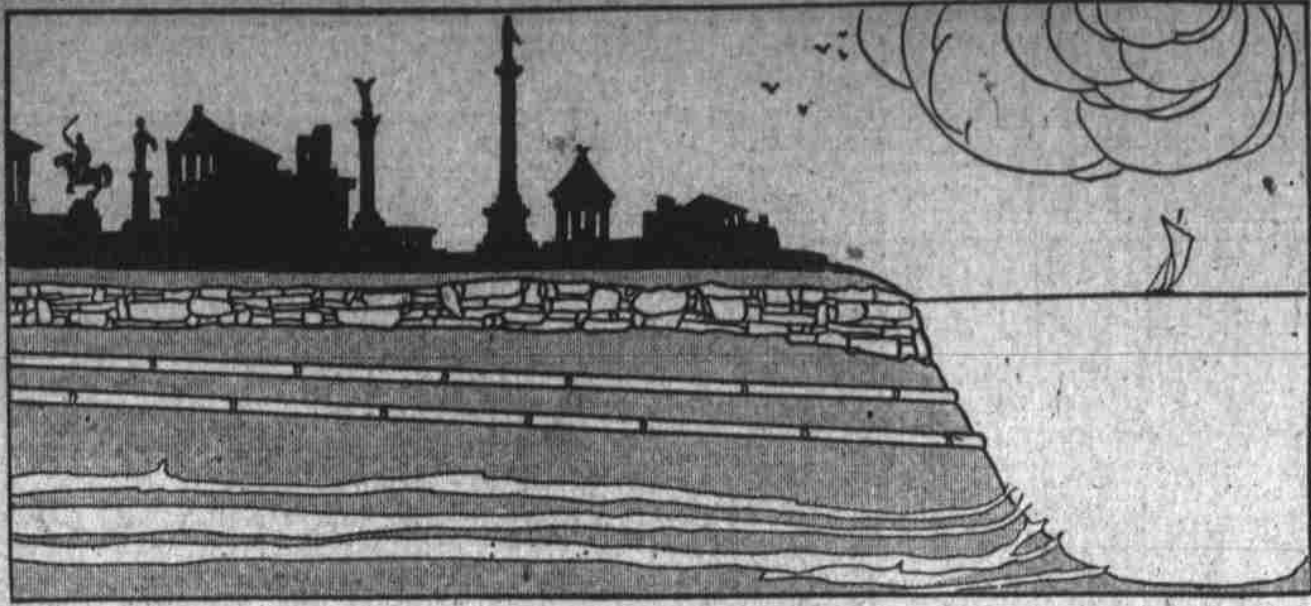
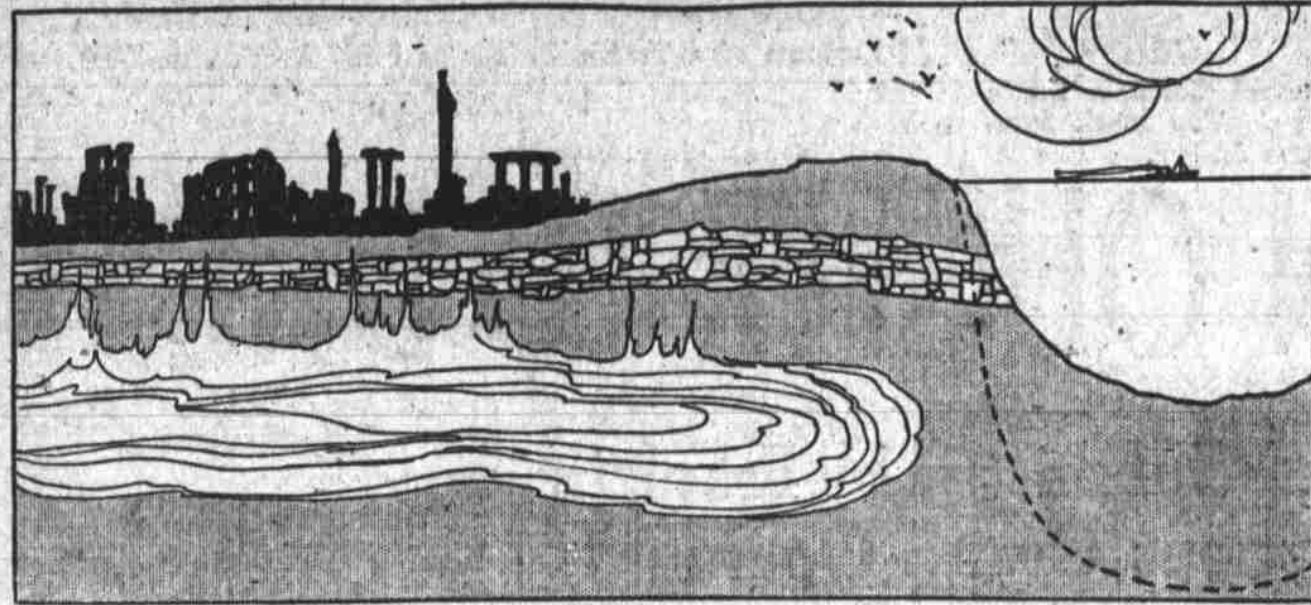


