The European Integrated Project BRICKS:
Two Pilot Projects as Digital Libraries of Texts and Images of Monumental Complexes

A) The Visual Fortuna of Pompei
B) The Frescoes of the Basilica of Assisi in XIX Century

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Researching institution: SCUOLA NORMALE SUPERIORE OF PISA together with the Consorzio FORMA

Scuola Normale Superiore of Pisa (hereafter: SNS), with its various centres and departments, has been largely and continuously devoted since 1981 to develop activities and projects of research, experimentation and communication in Humanities and in Cultural Heritage area, projecting and employing advanced computer aided methodologies. These research activities has been integrated by related training programmes through the pioneering Cortona courses started in 1997, on Cultural Heritage Management, Conservation and Communication, now matched by the Volterra courses started In 2003).

The specific research activity of SNS in ICT Information and Communication Technologies applied to Cultural Heritage Resources started very early, in 1978, as a scientific cooperation project together with Villa "I Tatti" (The Harvard University Centre for Italian Renaissance Studies), and with CNUCE-CNR, ("First International Conference on Automatic Processing of Art-History Data on Documents"). As a following of the collaboration with the Accademia della Crusca (Meetings on Technical Lexicons, 1979 and 1980), SNS inaugurated a cooperation with J. Paul Getty Trust, ("Second International Conference on Automatic Processing of Art-History Data and Documents", "Census of Computerization in the History of Art" 1984; "SN/G -Scuola Normale/Getty- Report on Data Processing Projects in Art", 1988, about an on line database).

The projects developed at SNS produced advanced models for computer aided management of different kinds of documents pertaining to the critical knowledge of monumental complexes and archives, designing and producing data-bases and computer aided systems for text indexing. Great attention has been reserved to management of information related to territory, historical environment, building digital platforms to link databases to GIS (geographic information system) mapping supports.

Among the other projects can be mentioned: "Sistemi informativi di complessi monumentali", a project promoted by International Committee and the governmental Central Institute of Restoration (ICR) in Rom, a database of texts and images on the Leaning Tower of Pisa, based on a GIS (the result is now accessible in the websites torre.duomo.pisa.it and www.icr.arti.beniculturali.it/progetti.htm); "G. Vasari. Le Vite" (biblio.cribecu.sns.it/vasari); "Lucca e le sue terre", a system of connected databases concerning the territory of the district of Lucca to promote and disseminate the information about art and running or foreseen events in the district of Lucca, now enriched by an experimental device of communicating the WEB contents of the website through a GSM platform allowing the use of mobile telephones (www.provincia.lucca.it/luccaterre).

In order to develop a wider platform of competences and to promote national and international cooperation, SNS of Pisa founded just in its own seat, in 1999, the Consorzio Forma. Its aim was to promote and facilitate agreements of scientific cooperation in order to enlarge and exploit on a wider perspective the methodological approach and the technological tools to be employed in the projects to be performed or planned.

Most authoritative institutions, both public and private, are cooperating as members within the Consortium under the leadership of the SNS of Pisa: beside of SNS di Pisa, **Associazione Memofonte, Associazione Civita, Electa Mondadori-Department of Museums and Exhibitions, ISAE-Istituto Studi e Analisi Economica , Museo Nazionale del Cinema, Centro Internazionale di Studi di Architettura A.Palladio in Vicenza, Istituto Nazionale di Studi sul Rinascimento in Florence. Also the Soprintendenza of Pompeii and the Central Institute for Restoration in Rome** are represented within the Consorzio through their Directors as permanent members in the Board of Administration, beside of specific agreements.

According to this integrated approach to the new technologies SNS-Consorzio Forma is one of the leading scientific partners within two big and relevant European projects started in January 2004 and concerning the designing and producing of European networks of connected databases among museums, libraries, and scientific institutions and research centres: the Integrated project BRICKS and the Network of Excellence DELOS, both within the VI Framework for ICT applied to Cultural Heritage.

As a developing platform of the applied researches run by the SNS, now are to be cited three projects, as case studies, pertaining to our aforementioned methodological approach and that are to be developed and widened within the cooperation with others partners and to be performed through the present PRIN project:

1. The Fortuna visiva of Pompei.The digital on line archive of texts and images of Pompeii from XVIII century to our days. The digitised and indexed data base is already available on line. (htpp://pompei.sns.it). To this already started project are involved as scientific partners through already signed specific agreements: the Soprintendenza of Pompeii and DAIR – Deutsches Archaeologisches Institut in Rom, with the Library Director Thomas Froehlich. To be implemented by the existing and already digitised photographic archive of the Soprintendenza as well as by the existing GIS support of the Soprintendenza on-line archive of Pompeii through texts and images from XVIII to XIX century

2. The data base of the documentation of the history of the restoration interventions in the Basilica of Assisi, particularly restricted for now to the cycle of frescoes and of decorations; to be performed through a running cooperation with the Central Institute of Restoration in Rome, as a following of as specific agreement with SNS di Pisa started with the GIS based project on the Leaning Tower of Pisa, cited above.

These three projects are proposed as models for designing and producing of visual and textual databases and have the following common methodological approach well experienced in the already carried out and running projects of the SNS:
- making of a database able to integrate sector and subordinate archives, with links between texts and images, able to cross information concerning textual or iconographical data, setting a reciprocal inter-relation
- index processing of textual data (lexicon, catalogues, inventories, repositories, also in manuscript format)
- making of a digital library of texts (with images) and of images and digitalized catalogues of images, able to allow a complete and easy consultation of rare books and the link between single information to the full original text used as source
- on line access to the project web site to consult the digital library and the archive and, moreover, to entry data into the database as into an in progress one, from different working stations, even in contemporary mode and in real time.
- interrelated integration of structured data on a GIS topographic mapping support (a real geo-referenced map in projects 1 and 2 and a "virtual" map of the reconstruction of museum or exhibition designs and structured equipments in project 3).

