SCIENTIFIC AMERICAN

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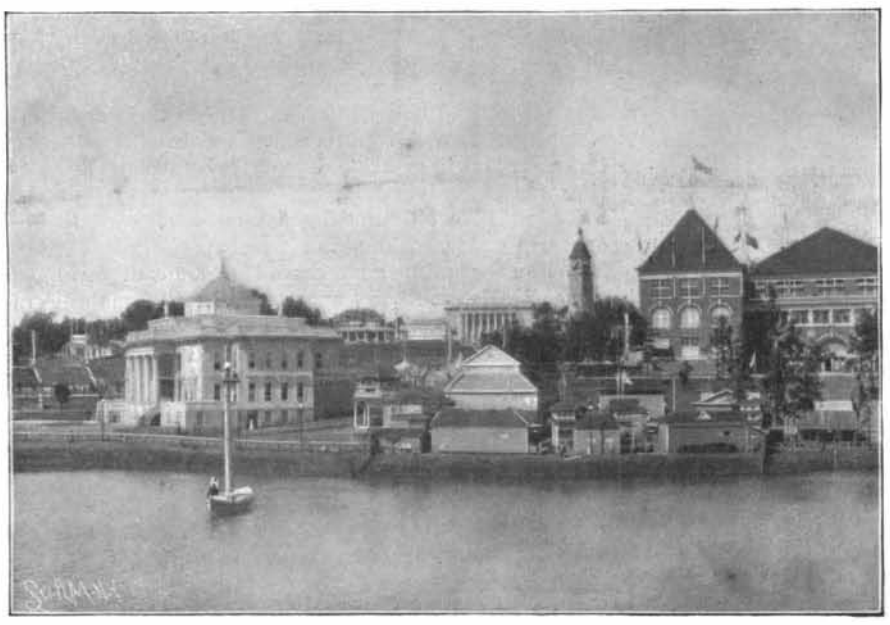
THE ATLANTA EXPOSITION.

At a meeting of the directors of the Exposition on November 7, it was announced that cash subscriptions had been made sufficient to cancel the accumulated indebtedness, putting the enterprise on a firm financial footing, with gate receipts increasing largely every day. The attendance has thus far been satisfactory, and the railroads centering in Atlanta are now running trains in double sections, which, it is expected, will bring a large increase of visitors. Chicago day and Manhattan day are being looked forward to as of exceptional importance in the matter of display and attendance. it being predicted that as many as 15,000 delegates from Chicago will be at Atlanta on the day set apart especially in honor of Chicago.

In the accompanying views we illustrate some of the notable features of the Exposition, the view across Clara Meer showing a model Japanese village, exhibiting the typical characteristics of this people.

There is an apparent lightness or breeziness in

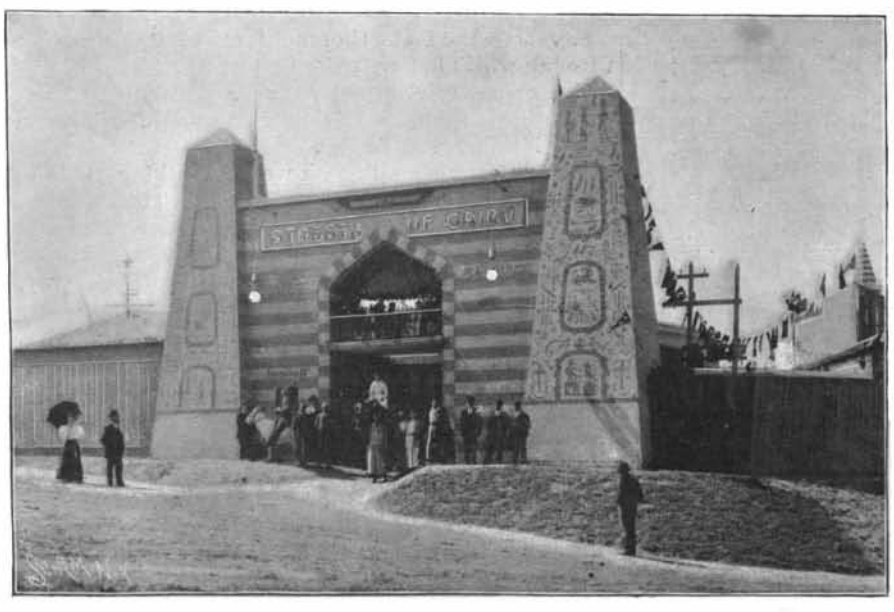


VIEW ACROSS CLARA MEER.