Rome's Ancient Glories Sinking into Hidden Floods



How the water of ancient Rome found its way into the River Tiber in the form of springs and through sewers.



How the water, through the choking up of the springs and the rising of the Tiber's bed, has formed an underground lake that threatens the city's most interesting buildings.

Rome, March 21.
A N architectural tragedy, compared to which the fall of the Campanile at Venice would appear insignificant, threatens the mighty city of Rome.

The most ancient and famous buildings of the city are situated above a subterranean lake that has been accumulating for centuries, ever since the time of Nero, in fact.

At any moment there is danger that the thin top crust of soil may give way and cause the buildings to fall into the hidden quagmire. Even if the crust does not break through a disaster just as complete is likely to occur. A shifting of the unstable top soil through inability to bear the weight placed upon it would cause the buildings above to collapse in irretrievable ruin.

Already many buildings have shown unmistakable signs of an approaching collapse from this cause. Some, like the Church of Santa Maria in Trastevere, which is associated with Cardinal Gibbons' title, have suffered very substantial damage, while others, like the Colosseum, are beginning to show ominous cracks.

The architects of mediaeval and earlier times did not construct foundations for their largest buildings that would satisfy modern requirements of safety. In these instances, moreover, circumstances which did not enter into their calculations have placed a strain on the foundations which they were never intended to bear.

These old architects were sometimes rash adventurers in putting up their great monuments. This was strikingly shown in the case of the Campanile of Venice, where a few light timbers were laid on a thin crust of earth as a foundation for a colossal structure. The building stood unmoved for centuries simply through good luck. Finally an unusual shifting of the underlying waters caused the great tower to fall like a house of cards.

In Rome various conditions have combined to create a subterranean lake beneath the older portions of the city. The continual filling up of the Tiber through the silt carried down from the mountains and highlands has caused the river to rise above the lower parts of the city. Consequently it is no longer as effective as it was in carrying off drainage and springs.

At the same time the many springs existing throughout the city have been covered up, instead of being permitted to flow to the river, as they formerly did. These springs and the surface water have been contributing to the formation of the underground lake for many centuries.

Recently an interesting proposition was made to restore the enormous Baths of Caracalla to their original use, namely, bathing. These splendid baths, the creation of the maddest and most magnificent tyrant that ever lived, held over 2,000 persons. It was pointed out that the population of modern Rome would be greatly benefited if it could enjoy the use of the baths.

The many Roman baths, or thermae, were built for the enjoyment of the people by the Emperors, who had to content the populace. Among the later extravagant rulers each one endeavored to surpass his predecessor in the magnificence of the baths he constructed.

The Roman baths included swimming baths, warm baths, hot air baths and vapor baths. The later baths, such as those of Caracalla, contained also theatres, libraries, gymnasia and other places of amusement and dissipation. The specially

luxurious thermae, besides the one mentioned, were those of Agrippa, Nero, Titus, Domitian, Commodus, Diocletian and Constantine.

