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## **Technics, science and management related to the evolution of water supply network of La Rochelle city, France, from 1864 to 1913.**

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The water issue, as vital element to be protected, is central in all societies, including those where water may seem plentiful. With the conscience of the fragility of this resource, the need to question the evolution of the perception of water over time, of the various means used to exploit and preserve it, of scientific knowledge, currently appears as an essential aid to the decision for its preservation.

In many countries, XIXs century was the time of major progress in the construction of water supply networks of cities. Particularly in France, this progress was spurred by an hygienist discourse in a context of increase city population, inducing a social demand whose national and local governments seized. The authority of the engineers of the « corps des Ponts et Chaussées » who were in charge of the technical realisation of the cities water network was also an important support in this progress, especially because they also participated at the great evolution of the scientific formulation of fluids mechanics applied to groundwater hydraulic like Henry Darcy (1803-1858) or Jules Dupuit (1804-1866). The latter is also well known as an economist. One of his thoughts is to relate the progress of science to an economic perspective. According to him, « The only difference between the [Roman water ] distributions and those which would be made according to a sound theory and with the best practical procedures is entirely in the expenditure.”

In this study, technical, scientific and management aspects of the evolution of the water supply network of La Rochelle (France ) during the XIXs century are investigated from archives documents. The survey of the conditions for setting up the network of a particular city is a gateway to address all the points cited above. This coastal town, which has a long history and whose port is famous, experienced three stages of improvement of its water network, in 1864, 1883 and 1913. The first step coincides with the development of water supply network of many french towns, the second with the discovery of a new aquifer useable for water supply of the city, and the third one, remained at the state of a project due to the first World War, had been planned in response of the increase of water consumption linked both to the growing of the population and to the new ease of access to water.

This historical knowledge is necessary to understand the spatial and time evolution of the customary practice of water and could be used to draw one's inspiration from the past efficient solutions that have sometimes be forgotten and that could be reemployed.