THE GOVERNMENT BUILDING.

THE FORESTRY BUILDING.

THE PHŒNIX WHEEL.



IN THE STREETS OF CAIRO.

TERRACE AND CLOCK TOWER WITH CHIMES.

THE ATLANTA EXPOSITION.

Japanese structure that precludes its general use in our severe climate, although it has a pictorial aspect that is pleasing in its variety. The large building overtopping the Japanese village is the Liberal Arts building, the Chime tower, Art building and New York State building being upon the terraced heights, while the large white edifice presents the Woman's building from one of the many standpoints that reveal its beautiful proportions. The pole and boat in the lake are part of the paraphernalia of the Life Saving Service exhibit, the upright mast representing the supposed mast of a stranded vessel. One of the crew is daily rescued from this mast in a genuine exhibit of the means employed in this service. A line is shot over the yard, the breeches buoy is sent out from the shore, and finally the exhibitor simulating a distressed mariner is brought safely to the shore.

The Government building is the most attractive and complete of all on the grounds, and in it are exhibits from nearly every department of the government—war, navy, interior, treasury, etc. About one-sixth of the floor space is given to army siege and field guns, army rifles, military trappings, wagon trains, models of men and horses fully accoutered for service, etc. In a similar space for the navy are shown models of ancient and modern United States war vessels of large size in glass cases, including a full sized torpedo boat ready for service and the various forms of guns and small arms used in the service. The Smithsonian Institution contributes a varied and educational display. The Lighthouse Board, Fisheries Commission and Signal Service have many beautiful and interesting features, and in the southwestern corner of the building are tanks for living fishes of many species.

The L of the corner is utilized with a broad passageway so arranged that the only light coming into it passes through the water in the tanks, thus giving perfect illumination of the fish. One side of the L is devoted to salt water and the inhabitants thereof, while the fresh water fish are in the tanks on the opposite side. This portion of the building is always crowded with visitors, and great credit is due the commission for the taste displayed in its arrangement. The portion devoted to the Agricultural and Treasury departments is also exceedingly interesting. Every variety of government note, bond, postage stamp, vignettes, portraits, etc., is shown, and a stamp is in operation producing medals and coin.

The Forestry building, with a floor space of 3.000 square feet, is unique in construction, in that the timber on its exterior surface and the interior supporting timbers are not denuded of their bark, thereby giving to this building the appearance of being a colossal rustic summer house. In the exhibits forming its attractive interior are shown all the varieties of Southern wood, both in the rough and finished state. The western half of this building (in the immediate foreground) is devoted to minerals, and here are shown all the useful Southern minerals, as coal, marble, limestones, granite, clays, etc., and many of the more valued stones for jewels and ornamentation. An octagonal turret rising from the center breaks up the straight lines of the side walls. Projecting porches on the ends and sides also materially assist in destroying a monotonous flatness to the elevation.

The Phœnix wheel, whose larger prototype proved so attractive at Chicago, is also a good drawing card for visitors at Atlanta. The wheel is rotated by a huge sprocket chain engaging with the sprockets upon one of the circular rims, the chain being driven by a steam motor. Upon either side of the street where the wheel is located are buildings devoted to amusement exclusively.

In the "Streets of Cairo," the architecture of Egypt is represented both in form and decoration. The locality is devoted to booths, where are sold trinkets and souvenirs, supposed to come from Egypt, the dealers being dressed as Egyptian natives.

Looking toward the Government building from the plaza, the most prominent feature, as represented in one of our views, is the "Chime" tower, as it is called. It is located upon one of the terraces that surround the grounds of the Exposition, and contains a chime of thirteen bells and a tower clock. Back of this tower is shown the Government building, and upon the left is seen a portion of the Art building.

A Scientific Prize Awarded.

Mr. J. R Roosevelt, secretary to the United States Embassy, has presented to Lord Rayleigh and Prof. Ramsay the check of the embassy for $10,000, being the Hodgkin prize awarded by the Smithsonian Institution of Washington for their discovery of new properties in the atmosphere. The recipients of the prize have written a letter of thanks to the Smithsonian Institution.