Fourteen aqueducts were used in ancient Rome to supply the water for all these immense bathing establishments. Of these aqueducts only four are now in use. The water supply of the city has diminished by 37,000,000 gallons since then.

It is said that the baths of Caracalla contained upward of 2,000 seats for the use of the bathers. There was a stadium for the games by the young men, with raised seats for the spectators. There were open colonnades and seats for philosophers, literary men and journalists to sit and discourse, read their productions aloud and discuss the latest news.

Near the porticoes in the interior open space, rows of trees were planted. There was a sphaeristerium, or place for playing ball within the enclosure. There were also places for less wholesome pastimes.

The bathing pools were adorned with beautiful marbles. The halls were ornamented with the finest pieces of statuary. The walls were covered with exquisite mosaics that imitated the art of the painter. Egyptian syenite was encrusted with precious green marbles of Numidia, the rooms contained the works of Phidias and Praxiteles, and much of the artistic spoil of conquered Greece. A perpetual stream of water was poured into the pools from the wide mouths of lions of bright and polished silver.

To such excesses was the love of bathing carried by the later decadent Romans that many of them

bathed six and seven times a day. Men and women bathed together in the most promiscuous manner. Drunkenness became common among the women on these occasions, and the classic writers tell us how the modesty and simplicity of the early Roman matrons were completely destroyed by the baths.

In these days, when governments are expected to do much for the amusement of the people, just as the old Roman Emperors did, it would seem a brilliant idea to revive in some measure the gorgeous public baths of old. The proposal to restore the baths of wicked Caracalla sounds particularly fascinating.

But when the practical details of the restoration came to be considered it was found that there would be no way of carrying off the vast quantity of water that would be

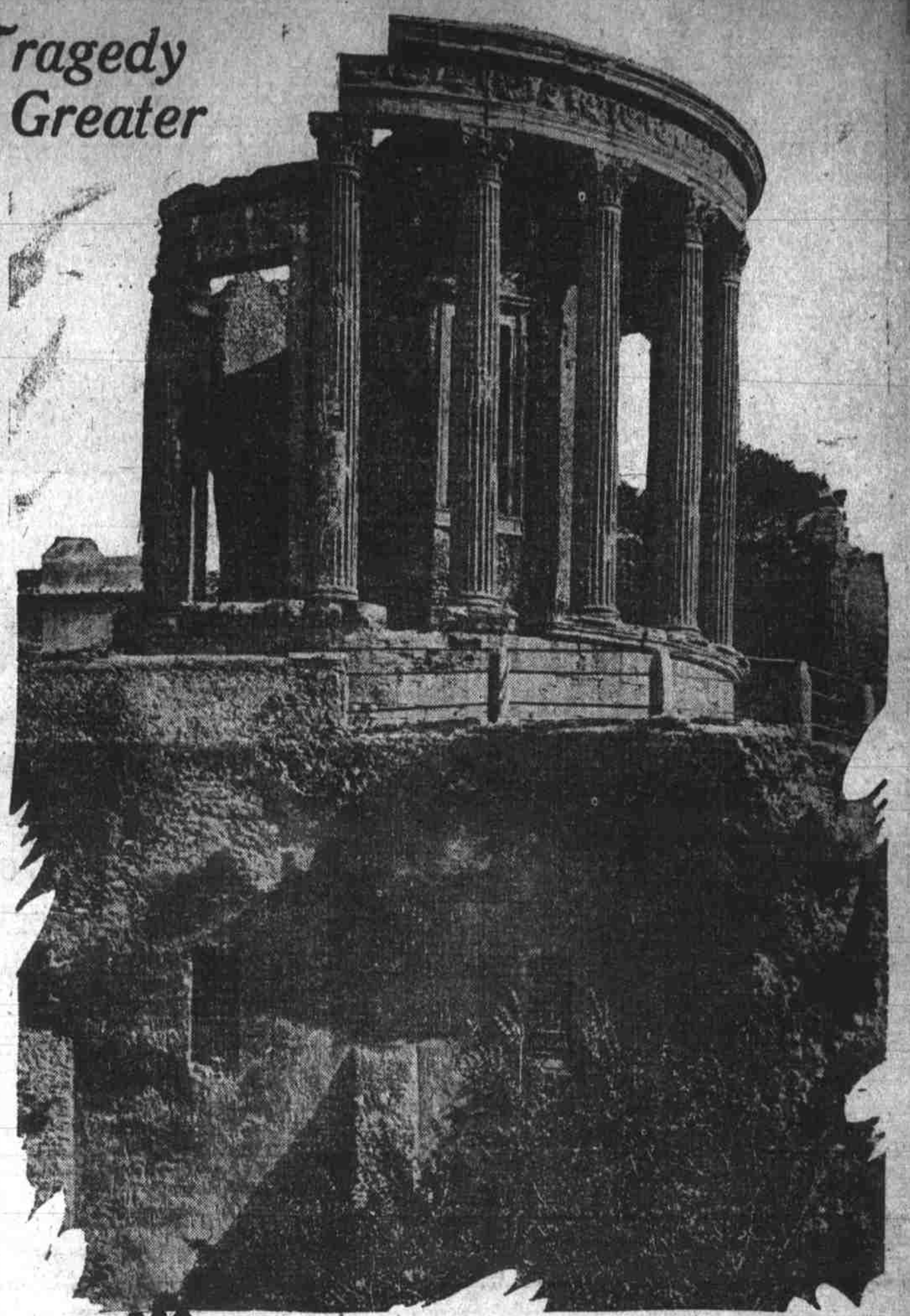
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needed. It would have to run up hill to the Tiber. The plan had to be abandoned until an engineering problem of vastly greater importance should be settled.

