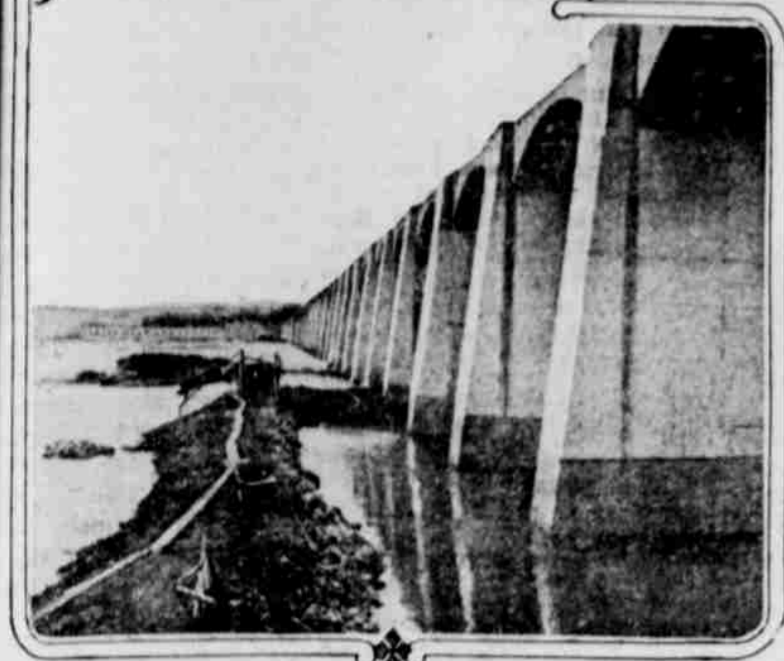


# Water Power of World Wide Effects



SECTION OF DOWNSTREAM SIDE.

IN THE heart of the United States, but at a point which is one of the nearest by transportation routes to the countries of Central and South America, is being built a giant water power plant which must greatly affect for good not only its immediate environment, the Mississippi valley, but the whole nation and all the nations in Pan America. The colossal size of the water power there would cause appreciable effects anywhere in the world, and it is located almost exactly at the point where its commercial influence may be exerted most easily and effectively upon world commerce.

The achievement nearing completion is the damming of the mighty Mississippi river, harnessing it to turbine wheels and electric generators and distributing its tremendous power over one hundred miles and more of the most efficient portion of the United States on a direct traffic line to the rest of the hemisphere. It is not only an unparalleled engineering achievement, but also perhaps the greatest single economic force being felt to the world by the hand of man, excepting only the Panama canal.

**Nearly Mile Long.**

The basis of the water power development at Keokuk, in the southeastern corner of the state of Iowa, is a great dam extending for nine-tenths of a mile from the Illinois bluff to its junction with the Illinois river, a mile from the Iowa shore. This dam is a composite structure of 119 arches, all alike, with piers six feet thick thirty feet apart, and spillways in the spans, all alike, over which the water will flow. This dam is a monolith of massive concrete set down several feet into the hard rock bottom of the Mississippi, but impounding the water by its immense weight. The structure, with the exterior appearance of a bridge, is 53 feet high, 42 feet wide at the bottom, and 29 feet wide on top; the spillways between the piers are 22 feet high, fill the width of the dam at the bottom, have vertical upstream faces, and their downstream face is an ogee curve which delivers the water at the bottom horizontally to the river current. On top of each spillway will be a steel gate 13 feet high. By varying the number of these gates, which are open and closed, the amount of water flowing over the dam will be regulated, with the result that at varying stages of the river the pool above the dam will have always an unvarying depth and its surface will always remain at the same place.

The water wheel itself is another example of overcoming the impossible, for experts said that it was impossible to build a turbine which would meet the unusual conditions there. But Chief Engineer Cooper called a council of war and a little later rose from the head of that table with a new design of turbine which tests show has 86 per cent. of efficiency as compared with the next best result ever attained of 80 per cent. and a textbook figure of 75 per cent. of efficiency as the norm to be used in engineering calculations. The 30 turbine wheels in the Keokuk power house are several times as large in dimensions as any ever made before. Each is at the lower end of a shaft 25 inches in diameter, on the upper end of which is the revolving part of the electric generator standing on the power-house floor. The revolving shaft, with its machines at each end, weighs about 552,000 pounds, and it is supported on one bearing which is lubricated by forcing oil between its surfaces at a pressure of 250 pounds to the square inch. From this bearing a steel cone carries the weight to

