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Simple fun – Interactive computer demonstration program on the exhibition of the Szentgál-Tűzköveshegy prehistoric industrial area

1 Introduction

This paper aims at reporting on an interactive computer demonstration program installed in an exhibition, the first of its kind in Hungary. The subject of the excavation was the prehistoric industrial area on and around the Tüzköveshegy ('Flintstone Mountain' at Szentgál, West-Central Hungary (fig. 1). Red radiolarite from the environs of Szentgál was first mentioned in archaeological technical literature in 1876 (Lipp 1876); thereafter, however, the site was neglected and only the investigations of the past few years could prove its actual significance amongst Hungarian prehistoric sites.

The archaeological rediscovery of the exploitation area took place in 1982, in the frame of systematic fieldwork for the exploration of potential sources of prehistoric lithic raw materials (Biró 1986a, 1986b). The workshop character of the site was immediately recognised. Excavations started there in 1983 and are still in progress. The first mining pits were found in 1993; sofar, 5 individual mining pits have been separated.

For the determination of the period of mining, parallel excavations were started by J. Regenye (Regenye 1994). Systematic fieldwork and a survey of museum material on the distribution of the raw material was also done (Biró/ Regenye 1991). By 1995, the gathered information formed the basis for the setting up of an exhibition devoted to the problems and results of the Szentgál industrial complex. The exhibition was opened on 15th March 1995 in the Veszprém Laczkó Dezső Museum and is reported to be fairly popular. It will be open till 31st March 1996 and there are plans for a permanent exhibition in a different museum after that date.

Both the excavations and the exhibitions had a very low budget. We had the support of volunteers for the excavation and lots of friends to help with the installation of the exhibits, as well as the compilation of the computer program.

The idea of setting up an interactive computer demonstration program within the exhibition was already considered in 1993 (Biró 1993). The discovery of evidence of mining in the exploitation area gave a last impetus in the realisation of this exhibition, because unlike with other flint mines (e.g.,Tata, Sümeg; Fülöp 1973, Bácskay 1986), there seemed to be no chance of preserving the shafts and pits and arrange a presentation to the public.

2 The exhibition

The exhibition of the Szentgál-Tűzköveshegy prehistoric industrial complex is unusual in many ways. It is devoted to joint studies of two archaeologists on a range of related problems: formation, exploitation, access, distribution, prehistoric and modern use of 'Szentgál flint'[1]. The focus of interest is not on 'objects' but on context. We therefore used a model based presentation and tried to place the individual finds in a realistic context. Formation of the radiolarite was modelled and map information was collected in a tangible, relief form. There are 3-D 'in situ' models of the mine, the source area and the location of the prehistoric industrial settlements, the excavation and the reconstruction of the prehistoric settlement features. Visitors have a chance to handle some of the exhibits and the interactive computer demonstration program, which is the subject of this paper, is also offered for manipulation.

3 The computer program in the exhibition

3.1 Technical solutions

From the start, we were aware that in installing an interactive computer demonstration program we would have to keep everything very simple. This was partly necessary because of the very limited funds but also because of the novelty of our enterprise. We aimed at the knowledge and interest of the young 'computer generation', but the whole program had to be constructed in a way that does not require sophisticated means nor any substantial knowledge of computers. Thus the basis of our exhibition program had to be very easy to handle and not very demanding as far as hardware was concerned. Also, we had to base our presentation on legal software. To meet all these requirements, the public domain hypertext program, HYPLUS, by Neil Larson was selected. We had tested the potential of this program in the construction of textbooks and lectures previously, both as users (students; Bakonyi *et al.* 1994) and as authors and lecturers (Biró *et al.* 1994, as well as different conferences and symposia).

This program runs on a minimal configuration effectively (AT 286 with min. MS-DOS 5.0, Hercules and/or mono VGA monitor). The generous support of the SZÜV (a local computer dealer) and the Ministry of Education finally made it possible to run the exhibition program on a 486 SX computer with SVGA monitor, which is certainly much better for speed and aesthetical quality. The manipulation of the program can be realised by the cursor keys alone. To filter out possible sources of errors, the exhibition program is started by the autoexec.bat file with all necessary settings. The computer is placed in a closed box for protection and the keyboard is partly covered. The museum attendants have no special duty but to switch it on and off like the light in a room. The motherboard is 'green', so that it can be operated during all exhibition hours. Switch-off time is set to 5 minutes.

3.2 Contents

The contents of the program was constructed to cover basic fields of the exhibition with a detailed explanation and many illustrations. The complete structure of the hypertext is outlined in figure 2.

