

"ARCA" PROJECT
COLLECTING DATA TO KNOW AND PRESERVE WORKS OF ART:
THE SANCTUARY S.DAMIANO IN ASSISI

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Key Words: Internet, Multimedial Card, School, StereoFot, Photogrammetry, Assisi

The last aim of the relief consists in allowing the user a deferred and objective analysis of the found object.

On the threshold of the year two thousand, in the virtual reality age, I think that aim has been reached at the 80%: the user has not the possibility to touch and smell out the stereometric model yet.

However, the main problem doesn't depend on the relief quality but on the need to broadcast it by network.

Nowadays, thanks to Internet, it is possible to look up the photoplan of Paris from every place in our planet in real time and in the same way it is possible to connect to a Web Stereometric Cam at the easy cost of a local call, and using the model the latter placed at disposal at predetermined intervals (I think useless to add that both the images can be mapped in order to give the news essential to the documentation).

I think it right to call the attention on the broadcast of the data, not because that can worry us, but only in order to point out its continuous evolution, which needs a constant updating both of the skilled workers and of the documentation techniques.

We can consider indicative enough (www.poliba.it/fotogrammetria) the data concerning the jobs for the students of the Photogrammetry courses Professor Antonio Daddabbo gives in the Politecnico in Bari: from 1991 to 1996, the metric images dimensions, used by our off-line return program, StereoFot, changed from 512x 384 size pixel to 1600x1200 px, widely surmountable by the new processors.

As to the use by network of the same StereoFot program, written in Java language, the size 300x220 px changed in 800x600px, this one, as well, widely overcome by the data broadcasting by

satellite. The same StereoFotOnLine program is in a non-stop evolution, so that the latest experimental model is directionless. The program precision depends on the use or not of the stereo vision, possible both in visual crossed and parallel axes. By using the photograms of the Heerbrugg field-test, issued with the stereometric camera Wild C 120, along the axis y, the mistake varies between 0-1cm (at a minimum distance of 6 m) and a maximum of 10-20 cm (on a 20m distance). While forgetting the above-cited images (got by the digitalization of analogic photogram), and paying attention on the images given by the Web Cam, the future, according to Professor Antonio Daddabbo, seem rosy enough.

In December 1998, a WebCamStereoMetric was started up using two of the known QuickCam (created for videoconference), got with a 60 cm base respecting the normal case. Notwithstanding the photogram reduced dimensions (320x240px) and the evident optics low quality, even without the stereo vision, the precision in the stereometric monitoring of a small place was found very satisfying (with a mistake of 1-2 %). All that means that such a stereocamera (the cost of which is not higher than 500.000 lire), placed, for instance, in Santa Chiara refectory in S. Damiano shrine of Assisi (found at www.poliba.it/fotogrammetria), would allow, via Internet, a prompt analysis of the structure damages after the earthquake in 1997. At the light of what said, considering the fact that we discuss on the relief didactic, it is not desirable to talk of representation by plans, prospects and sections, a representation as a result of subjective interpretation, acceptable but in an executive project and if destined to be used on the stocks.

The restorer (or any scholar), as a surgeon, can work at a distance, but having the possibility to see the patient and not his identikit. Nowadays by every CAD program we can get stereometric static representations (which respect the ergonomics principles) of the project solutions, but it's a reality the visualization of the trajectory of the analogic restorer old mobile mark: every boy if experienced in flight simulators, will be easy able to draw in the tridimensional world, even without a virtual helmet.

Conclusion: considering the quick evolution of the communication means, we must but have clear ideas on what to communicate instead of how to communicate. Nowadays the Java program language allows the Internet user as follows:

- *to connect to Documentation Centre
- *to get in network the latest version of the program for the virtual model analysis
- *to check by computer the Architectural Goods virtual model
- *to project the change of the same
- *to deposit at the Documentation Centre all the transformation hypothesis (including the restoration project)
- *to dispose of one's work (and eventually to perfect it) in every part in the world

It is clear that the network will put at our disposal the relieves represented by plans, prospects and sections, if carried out before a certain date, but we cannot oblige our students to adapt themselves to the present only for a simple language uniformity: it would mean for example to publish “I Promessi Sposi” with manuscripts, simply because Manzoni didn’t use the computer.

At last I agree with Mons. Pietro Amato when introducing the acts of our meeting in 1991: “The tutelage is not for a small number of people. It is of the human dignity and nobody can delegate it. It is important to teach it and to give the instruments. What remains is the story which will tell of our culture and our spirituality”.

We point out that the present paper has been drawn on the report (see www.poliba.it/fotogrammetria) sent by Prof. Antonio Daddabbo to the meeting on the architectural relief: “Il Rilievo Dei Beni Architettonici per la Conservazione “ Napoli, 15-17 April 1999.

Bari, luglio 1999

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