a huge ring below, and the total weight of one turbine unit is about 882,000 pounds. The lower ring itself weighs about 111,000 pounds, and between it and an upper ring of similar size is a steel cylinder embedded in the massive concrete, which is the base of the power house. The 30 turbines develop over 300,000 horsepower, and this is increased by two auxiliary smaller wheels, which also energize the exciters of the electric generators. This is over three times as much power as is developed in any one other water-power plant in the world. After deducting slight losses of energy and very large reserve, 290,000 horsepower will be sold for commercial use.

At the lower end of the great power house is a colossal lock with the same width as those at Panama and with a lift of 40 feet instead of the lift of 28 feet 4 inches in any one lock at the canal. Beside the lock will be a mammoth dry dock for building and repairing boats. There is also a long and high wall protecting the tracks of a railroad alongshore, which must be elevated above the new water level above the dam, and an ice fender like a concrete bridge over a kilometer long is another part of the work there in the bottom of the Mississippi river, built to keep ice and debris of all kinds out of the turbines.

At its western end this largest of power dams joins the power house, which stretches almost at right angles down the river for almost a third of a mile—accurately, 1,718 feet—with a width of about 133 feet and a height of over 177 feet. The water from the immense forbay between the power house and the Iowa shore passes through thirty arches, behind which are buttressed, on their outer ends, the steel rods acting as strainers. Behind each arch portal are four intakes to each turbine wheel, each intake being 22 feet high.

**Work of Many Years.**

The origin of that water power development is most interesting. It is the result of remarkably persistent labor on the part of the people of that community through several decades. In the middle of the last century the value of the vast quantity of power going to waste there was recognized and various unsuccessful movements to utilize it were launched. Then ten years were spent in work which was successful at last. A corporation which really was a trustee for the people made preliminary surveys, collected data, obtained a franchise act from congress, and searched for capital to build the water power installation. It obtained its funds from the municipal treasuries of Keokuk and of Hamilton, Ill., across the river. It succeeded only after it interested in the project Mr. Hugh L. Cooper, who organized the present proprietor company only after much labor and many rebuffs, and succeeded finally chiefly because of his record of successful building of water power plants at Niagara Falls, Sao Paulo and other places.

It is intended to start the turbines and generators in the mammoth power house early next summer, with the president of the United States pulling the lever to start the turbines, while he stands surrounded by the governors of all the states in the Mississippi valley.

**Many Abandon Religious Faith.**

Germany, according to the religious statistics of the empire, has an increasing number of persons without any religious profession. At least they are so registered. The number has grown from 17,000 in 1907 to nearly 206,000.

and in the seventh century the inhabitants fled to escape the Corsairs. Nature took a hand in its destruction, for the sea looted it some miles inland and the sand covered it until the island became a desert.

During the renaissance its ruins were used as a quarry for building material by the noble families.

Since 1878 the government has been digging out the city slowly, like all such public works in Italy. But in the last five years there have been some sensational discoveries of statuary, etc.

About a fifth of the city has been uncovered, and some of the streets are found to have their houses as well preserved as those of Pompeii. At present the diggers are clearing out the Forum.

**Never!**

"Poets," bubbled the dreamy eyed young versemonger, "are born, sir, and not made." "Great Jehosaphat!" exclaimed the long suffering editor in amazement, "and did you suppose any one would want the credit of making 'em?"

## NEW BLOUSE DESIGNS

IMPORTED MODELS ARE OF THE MOST HANDSOME MATERIALS.

Vivid Coloring a Characteristic of New Styles That Are Just Now So Popular—Slashed Sleeves a Feature of the Moment.

NEW YORK—The simple blouses of handsome materials are the most appealing, at least one is inclined to think so until she feasts her eyes on some of the recently imported models in which lace and embroidery, chiffon and brocaded stuffs are ingeniously combined. There is certainly much satisfaction in the severely plain, well cut blouses of brocaded silks in the various new colorings.