This, we believe, is the largest prize ever awarded in this country for a scientific discovery. The founder of the Smithsonian Institution was an Englishman, and that his own countrymen should have won the reward is a matter of especial gratification.

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NEW YORK. SATURDAY, NOVEMBER 16, 1895.

Contents.

(Illustrated articles are marked with an asterisk.)

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For the Week Ending November 16, 1895.

Price 10 cents. For sale by all newsdealers.

THOMAS C. ROCHE.

Another practical worker in photography has passed away. We refer, with regret, to the death of Thomas C. Roche, on October 22 last, 68 years old, following just a year after the decease of Charles Ehrmann.

Mr. Roche, we are informed, began the practice of photography in 1858 as an amateur photographer, practically when the wet plate process began to be extensively used.

In 1860 he brought into use aniline dyes for photographic purposes, for tinting albumen paper and the coloring of photographic prints. In 1862 he was induced to become a professional photographer and became associated with E. & H. T. Anthony & Company of this city, one of the oldest photographic manufacturers, whom he served for the past thirty-three years as their expert in photographic matters. At the time stereoscopic pictures were the fashion he did an immense amount of work, making stereo negatives of Central Park, and, under the protection of General Meigs, numerous pictures of battle grounds of the civil war.

In 1877 he was awarded a silver medal for the best carbon transparencies, and received a similar award the following year. About this time he suggested an important improvement in collotype printing which is now being used commercially. It is said in 1879 he produced the first specimen of gelatino-bromide paper made in the United States, for which he was afterward in 1881 awarded a patent. He also invented an improvement in gelatine dry plates by which the gelatine was so hardened during the manufacture of the plates that it would not dissolve out afterward in hot or warm water. The plates were specially useful in hot climates and he gave them the name of "tropical plates." He was very successful in the making of collodio-bromide emulsions and in preparing dry plates with the same, while later he learned to manipulate the gelatine dry plate perfectly. He was familiar with many different processes, was fond of experimenting in several directions and always willing to aid and help amateurs and others out of difficulties in photographic manipulation.

He was generally quick and alert in grasping the salient points of photographic problems and was considered a rapid operator. For several years he was an active member of the Operator Photographers' Association. One of his last demonstrations before a photographic society was on the primuline process before the Society of Amateur Photographers of this city. We learn that one of his sons is engaged by the New York Herald as chief of the photographic department in that newspaper office, a fitting continuation of the usefulness of the father. His loss will be greatly felt by many of the old and many of the new photographers and in a greater degree by the firm in whose service he has been so long.

THE PERMANENCE OF MODERN BUILDINGS AND PUBLIC WORKS.

If history is to repeat itself in telling the story of the great civilized nations that dominate the world today, there is an age coming when the Anglo-Saxon race in both hemispheres will be known only by the monuments of its skill and labors that may happen to survive it.

The kingdoms of Assyria, of 4,000 years ago, speak to us from the sculptured walls of Nineveh.

Thebes, the Sphinx and the towering mass of the Pyramids are eloquent witnesses of the skill, resourcefulness, and undoubted wisdom of the ancient Egyptians.

The Parthenon, at Athens, and a thousand sculptured fragments strewn thickly over its classic soil, will preserve for ages to come the record of Grecian art.

The colonizing Roman has left enduring monuments of his taste and skill, both as architect and engineer, and the highways that he constructed are to-day, in many cases, the main thoroughfares of the countries through which he originally built them.

The question of the comparative durability of our Nineteenth Century engineering and architectural works is an interesting one.

We will assume—although we see nothing to indicate the fact—that the tide of Western civilization has reached its high water mark, and that in the splendid achievements in the arts and sciences, which have marked the closing years of the Nineteenth Century, the Western races have reached the zenith of their powers. We will assume for the sake of argument that from this time on a decline shall set in which shall ultimately lead to a decrepitude and decay as complete as that of the races of Assyria and Egypt, Greece and Rome—and at the same time ask the question: How many of our great public works will be left standing upon the earth forty centuries hence, to bear witness to our Nineteenth Century knowledge and skill?

Are there in New York, London or Paris buildings that will stand for forty centuries the buffeting of wind and weather as those stately edifices by the Euphrates and Nile have stood? Probably not; nor