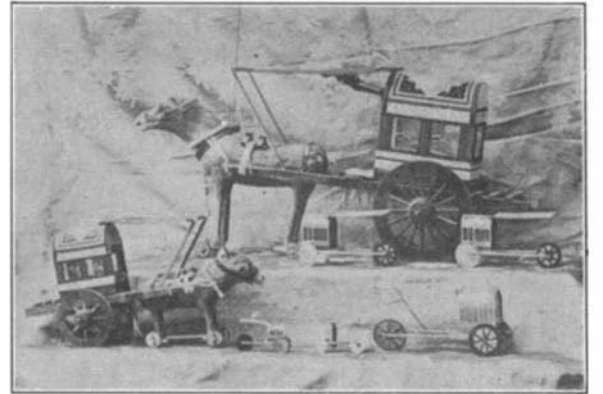
MODEL OF GAS-GENERATING PLANT.

upon animals of all kinds, making a very interesting merry-go-round.

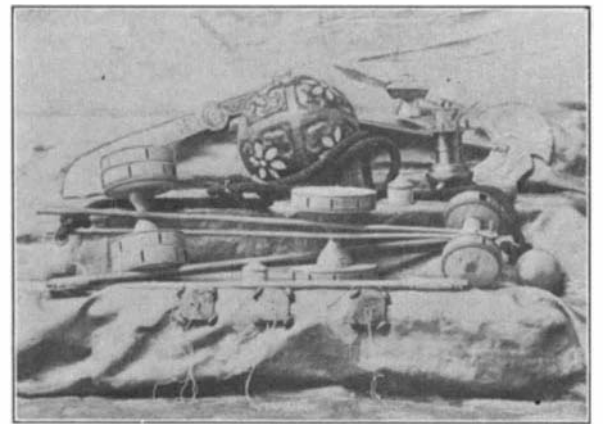
The one toy which comes nearest an indication of inventive power in the Chinese is a set of what they call the fifteen magical blocks. From these fifteen blocks they have invented more than a hundred different pictures, any of which is very difficult to make, even when you have the blocks with the picture as a pattern. It is a toy for children, but proves also to be a puzzle for grown folks.

GAS-GENERATING PLANT AT THE PARIS EXPOSITION.

In the German section at the Champ de Mars is to be seen a well-executed model showing a gas-generat-



CHINESE ANIMAL AND VEHICLE TOYS.



GROUP OF CHINESE TOYS.

ing installation of the most approved type, as constructed by the Chamotte Fabrik, of Stettin. The system is designed to carry out all the operations automatically and do away with hand-labor as much as possible.

The model represents a furnace-room containing a battery of five furnaces, each having nine gas-retorts, with their chimney, the fifth furnace being seen in longitudinal section; also the coal magazine in the rear and the mechanical arrangements for transporting the coal, loading the retorts and carrying off the coke. A system of elevators conducts the coal as unloaded from the cars either directly to the retorts or to the coal magazine, or from the magazine to the retorts. The coke which is taken from the retorts is carried by another system of elevators to a series of reservoirs or to the coke magazine.

For transporting the coal, a well-arranged system of automatic conveyors and elevators is used. The coal, which is brought in by the cars, is discharged into a funnel-shaped reservoir; at the bottom of this is a distributor or movable plate to regulate the quantity of coal which falls into the crusher, which will be noticed in front. From the crusher the main elevator, seen at one side, takes the coal to the top, where it may be taken by a horizontal conveyor to the furnace or to the coal magazine by a traveling carriage. The latter runs upon rollers on a track placed above the coal-bins, and discharges into these, filling them equally. The coal-bins are funnel-shaped, and at the bottom is a horizontal passage by which the coal is taken from them to the furnace. A coal wagon passes along underneath, and is arranged to work automatically a series of distributors which let fall upon it the coal from the magazines. This coal wagon discharges upon a horizontal conveyor, which brings it to the elevator pit in front, and from there the main elevator takes it to the top, as in