The wool back satins have been adopted for these simple little blouses with great success. One of the most striking characteristics is the vivid coloring of the satin; the sulphur, the Besnard and Dahlia reds, the Chinese blues, the emerald greens and the poppy pinks being more in demand than the taupe, grays and browns. There is no trimming, unless the small patch pocket at the left side is thus classed. If one would be very modish she will not introduce a contrasting color even in the handkerchief, but will tuck into the pocket a handkerchief of crepe de chine in the same shading as the surface of the blouse. The low shoulder seam gives the desired long drooping shoulder and the buttons are covered with satin. A bit of hand embroidery may lend an individual note to these blouses. As the brilliant shades are seldom becoming next to the face unless one has a clear skin and high color, a white or cream net guimpe can be added to go with the plaited jabot of the net.

**Model That Attracts.**

A particularly stunning model which carries out many of the new ideas is of gold satin with relieving touches of white satin in the collar, guimpe and cuffs. The sleeves, which are set into the drooping shoulder, are slashed from the elbow down and inset with the white satin. Lace frills are sometimes substituted for the



Latest One-Piece Gown.

satin, but unless one can always have them immaculately fresh it is better to continue the material to the bottom of the sleeve and finish with a plaiting of white net, which can easily be freshened. The blouses of raline are quite as effective as those of the satins or brocaded materials. A striking model, which would appeal more to the woman on the lookout for something different than to the conservatively gowned woman, is of yellow raline with purple and red flowers scattered over it in reckless profusion. The yoke and high collar of white net tone down the daring color combination and the Robespierre collar finished with a narrow plait, and the elbow sleeves, also of the net, add softening effects.

**The Epaulettes.**

Another new style note on the blouses of soft, thick silks is the epaulette. These shoulder pieces add introducing the fashionable drooping shoulder, and are therefore a logical development. They offer an excellent opportunity for a little hand embroidery, which never fails to add distinction to a plain waist. The vestees, while not as new, are exceedingly attractive, and suggest a method whereby color can be introduced on a somber blouse. A saucered crepe de chine waist is given a charming effect by a vestee (reaching only to the bust line) of geranium raline, with buttons covered with the crepe de chine. This color note is repeated on the strap which decorates the outer seam of the long sleeves and in the piping marking the shoulder seam.

**Smocking for Variety.**

It requires only a little handwork in the form of smocking to give a novel trimming to a plain blouse of crepe de chine. The smocking may be

**Played a Dead Man's Tip.**

A telegram addressed to a dead man seemed uncanny. Three who knew him were about to send the boy back when one recalled that the dead man frequently received good information from friends on racetracks. The message was opened and was found to have been sent by a man known for his good tips. It hunched one horse to win and another to run second. The race ran as hunched.

**Never!**

"Kind of creepy, this business of playing tips from a live wire to a

combined to the shoulder, extending from the neck to the elbow, below which the fullness falls softly to the wrist, where it is restrained by a turn-back cuff, or it may form the yoke. On a slender figure this additional fullness is very becoming. There are other fetching models which are designed very closely after the artist's smock, as it is called in the ateliers. A young woman whose talent for dressing is far famed among her acquaintances, has made some fascinating blouses by dyeing the crepe fabrics herself, in order to get the queer, subtle colorings she desires, and then making up the material with touches of smocking, either on the yoke or on the sleeves. There is a delightful individuality in these blouses which cannot be given by even the most exclusive shops.

**In Chiffon Waists.**

There are two distinct types of chiffon waists this season—those entirely of chiffon, and others on which the chiffon is an accessory to the satin or velvet. The chiffon blouse—soft, light and delicate—is very different from the waist of satin veiled with chiffon. There is a diaphanous, cloud like effect, which is lost when the lining of satin is discernible. A charming blouse of white chiffon gave the effect of being draped around the figure and caught carelessly in the front with a row of buttons covered with the chiffon. A strip of moleskin edged the top of the collar, another slip finished the bottom of the long sleeves, which were just full enough to fall softly and gracefully, and a third strip appeared in some mysterious way to outline the fastening in front. Another creamy chiffon blouse has as a foundation flesh pink chiffon, which glimmers through the sheer veil with all the fascination of flesh. It is a simple little affair, with a Robespierre collar of white satin and a jabot of the plaited chiffon finished with hem of black chiffon. A two-inch band of the hemstitched black chiffon marks the outside seam of the long sleeves, and a frill of black and white chiffon falls over the hands.

