"Collecting,Compiling, Cataloging and Sharing Heritage stereoviews"

TG status report

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RecorDIM Partners Meeting

Rome, May 2006:

- 1. Status of the TG work
- 2. Remaining steps, for TG to deliver
- 3. Questions to be addressed in Rome
- 4. Discussion period and recommendations
- 5. Need for outside assistance / participation

<u>RecorDIM Taskgroup on</u> "Collecting,Compiling, Cataloging and Sharing Heritage stereoviews"

1. Status of the TG work:

According to the RecorDIM initiative progress can be stated for information providers as well as for information users:

Currently there are 2 main activies in the field of information providers:

- 1.1 to deal with existing heritage stereoviews and
- 1.2 to achieve new heritage stereoviews

1.1) Existing heritage stereoviews

open a realistic gate to the past, concerning this RecorDIM taskgroup are to be mentioned:

The progress of of the CMP/UCR Keystone-Mast Collection in the digitization of approximately 50000 Heritage stereoviews (of a total amount of 350 000 stereoviews), as represented by Steve Thomas, cannot be judged high enough and is an ongoing activity.



Steve Thomas, Head of the UCR/CMP Keystone-Mast collection (left picture) by Francois LeBlanc (GCI) and viewing through stereoscopes at the CMP (right picture)

Buddha of Kamakura"Dalbutsu"

2 Masterpieces of the **Keystone-Mast Collection** representing approx. 50000 historic heritage stereoviews of a total of 350000 stereoviews "waiting for digitization and application"



Interior Throne Room Peking

However, due to the typical relative small base-todistance ratio (=b/y) the standard deviation sy for spatial measurements from these kind of heritage stereoviews shows already approximately sy =+ 0.2m(!) (as calculated from sy = $\pm((y/c)^*sp')^*(y/b)$ with a baseline b=6.5 cm, a focal length c=7.5 cm, an object distance y=10m and an accurate for the parallaxe measurement sp $=+-10 \mu m$). This limited accuracy in spatial coordinate determination of approx. + .2 m is an important reason, why this RecorDIM taskgroup prefers promoting the documentary value instead of the geometric aspect of existing heritage stereoviews!

1.2 Gaining new heritage stereoviews ISPRS Comm. VIII President Ammatzia Peled as the representative information provider generated colour stereoviews of Heritage in Israel in outstanding quality, see http://www.rjb-3d.com/

The authors add current heritage stereoviews, for which they hold the Copyright, processed with the 3D Easy Space software:

• Please, wear color anaglyph glasses now:

Jerusalem: antique street/ medical bath color anaglyphs by President Ammatzia Peled







Heritage stereoview Masterpiece:column base:Antoninus Pius (138-161)(Martian field, Rome:Vatican Museum) by W.Schuhr

Heritage stereoview (color anaglyphs): in the antique theatre of Tloss(Turkey) by W.Schuhr



Advantages of Heritage stereoviews: Gaining a complete additional Dimension: Monastry Bursfelde: part of the Wall in 2D &in 3D by W.Schuhr



1.3Regarding information users it is the main concern of this task group, to provide state of the art documentation Technology for the archaeologic field work.For this purpose it is the intention, at least partly to replace subjective interpreted manual sketches by objective high resolution photographs and, of course preferable, by heritage stereoviews:



Prefering the rectified low altitude photography by the Archaelogist Prof.Fahri Isik (University of Antalya) in Patara (Turkey) (left) and heritage stereoviews (State of Saxony Anhalt/Germany) (right)



Regarding information users also 1st steps for a "convincing cooperation" with Archaeologists in the ancient City of Patara (Turkey) as well as down in Magdeburg(Germany) are very promissing, the Archaelogists in particular show great interest in heritage stereoviews taken from balloon:



2. Remaining steps for information user & provider of the RecorDIM TG on <u>"Heritage stereoviews"to deliver:</u>

2.1 to <u>improve heritage stereoview recording</u> & documentation (including improvements in digitization of existing stereoviews):

To <u>achieve new heritage stereoviews</u> an extremly light fibre glass rod single lens camera has been used. In addition a 3D-ROD-CAMERA LITE to obtain heritage stereopairs from approx10m height, the Univ.of Appl.Sc. Magdeburg officially proposed to the German Ministry of Research, (planned 3D camera & simulated sample heritage stereoview, see left), aiming heritage stereoviews to add or even to replace manual sketches (compare manual sketch of a historic border mark (Saxony Anhalt, Germany) and the corresponding color anaglyphs of the stereoview on the right side).





2.2 to improve the website "3dsite.icomos.org" of this RecorDIM TG with respect to samples, visualization and applications of heritage stereoviews for heritage documentation, protection and reconstruction purposes:



2.3 to recommend low-cost software like e.g., Easy Space 3D, Anaglyph Maker (see sample),z-Anaglyph etc.to prepare state of the art heritage stereoview presentations,e.g. as color Anaglyphs&to extract metric information from the stereo images.



3. Questions to be addressed in Rome

3.1 Are (at least) other RecorDIM taskgroups convinced to obtain stereoviews instead or in addition to manual sketches and in addition to 2D photographs for heritage documentation purposes?

e.g., heritage stereoviews in Rock Arts: Alignements of CARNAC(France)

(W.Schuhr)



Samples for heritage stereoviews are welcome at schuhr3d @hotmail.com

4. Discussion period and recommendations

4.1 The queue "sketch, photography, stereoview" for many applications supposed to be a degree of comparison:

a main characteristic of <u>heritage stereoviews</u> is, that for many purposes they are <u>well suited for different(!)</u>, future <u>interpretations</u>, even for the next generation! This activity should <u>not be taken over</u> by a RecorDIM TG, which is concentrating on <u>subjective (!) interpreted vector data</u>. However, there are no standard reciepts to obtain stereoviews! Depending on the "School" and the expected 3D perception (from natural to extended) there is a huge range for an "optimum base to distance ratio". Therefore it is highly recommended, <u>not just to take 2</u> <u>stereo photographs</u> at an instant, <u>but to take a queue of say 5</u> photographs with different baselength!

(Make your own experiences in heritage stereoviews from learning by doing!)

- 4.2 It is liked to point to the fact, <u>the idea of this RecorDIM TG</u> to use rather flexible <u>light rods of approx. 10m length</u> with a high resolution <u>digital</u> <u>camera</u> recently has been <u>adapted by HEINZ RUETHER</u>, to be used <u>for</u> <u>Heritage stereoview documentation on the whole African continent!</u>
- 4.3 Every TG should prepare a website, to which the ware house page should link.

5. Need for outside assistance / participation

5.1 Maintaining the TG website 3dsite.icomos.org

5.2 Technical verification and financing the 3D-ROD-CAMERA LITE

5.3 Convincing more Archaeologists about the obvious advantages of existing and new (!) heritage stereoviews and to define different applications for heritage stereoviews, e.g.

- Excavation documentation
- Monument Copy, protection and Reconstruction:

Trevi Fountain: Copy in Seoul (South Korea) (left) and the original





- Virtual Museum: The Large Leshan Stone Buddha from Sichuan (China) in EON's 3D ICUBE virtual museum:



- Education in Archaeology etc.
- purchasing the Digital Keystone-Mast heritage stereoview collection