The deeper layers of the program contain specialists' information, i.e., archive data and text of available publications. The full text of the exhibition guide is also included, in a Hungarian, English and German version. For the foreign visitors, a simplified version of the hypertext with full illustration list is given in English and German. There is a special part for youngsters who have as yet no school experience in prehistory, geology and related problems. The program had two short slide shows on the production and refitting of a core. The elements of the slide show were registered step by step on an experimental series.

The most demanding part of the construction of our application was the compilation and proper quality of illustrations. There are currently 144 images included in the program (with the slide shows, 191). The origin of these images is very varied. Some were constructed in the computer by drawing programs (CorelDraw, Paintbrush etc.). Other elements, like spatial statistical data and 3-D models of the environs of the site, were made with GIS packages. Part of the images were scanned and manipulated to fit in the exhibition demo. Video scanning and digitalization of microscopic images was also utilised. For part of the images, particulary the slide shows, a digital camera was used. For all the facilities we used, I have to thank a number of good friends.[2] Inserting the images into the program required a lot of patient work, conversion between forms and formats, hardware platforms and resolution. The more demanding pictures (photos) were finally inserted in the form of self-extracting images (.exe form) because the viewer of the hypertext could not handle high quality images in acceptable quality.

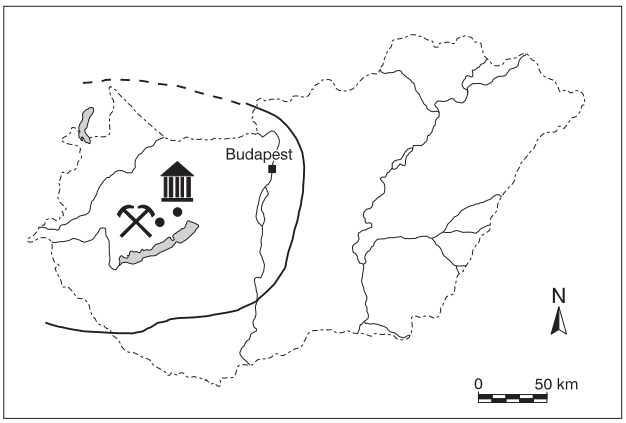

Figure 1. Location of the site and its environs.

4 Current experiences

To the best of our knowledge, the program has been very well received. It was certainly a challenge to the museum staff; as they had to master not only the handling of the program (which is really very simple) but also had to have a different attitude towards visitors. In contrast with the former duties ('don't touch the exhibits!'), the visitors have to be encouraged to touch, to try and manipulate the program. Many teachers with schoolchildren have discovered the possibilities offered by this different exhibition approach. Excavators of the past 10 years have shown much interest in the parts relating to their own work: chronicle, excavation reports, documentative photos. We are following comments in the guestbook and intend to complete the illustration material, especially in some fields which were not fully documented.

5 Documentation, availability

The full text of the program (1.0, test version and 1.1, first exhibition version) was compiled into a text file and printed as reference material for museum educational purposes. The latter text version is available through the INTERNET from the Museum shelf of the Hungarian Electronic Library (currently at the gopher service of the University of Economics, ursus.bke.hu). The possibility of producing a CD on the basis of the exhibition material is also considered[3].

notes

1 More exactly, radiolarite.

2 Especially, F. Gyulai (National Science Foundation Archaeological Instruments' Centre), Gy. Munkácsy (Photographic Collection of the National Pedagogical Museum) and Á. Burkus (Museum of Fine Arts).