**White Lace in Profusion.**

Another white chiffon lace is combined with lace and white net, the latter forming the yoke and the standing collar. From the bust line to the bottom of the waist the chiffon is lost under a veil of the white lace. The lace is likewise used to veil the sleeves, which are usually full, the fullness being held in by a row of black jet nail heads across the back of the sleeves. The touch of black is further accentuated by a band of black chiffon which outlines the yoke, ending in a perky little bow in the front. A charming departure from the regulation white net blouse is one of ecru net, tucked in clusters of three. A cravat of soft black silk fastens the low comfortable collar of lace, dyed to match the net. The ends of the cravat, instead of falling free, are run through straps of lace. Even the sleeves are tucked and are finished with black cuffs, softened with the lace.

**Velvet Blouses.**

It is an easier task this winter to discover simple blouses, with good lines and of attractive materials, than it is to weed out from the bewildering mass of models dressy waists with distinctive touches. On many of the more elaborate waists various materials are combined with a reckless search that is more daring than artistic. The search is well worth while, for occasionally one finds a blouse where two colors and two contrasting materials are skillfully blended, as in the blouse of gray satin and ruby red panne velvet. The lower portion and the undersleeves are of ruby red panne velvet, and the upper part, which fits closely to the figure like a deep yoke, is of gray satin. The upper part of the sleeves is cut in one piece, with this deep yoke, and the turnaround-collars is likewise of the satin, with a flat bow of the panne velvet.

With a suit of old blue velvet a fetching waist could be worn which could easily be copied in any desired coloring. The entire upper part of the waist, even the upper part of the sleeves, is of old blue chiffon embroidered in silver soutache. This gives the flat effect over the neck and shoulders which is so much desired. The velvet extends from the waist to the bust line in two points in the front and in the back, and falls below the girdle in two similar points. There is a deep peplum, practically a skirt yoke, of the embroidered chiffon. The lower part of the sleeve is of velvet laid in soft folds, and the girdle is of velvet in yet a deeper tone, fastening at the side in two upstanding loops, and two others falling almost to the bottom of the peplum.

The illustration shows a design of black velvet, draped gracefully over an underdress of violet Ninon-de-seine. The toque and stole are of tallest ermine.

**All He Wanted.**

A neatly dressed actor called on our dramatic editor one morning recently.

"What do you wish?" asked our dramatic editor politely.

"I have called to request that you insert a line in your paper to the effect that I have just refused a salary of \$1,000 a week from the opposition."

"I'll make a note of it. Lovely day. Was there anything else you wanted?"

"Only one other thing—will you lend me a quarter?"

## WILSON ACCEPTS STUDENT ESCORT

### Princeton Men to Be Prominent Feature in Parade.

### Special Trains of 13 Cars Each Will Convey President-Elect's Delegations to Washington.

New York—Woodrow Wilson has accepted the offer of the students of Princeton University to escort him from his home in Princeton to the White House on the day he is inaugurated.

Just a century ago Princeton gave its last president to the nation—James Madison. The centenary will be celebrated in a unique program, to which Mr. Wilson gave his consent when Paul F. Myers, a Princeton senior, rode on the train with him to New York and outlined the details.

The Princeton youths will charter two special trains, of 13 cars each, on March 3. One car will be put at the disposal of the president-elect and his family and accompanying newspaper men. The governor smiled when he found the number 13 confronting him again, for he believes it means luck to him.

The students, more than 1000 strong, will take Mr. Wilson direct to his hotel on arrival at Washington, and will attend the smoker given that night by the Princeton Alumni association of Washington. The next morning the students will escort Mr. Wilson from his hotel to the White House, where President Taft will join the incoming President and ride with him to the capitol.

After the ceremony at the capitol the Princetonians will take their place in the inaugural parade, just behind the military and at the head of the civic organizations.

"I will be delighted. That will be fine," exclaimed Mr. Wilson enthusiastically when the plans of the students were explained.

The governor intimated while on his way from Philadelphia that he might not limit himself, in choosing his cabinet, to the names that had been suggested to him. He said this in response to an inference drawn by a newspaper man from a talk recently that the selection of Bryan for secretary of state was indicated.

"There is absolutely no justification for that inference," declared Wilson. "I could not call the names which have been suggested for other portfolios, either."

He paused and added after a moment's reflection:

"And I might be making some nominations of my own, for I certainly will not feel bound to confine myself to names that have been suggested to me."