Another interesting illustration of the action of the waters in undermining Rome is found in the Church of Santa Maria in Trastevere (St. Mary beyond the Tiber.) This was the first church erected to the Virgin in Rome and was founded in the third century. It is one of the oldest and most celebrated churches in Rome.

For over thirty years cracks due to the movement of subterranean waters have made their appearance in this church, and recently they have become very serious. Cardinal Gibbons, of Baltimore, who takes his title from the church, wrote to the government concerning its condition when he last visited Rome. The church is classed as a historic monument, and is under the care of the Department of Fine Arts. The department disregarded the Cardinal's complaint for several years.

The church is now in a very dangerous condition. The architrave over the left lateral door has been displaced. A marble slab above it,



The Temple of Mars, one of the ancient buildings, that is cracking and falling down, through the action of the underground waters.

bearing an inscription by Cardinal d'Altemps, has cracked and partially fallen down.

The left portion of the handsome facade is threatened with ruin, and the main portico is greatly damaged. The interesting stucco work of a pretty little chapel on the right of the main entrance has fallen down in large quantities.

The Fine Arts Department, after several years of delay, has sent inspectors to see how far the damage has gone. They admit that it is very serious and have ordered various valuable objects of art to be removed. A ciborium, by Mino da Fiesole, was removed from the little chapel lest it should be damaged by a collapse of the walls.

There is water under practically every building in Rome. Among the famous buildings and sites believed to be in most immediate danger are the Colosseum, the Pantheon, the Forum, the Theatre of Pompey, the Mausoleum of Augustus and the Temple of Mars and many others of all periods.

Twenty-three springs are known to have existed in classical times within the walls of Rome. All of these then found their way to the Tiber. Now all but five of them have been covered up by new soil and the waters of the remainder are collecting beneath the surface.

We know from ancient writings that the original site of Rome lay

largely among the marshes by the banks of the Tiber, with the celebrated seven hills rising above and beyond them. The ancient Romans were careful to drain these marshes as they built up the city, but moderns have not been so wise.

The Roman Forum, the heart of the ancient city, occupies a valley which extends from the Capitoline Hill to the northeast part of the Palatine. Till the construction of the great cloacae, or sewers, it was marshy ground, on which stood several pools.

