POLYTECHNIC OF TORINO
FACULTY OF ARCHITECTURE 2
Degree in Architecture
Honors theses

The computer as a support to knowledge and evaluation:
"The parish church of San Michele Arcangelo in Rivalta Bormida"
by Giuseppe Morbelli
Tutor: Paolo Bertalotti
Co-tutor: Chiara Aghemo

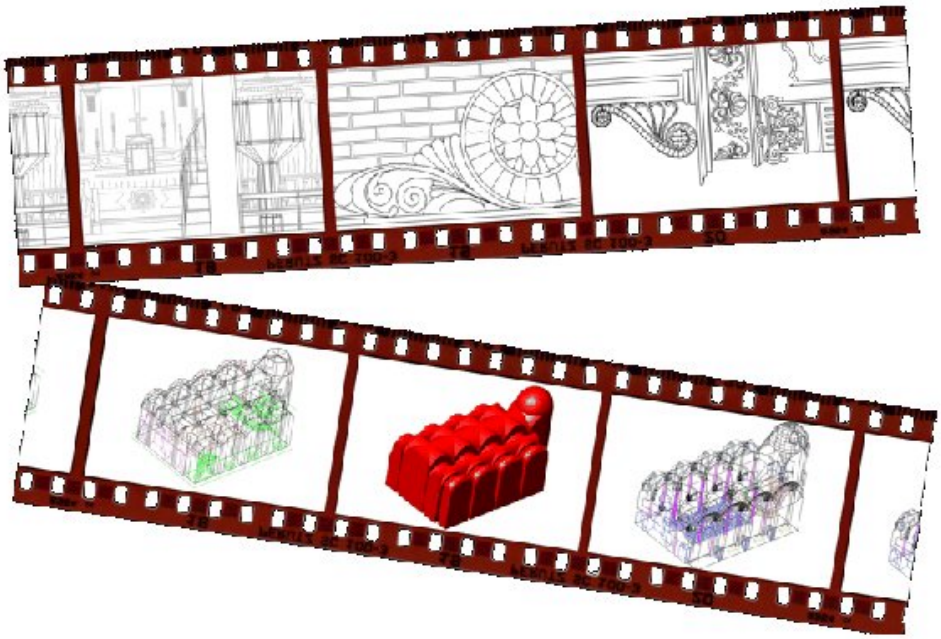
The concept of the computer over the past decade, is an instrument capable of being used in various ways. The applications we are currently able to take advantage of (thanks to the specialized software and peripheral development even more complex) make this machine one of the most useful instruments in the architectural field, both in terms of study and research.

The correct use of currently available peripherals, together with a suitable knowledge of the potentials offered by informatic tools, and the capabilities of elaboration of computers, allow rapid and effective creation of surveys by using the computer's capability for interfacing together with sharp and accurate tools for measurement such as theodolite and total station.

For these purposes the use of software such as "Fotogramma" and "Geokitwin" makes the various phases of the survey fast and sharp,notably increasing the automation and speed of the operations to be completed.

Some phases of the building survey, were done with "Fotogramma" (a software of photographic correction applied in the operations regarding the front of the building), and wiith interfaced total station with the computer during the phases of survey inside the church.

The ability of data management programs like "AutoCAD", allows the realization of two-dimensional drawings, as well as three-dimensional models to study, capable of representing volumetric features of a given environment. Given these three-dimensional models, other software programs such as "Lightscape" or "Ramsete" can create illuminotechnic and acoustic simulations.



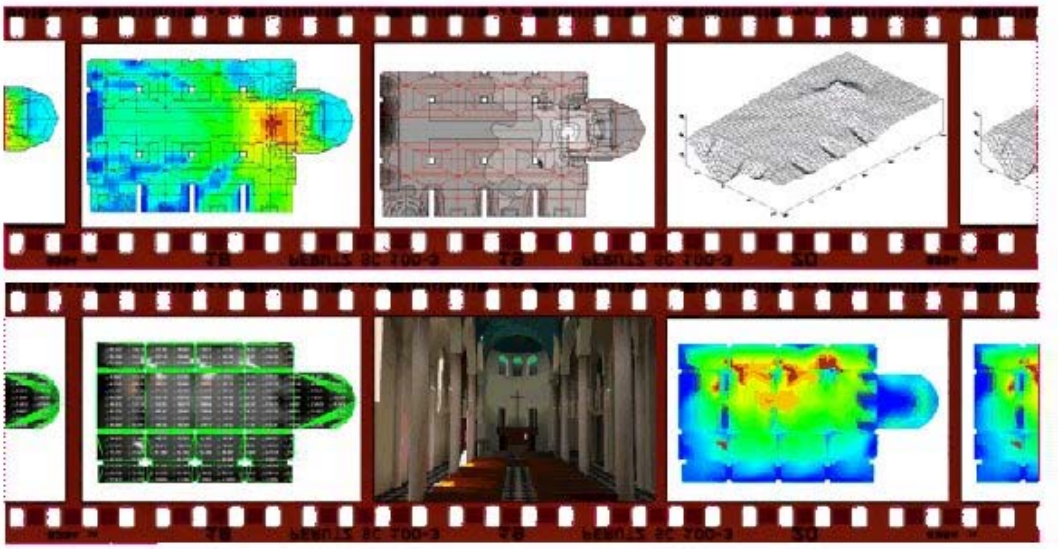
AutoCAD made detailed images od decorative and architectural elements inside and outside the church and created computational models which were applied during the phases of acoustic and illuminotechnic study of the church.

Moreover the power offered by Internet together with the applications capable of taking advantage of access to the net easily and quickly allow the exploitation of the capillarity of the system. Given that, it is clear that the computer will acquire an even greater role in the diffusion of the information.

On the basis of this information, I have chosen the parish church of San Michele Arcangelo in Rivalta Bormida (AL) as the subject of applications from my thesis, for which I have developed studies and examinations regarding illuminotecnic and acoustic applications, beginning with the design of the blue print.

The search results have been subsequently transferred on an optic support in order to be fully stored on CD-ROM.

This CD-ROM also contains the results of the historical search regarding the parish church, previously available only on paper, regarding the parish church, and now available in digital format,, adequately structured and ready for immediate upload in Internet and ready accessibility.



The results of illuminotecnic and acoustic elaborations, and the possibilities offered by various types of software to enjoy allow us to experience different results in many ways: graphic representations from mapping generated from different parameters considered, level curve graphics, spatial representations, three-dimensional interior views and videoclips. In each applications it is possible to view the numerical values of the calculated parameters.

Hence the computer is becoming increasingly important as a resarch instrument especially reagarding the types and methods used in scientific applications. It is also useful as a swift and effective instrument of evaluation, storage, management and diffusion of information.

Software used: AutoCAD , Fotogramma , Lightscape , Ramsete , Geokitwin demo
I would like to thank the Turin Polytechnic for making their facilities and software available to me for my thesis research.
To have a more detailed vision of these images and to magnify them it is recommended that you download a graphic retouch software such as Adobe Photoshop on your PC.

For further information, e-mail:

Giuseppe Morbelli: g.morbelli@tiscali.it