The Round Table club, whose dinner Mr. Wilson attended Friday evening, has been in existence between 40 and 50 years, but Professor Brander Matthews, one of its members, said that not a line had ever appeared in print about it. It consists of about 20 members, every one of whom is eminent in some way in literature, public affairs, or otherwise. Among them are the President-elect, ex-Ambassador Joseph H. Choate, John L. Cadwallader and Dr. S. Weir Mitchell.

The members of this mysterious club do not know who organized it or what were the circumstances leading to its formation. It has no officers, is not incorporated, and has no rules. For nearly 50 years it has met at dinner on the last Friday of each month. Its members, who live in different parts of the country, journey to New York when that day comes.

No speeches are permitted at these dinners. After the dinner proper is over the members rearrange themselves and a flow of table talk begins.

Governor Wilson, when asked if he intended going anywhere after the dinner, replied with some surprise:

"Oh, no. The talk is always so interesting that the whole evening is taken up with it."

## SAYS ANTARCTIC NOT "COLD"

### Explorer Amundsen Shuns Sweater at Only 14 Below.

Chicago—Captain Roald Amundsen, discoverer of the South Pole, and navigator of the Northwest passage, was the guest of the Geographic society here. He was presented with the gold medal of the society for his achievements as an explorer.

The South Pole was reached by Amundsen while clad in light clothing, he said in a short address here. "It was not cold," he said. "We did not wear furs. It was only 14 degrees below zero and often it was too warm for me to wear my sweater. I wore light fall underwear and overgarments made of silk and wool."

His feet, however, Captain Amundsen said, were like hales of hay. "First I wrapped my feet in dried grass," he explained. "Then I wore seven pairs of socks with reindeer skin boots outside. The worst thing that can befall a polar traveler is to freeze his feet. It is enormously difficult in bad weather to dry the socks and moccasins properly, but this must be done under penalty of death."

## ONE-TERM AMENDMENT IS PASSED BY U. S. SENATE

Washington, D. C.—A constitutional amendment which would restrict the president of the United States to a single term of six years, and would bar Woodrow Wilson, Theodore Roosevelt and William H. Taft from seeking re-election, was approved by the senate, by the narrow majority of one vote.

After a three-day fight, in which the Progressives joined with many Republicans in opposing the restricted Presidential term, the senate adopted the original Works resolution by a vote of 74 to 23.

## FLORIDA FRUIT UNDER BAN

### California Officials Order Citrus Shipment Out of State.

San Francisco—Hope which has developed among some of the commission houses that owing to the recent cold weather in Southern California supplies of grapefruit might be drawn from Florida, were badly shattered by the action of the State Horticultural commissioner, when a carload of grapefruit was stopped and the owners received the 48-hour notice customary in such cases. This car must be sent out of the state and the consignees will ship it North, where there is no citrus industry to be guarded.

The fruit was found to be infested with the Florida red scale and the purple scale.

This is the second car of grapefruit to come through from the Florida citrus section. An experimental car was received last week, and being free from insect pests was promptly absorbed by the local market.

The horticultural commissioners want it understood that this fruit was not stopped because it came from Florida, the quarantine having been raised December 17, but because it carried Florida fruit pests that are not wanted in California.

## Pigeon Flies 600 Miles.

New York—Bearing a note from a passenger on the Prinz Friedrich Wilhelm, in mid-ocean on the way to Bremen, a carrier pigeon dropped exhausted on the roof of a big uptown hotel Sunday.

The message was from A. Schuchbach, of Seattle, Wash., president of a steamship company, who informed the hotel management that Mrs. Schuchbach had left two valuable sables skins in her suite at the hotel, before she started for Europe.

When in this city 15 months ago Mrs. Schuchbach left two carrier pigeons, and the birds were kept on the hotel roof until she decided to take the ocean trip. The Prinz Friedrich Wilhelm was nearly 600 miles at sea at 9 o'clock Sunday morning, when one bird was released.

## Defense League Forms.

Washington, D. C.—To work for a large navy, an adequate army, the improvement of the National guard and for all things that will better prepare the United States for war, the National Defense league was organized here. Representative Kahn, of California, was elected chairman.

While the league will work to make the country better prepared for war, it says in its constitution that it "believes in universal peace, but firmly believes that preparation for war is the best guarantee of peace."

