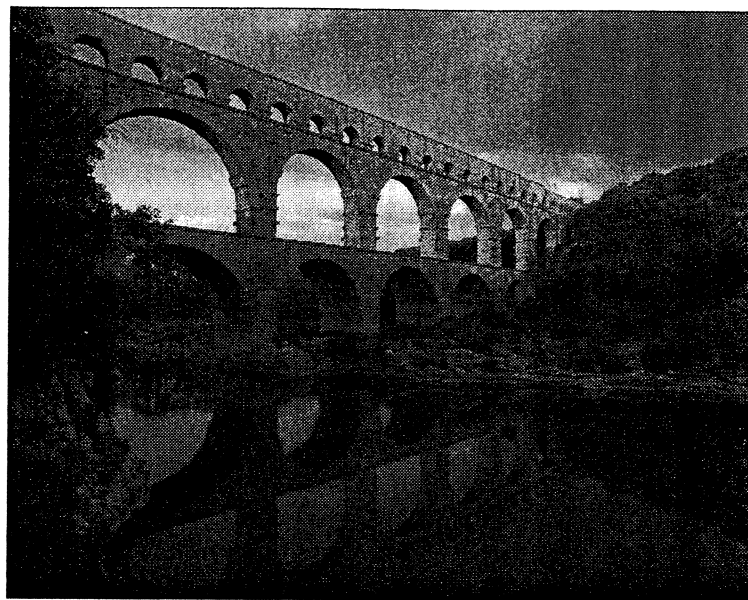


Water Runs Uphill (cont.)

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Historical Background Information

The Pont de Gard was a masterpiece built and named for the Gard River. It was constructed well. It is very attractive and is the highest of all Roman aqueducts. It was built sometime between the late 1st century B.C. and the early 1st century A.D. to channel water from the Nîmes. This aqueduct consisted of three tiers of arches. The fact that this bridge has survived over time is testimony to the engineering and construction skill of the Romans.



Pont du Gard Aqueduct (Corbis)

Water was a necessity for ancient Romans because a good water supply was needed for public baths, lavatories, and fountains. Aqueducts were used to bring water to areas that did not have natural water sources. An aqueduct is a water transport system that allows water to flow through pipes or channels to carry water from a well or stream into other streams or into the town directly. The water was then distributed and dispersed throughout a complex system of lead or earthenware pipes. The Roman water supply system was a very advanced engineering achievement that wasn't improved upon until the 19th century.

Aqua, which is Latin for "water," is where the name of this engineering masterpiece was derived. Aqueducts look similar to modern bridges, however, they carry water along the top rather than vehicles or people. The aqueducts were products of the well-respected Roman skill and talent. Since water cannot run uphill, the complicated, elaborate system of pipes moved water from one place to another using gravity. It was important that an aqueduct was built at exactly the right angle in order to use gravity to its greatest potential. The water would flow back to where it came if the builders did not have gravity working for them.

Most of the Roman aqueducts ran underground through covered trenches. When the Romans needed to cross over roads or valleys, they ran the water system above ground on arches (such as the one pictured on the photograph card). Since the Romans did not use pumps, the aqueducts had to be positioned just right for dozens of miles in order to work correctly. It was important for the route of the water to be constant and running. Usually, the water followed the contours of the land, but as time went on, Romans learned more and were able to expand the possibilities. They built arches to support conduits across valleys and plains.

When the water reached the city, it was stored in large reservoirs that were designed to run water to the public fountains, private houses, and baths. Towers were built throughout the city to supply adequate water pressure for efficient distribution. Lots of planning went into building this system, which was so dependent on gravity. Like most inventions and discoveries, the Romans' water supply and transport system improved as they practiced and experimented.