One of these was the Lacus Curtius, which vanished when the cloacae were constructed, as described by Livy. According to tradition it marked the spot where the hero Curtius in very early times leapt into the chasm, that had opened in the Forum. After the water had been drained away the site was enclosed and marked by an altar.

Another pool, the Lacus Servilius, near the Basilica Julia, in the Forum, was preserved until near the imperial period. Under Sulla it was used as a place to expose the heads of many senators murdered in his proscriptions.

The ancient Roman sewers were egg-shaped in cross section. Only recently modern engineers rediscovered the fact that this was the strongest and most efficient form for a sewer.



Part of the baths of Caracalla, which it was proposed to restore to use, a plan that could not be carried out because there was no way of carrying off the water.

Our Alphabet Nothing But a Hodge-Podge

THE celebrated Egyptologist, Professor W. M. Flinders Petrie, has published a new work called "The Growth of Signs," in which he attacks the theory that our alphabet is Phoenician.

Professor Petrie says that the most commonly accepted theory is that the Phoenicians derived their alphabet from the ancient Egyptian hieratic writing, that they developed it and added to it and passed it on practically in the form which we have it today.

The Professor, on the other hand, maintains that the signs composing the alphabet, originated in many parts of the world as far apart as Asia Minor and Spain, that they were gradually brought together by the nations dwelling round the Mediterranean and condensed by them into a convenient system and that while the Phoenicians used this system, they were in no sense parents of it.

He was first started on the way to these conclusions, when he discovered in Egypt signs similar to those of the alphabet that were older than hieratic or hieroglyphic writing. He found these signs dating from the twelfth dynasty.

He then traced the existence of other alphabetic signs in various parts of the world, which could not have been derived from the Phoenician. He has compiled a list of signs found in thirty-five ancient

languages from which he undertakes to show that our alphabet was derived.

He attacks the old idea that our letters are drawings of animals and things that suggest the sounds we give to the letters. For instance it has been said that "A" represents a bull's head, because the letter sounds like the bellowing of the animal; that "S" represents a serpent because the sound of the letter is like the hissing of the reptile, and so on.

Professor Petrie argues that the signs from which the alphabet is derived were in use before the power of making pictures arose and that, therefore, it is absurd to suppose that the alphabetic letters and pictures. He cites alphabetic signs 7,000 years old.

He points to the peculiar fact that in ancient inscriptions the same letter has an entirely different sound. For instance, in ancient Greek inscriptions, Corinth is spelled with a "K" and "B." This appears to mean that in one part of the world "K" had the sound we now give it, while in another part (probably Crete) "B" was pronounced like the present "K."

It was a long time before trading communities reached the point of giving the same sound to the same sign and before they reached it they made some curious confusions.

"The first clear breach in the Phoenician tradition," says Professor Petrie, "was

made by the discovery of foreign alphabetic signs at Tell el Yehudiyeh, in Egypt. Such were observed on the backs of glazed tiles bearing the name of Rameses III.; but they were ignored by means of the purely arbitrary hypothesis of a restoration of the building in Greek times. Next, I found in 1893, a mass of signs in use at Gurob, in Middle Egypt, which were unquestionably fixed to the period of 1400-1200 B. C.; and these signs were more akin to the Western than to the Phoenician forms. In subsequent years, such signs were found likewise on pottery of the twelfth dynasty, earlier still in the first dynasty, and most of them were carried back far earlier, even to the first prehistoric civilization.

"The point of view here presented is not that of a systematic alphabet, invented by some single tribe or individual in a developed civilization. On the contrary it appears that a wide body of signs had been gradually brought into use in primitive times for various purposes. These were interchanged by trade, and spread from land to land until the less-known and less useful signs were ousted by those in more general acceptance. Lastly, a couple of dozen signs triumphed; these became common property to a group of trading companies, while the local survivals of other forms were gradually extinguished in isolated extinction."



Magnificent statue of the Virgin in the Church of St. Augustine, which has been removed because the walls threaten to collapse and destroy it.