REPORT of the TASK GROUP 2 of CIPA 1997 - 1999
on
"SINGLE IMAGES IN CONSERVATION"

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KEY WORDS: single images

The interest, CIPA takes in single images, is twofold. First, Photogrammetrists and users would, of course, be happy to work with one image at a time. Is this possible? Under which circumstances? With which accuracy? Second, not rarely, there is no choice: one may be obliged to use "separate" images (unfortunately not always contact prints or negatives, but also postcards or scans from books) when damaged or destroyed buildings need to be documented. The same questions apply here, too.
Last but not least, restorers or architects should be able to "understand" the geometry of the single image to settle eventual ambiguities when away from the site.

In this context, specific task of TG2 is, to collect, investigate and document, as exhaustively as possible, all techniques through which single images have already been, and may be, metrically exploited for purposes of conservation. This collection needs to be illustrated with numerous examples to make approaches - their potential and limitations - understandable for users.

Hence, the intended final output of TG2 is a CIPA publication (compendium on single images) by various contributing authors, extensively documenting metric exploitation of single images.

In its ten months of existence, TG2 has made some steps towards its goal. First, of course, it was formed.
It has 11 members, all but one from Europe. This is a main drawback: members from other parts of the world need also to be attracted. Understandably, most members are Photogrammetrists. A serious weakness of the Group is, that no architect, archaeologist, restorer or conservationist participate. It is imperative to seek co-operations in this direction, otherwise the Group will deal with questions Photogrammetrists pose to each other! On the other hand, it is believed that the participation of two members from the computer vision community (where single images are extensively treated) is beneficial; this mutual approach has to be pursued further.

Next, a full TG2 web site has been constructed It turned out to be invaluable, since all contacts with potentially interested parties succeed through reference to it. Among other information, it includes a rather full bibliography on the use of historic images. A bibliography on single images in general is also under way. Besides, the site is linked to some excellent practical examples on the use of old images (prepared to this purpose by a TG2 member). It is very important to prepare more samples of this type. For instance, two sessions of this Symposium have been dedicated to TG2; the presentations, be they by members or otherwise, could be transformed for display in the web.

But the main task is, to document the techniques. And the main difficulties are two:
First, the questions must be formulated and this is not a trivial matter in view of the numerous possible combinations of image geometry/data - available control - object morphology - desired product - purpose and desired accuracy. For a start, two aspects of the task are now being documented by members. One is the possible uses of single images showing regular surfaces (monoplotting, developments, projections). Another is the rectification potential of commonly available non-photogrammetric ("rubber-sheeting") software. Different aspects of the task need to be undertaken by other teams and this brings us to the
second difficulty: the need to 'mobilise' members and interested parties who actually work in the field and who offer some of their time to concentrate their experiences in a form suitable for a handbook.
A basic goal of the Group is to overcome these two difficulties.

From the above, needs having emerged in the short life of TG2 (and hence suggestions for future work) are clear:
* formulate further specific questions and find the working teams to responsibly undertake them and produce concrete results;
* enrich the real practical examples to attract further interest and contributions;
* attract co-operations and input from the 'users' community as well as from outside Europe;
* strengthen links to the computer vision community.

But even before all this, stronger co-operation within CIPA itself is necessary, particularly among Working Groups. Obviously, the TG2 task 'intersects' with that of practically all other WGs. It is sure that their experience would and will help to formulate its tasks in more precise, fruitful way.
Whenever possible, 'multiple membership' should be encouraged.