## COMMISSION MEN ARE INDICTED

### Portland Produce Dealers Alleged to In Trust.

### Fifteen Prominent Merchants Receive Attention of Federal Grand Jury.

Portland, Or.—Grand jurors in the Federal court have returned indictments against 15 fruit and produce dealers on Front street, charging them with unlawful conspiracy in restraint of trade and in violation of the Sherman anti-trust act. The men indicted assert their innocence of law-breaking.

Every commodity that the average family requires for its daily food supply, with the exception of meat, it is alleged, is controlled by the group of men under indictment, with the result not only that the prices to the consuming public are greatly increased, but that all dealers not members of the alleged combination are and have been prevented from doing business.

Eleven of the 15 men against whom true bills were returned have been arrested and have given \$1000 bail each. They are E. A. Bamford, C. N. Dilley, Timothy Pearson, W. A. Mansfield, W. H. Dryer, Herbert B. McEwen, Mark Levy, Charles R. Levy, Ed B. Levy, Ben Levy and G. W. Cardwell.

W. B. Glafke, John A. Bell, Fred A. Page and John J. Cole are under indictment, but have not been arrested—Glafke because he is visiting his mother, who is ill, and the three others because they are out of the city. They have been advised by their associates to return and submit to arrest.

The defendants, individually and collectively, are among the leading commission men on Front street. Many of them have been in business here for a long time. While they admit the existence of the Produce Merchants' association of Portland, they deny that it tends to stifle competition or that it manipulates prices.

The center of activity during the grand jury's investigations and the probable star witness when the case comes to trial is J. W. Bunn, the secretary of the organization, who has been granted immunity by the Federal prosecutors.

## FIND SHIP WITHOUT A CREW

### Afloat in Ocean, All Ship Shape, Without Soul on Board.

Newport News, Va.—Another mystery of the deep, practically paralleling the unexplained disappearance of the crew of the schooner Marie Celeste several years ago, has been reported here by the British tank steamer Roumanian. On January 19, charming along ten days out from Port Arthur and near the Azores, she picked up the Norwegian bark Remittance, seaworthy, provisioned and fully rigged, but without a soul aboard and with no indication of the crew's fate. The Roumanian, after towing the Remittance to within 100 miles of Cape Henry, lost her in a violent gale.

The Marie Celeste was found at sea with a pot boiling in her galley and her captain's papers on the cabin table and every indication that her crew had been aboard within a few hours of her discovery. But nothing ever was heard of her skipper or crew.

## Man Gets Brain of Dog.

Ann Arbor, Mich.—The brain of a dog was fetched to the main's skull in University hospital here Thursday. W. A. Smith, of Kalamazoo, had been suffering from abscess on the brain and as a last effort to save his life this remarkable operation was performed. Opening his skull, the surgeons removed the diseased portion of his brain and in its place substituted the brain of a dog. Smith was resting comfortably at last reports, and the surgeons say he has a good chance to recover.

## Roof Garden for Church.

St. Louis—Rev. John L. Brandt, pastor of the First Christian church, announced that his congregation soon would build a church with a roof garden in the fashionable West End district of St. Louis. The roof garden will be a development of the institutional church idea and will be used for moving-picture shows and other entertainments and possibly for Summer Sunday evening services. The church also will have free medical, surgical and dental clinics and a night school.

## Allies Attack Turk's Rear.

London—The Bulgarians are devoting their chief attention to the bombardment of Adrianople and an attempt to capture the Gallipoli peninsula and so take the Turkish forts in the rear. An official dispatch issued at Constantinople indicates that the Bulgarians have been successful in their first operations in the latter quarter, and, according to a Sofia dispatch, the capture of Gallipoli is the chief objective of the Bulgarians for the time being.

## UNCOVER AN ANCIENT CITY

### Ostia Centuries Ago Was One of the Most Important of Rome's Centers of Population.

Pompeii has a rival in Ostia. The third international archaeological congress met in Rome recently and took a day's excursion to vanished Ostia. But few even of those learned men realized the importance of the excavations there going on.

Ostia was founded in the third century B. C., and was about 15 miles from Rome, on an island, at the mouth of the Tiber. It was from this port that the naval expeditions set out that made Rome the mistress of the Mediterranean.

When wars of conquest gave way to commerce Ostia was the seaport of the capital of the world, and at the height of its prosperity had 80,000 inhabitants. Besides being a business center was a favorite summer resort for Romans.

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