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Turin before the city: Earth Science and Audiovisual Art for scientific storytelling and communication

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The multimedia product "Turin before the city" is an audiovisual reconstruction of the geomorphologic, climatic and environmental setting of the pre-urban settlement area on which the town of Turin stands today.
Through geological and geomorphologic evidences in the Piemonte region, we describe the evolution of plains and reliefs from 2 million years ago until the birth of Augusta Taurinorum (now Turin), about 2000 years ago. From its initial configuration within a local sea (Padan gulf) to the recent continental areas, which form the western end of the Po plain. This history leads to the formation of the main elements that characterize the history of the settlement: the hill, which determines the settlement, the mountains, with their defensive climate, the plains and rivers, which accept the settlement and provide energy, irrigation, and transportation, respectively.
Data collected during previous geological and climatic studies allow summarize the history of the area in four main chapters, numbered from the ancient one:
(1) from 5 to 2.5 million years ago;
(2) from 2.5-million to 700.000 years ago;
(3) from 700.000 to 10.000 years ago;
(4) from 10.000 to 4.000 years ago.
The representation of paleogeographic and paleoenvironmental contexts was achieved through a computer graphics movie displayed on twelve screens all around an inner court of a middle age palace. The movie is an expression of Disney's Fantasia version of Wagners Gesamtkunstwerk ("total work of art"), in which the computer animation and the original music were both integral in conveying the artistic installation. 3D Digital Elevation Models and elaboration from aerial views were integrated with originally conceived CGI (Computer Generated Imagery) scenes. The 5-minute movie shows the setting of the Turin Hill from the sea, the evolution of the Quaternary glaciers, and fluvial processes where will arise Turin.
The four chapters above were set in a 24-hour duration and several climatic conditions to achieve a dramatic sense of the settlement evolution, through a careful design of light-conditions, colors, music, and sound effects. Subtitles helped the tracking of the scientific explanation of the animated scenes. The immersive setting was achieved through 12 virtual cameras that explored the computer graphics environment, full of details for grasping the visitors.
The storytelling proceeds as follows.
1) The marine environment is illustrated through an exploration of the deep inland sea, characterized by the presence of cetaceans, and introductory music.
2) Within a subtropical coastal environment, we illustrate the Turin hill in the full light of the afternoon, with a fresh music overture.
3) There comes the alluvial fans modelled by river carving the Alps at sunset.
4) Climatic change around 1.8 million years ago allows onset of the Susa Valley glaciers, during a nocturne visual environment and music, soon followed by the dawn of damp and temperate periods, with a fresh celebration music comment.
5) The "Villafranchian" continental environment and River Po migration in the mist and dramatic music just preceded the great ending, with an overview of the Alpine chain that dominated the Turin settlement in the pre-urban era.