3 The CD was published for the 18th of May 1995, the International Museum's Day, and can be obtained from the author.

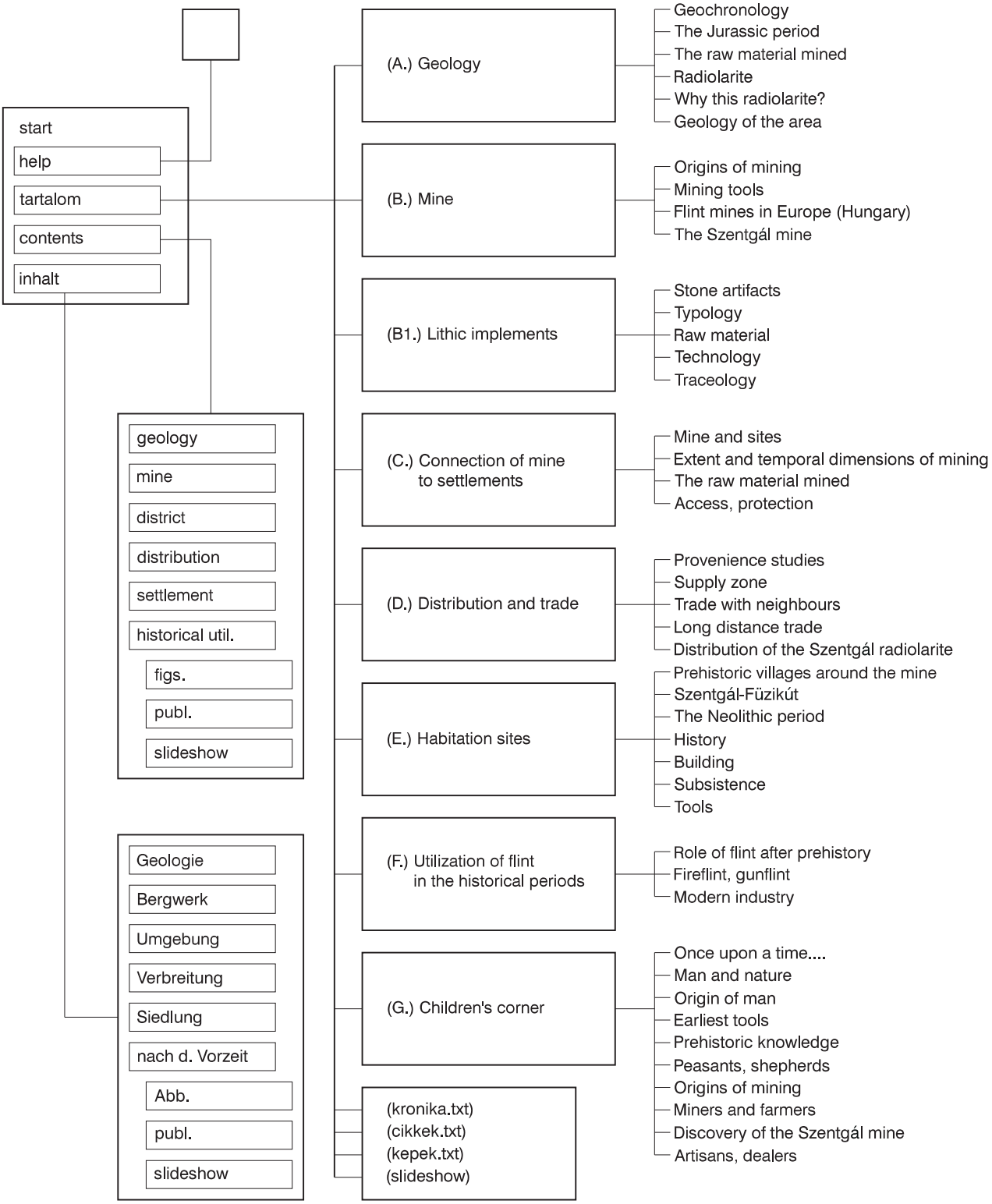

Figure 2. Structure of the hypertext exhibition guide.

references

Bakonyi G., L. Drótos, K. Kokas 1994 *Hálózati információforrások használata* (The use of net information sources) E-book in the Hungarian Electronic Library, Miskolc.

Bácskay E. 1986 State of Affairs at Sümeg. In: K. Biró (ed.), *Sümeg Conference Papers* I, Budapest, 11-26.

Biró, K. 1986a Prehistoric workshop sites in Hungary, WAC Preprints, Southampton, 1-30.

1986b The Szentgál workshop complex. In: Biró, K. (ed.), *Sümeg Conference Papers* I, Budapest, 101-106.

1993 Computer application in the study of the Szentgál-Tűzköveshegy mine, HCAA Abstracts.

Biró, K., J. Regenye 1991 Prehistoric workshop and exploitation site at Szentgál-Tűzköveshegy, *Acta Archaeologica Hungarica* 43, 337-375.

Biró, K., Gy. Munkácsy, M. Rajczy 1994 *Rendszergazda tanfolyam. Muzeológusoknak, IBM PC kompatipilis személyi számítógépekről* (System administrator's course for museologists). E-book in the Hungarian Electronic Library, Budapest.

Fülöp J. 1973 Funde des prähistorischen Silexgrubenbaues am Klávária-Hügel von Tata, *Acta Archaeologica Hungarica* 25, 3-25.

Lipp V. 1876 Vas vármegyei leletekről, *Archaeológiai Értesítő* 8.

Regenye, J. 1994 Előzetes jelentés a lengyeli kultúra szentgáli telepének kutatásáról, *Veszprém Megyei Múzeumok Évkönyve* 19-20, 69-88.

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