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Synthetic bibliography on ancient POMPEI

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Pompei e gli architetti francesi dell'Ottocento. Catalogo della mostra, Parigi, gennaio-marzo 1981, Napoli-Pompei aprile-luglio 1981, Napoli 1981

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Synthetic bibliography on the frescoes of the Basilica in Assisi

FONTI SCRITTE:

- Lettere, minute e relazioni di Cavalcaselle ed altri suoi corrispondenti, Venezia, Biblioteca Nazionale Marciana, fondo Cavalcaselle
- Documentazione ministeriale (collaudi, relazioni, progetti...etc.) Roma, Archivio Centrale dello Stato
- Progetti, interventi e relazioni della Commissione Conservatrice dell'Umbria e dell'Ufficio Regionale per la Conservazione dei Monumenti delle Marche e dell'Umbria,Perugia, Archivio di Stato, Biblioteca Augusta di Perugia, Accademia di Belle Arti, Archivio della Soprintendenza dell'Umbria.
- Documenti giuridici e amministrativi riguardanti la gestione del complesso basilicale nella seconda metà dell'Ottocento,Assisi, Archivio del Comune, Archivio del Sacro Convento di San Francesco
- Lettere e appunti di John Ruskin a F.W. Maynard e Joan Severn
  Lancaster, Ruskin Foundation, Ruskin Library

DOCUMENTAZIONE VISIVA:

La documentazione visiva è composta da

- 92 disegni eseguiti da G.B. Cavalcaselle (1858-1860),Venezia, Biblioteca Marciana, fondo Cavalcaselle
- 18 acquerelli realizzati dal copista austriaco Eduard Kaiser (1874-1876),London, Victoria & Albert Library
- 48 fotografie prima dei restauri scattate dalla Società Fotografica Artistica e da Paolo Lunghi (1872-1876),Venezia, Biblioteca Marciana, fondo Cavalcaselle, Roma, Accademia di Belle Arti, Gardone Riviera, Vittoriale, fondo Thode.
- 160 fotografie successive ai restauri, appartenenti alle campagne fotografiche Alinari, Anderson e Brogi (1876-1926), Firenze, Archivi Alinari
- 260 lastre successive ai restauri di Gabriele Carloforti (1884), Assisi, Sacro Convento

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"Rendere quel manoscritto obliterato ancora una volta leggibile". Sui restauri della Basilica di San Francesco ad Assisi. 1872-1905, con saggi di D. Levi, P. Tucker, M. Mozzo, G. Manieri Elia, S. Pognante, appendice di P. Carofano, Scuola Normale Superiore, Pisa, 2004

The structure and the methodology of the two projects

The two projects have, as a common methodological base, the task to build a inter-related system of databases of texts and images founded, in the two first projects, also on topographic GIS platforms, built on purpose in order to be integrated into the BRICKS system of peer to peer communication to be provided for the community of the BRICKS users:

1. "REPRESENTED POMPEII". A DIGITAL ARCHIVE OF THE CULTURAL IDENTITY OF POMPEII THROUGH GRAPHICS AND PHOTOGRAPHIC DOCUMENTS, FROM THE DISCOVERY UNTIL TODAY.

1.1. DESCRIPTION.

The research aims at studying, managing, conserving and communicating of graphic and photographic documentation about Pompeii, since its discovery in 1748 until today, with a scientific point of view but also with a correct diffusion to a largest public.

The project aims at understanding in a deeper and larger way the most important Italian en-plain-air museum, and at analysing and reconstructing its historical perception through "stratigraphic" representations of the whole site and uniques monuments given in different times, by people of different social classes, culture and interests. This corpus of perceptions and mental representations is transmitted through graphic images and photographs of the site, the environment-landscape and the single finds. What we want to give is – as a parallel of the actual representation of real Pompeii – an equally "real" corpus of the ideas of Pompeii, of its historical representations considered as a vertical chronological continuum and also as a horizontal geographic-cultural point of view (the varying point of view of painters or travel authors). This database, to be integrated with the photographic archive of Pompeii (that can be used thanks to Soprintendenza of Pompeii, a partner of the project) will be an unicum as a tool for crossed queries: from historic representation to the photo of the find, from the represented itinerary to the topographic itinerary in the GIS linked to the database; two virtual and inter-related points of view based on exact studies of the different ways to see a monumental site in its landscape context and in a cultural and historical development. The GIS platform will be, after the other two databases, the third access interface of Pompeian site: something similar to a virtual itinerary in the site with answers to all questions about finds and monuments in their historic representations.

1.2. TASK.

The research will aim at studying graphic documentations and at designing advanced electronic tools to manage them, providing indexing, comparing and information systems. These tools will be different according to the different kind of documents to manage and inter-related in a unique complex informatics architecture.

1.3. STRUCTURE.

The integrated data base is to be based on digital archive already produced by Consorzio Forma and SNS, within the project The visual "Fortuna" of Pompeii (www.liberologico.com/pompei). The system to be here produced will integrate and implement three databases, biuniqually related, concerning iconographic (drawings and printings), bibliographic (books) and archival (non edited texts) sources, until the end of XIX century. Iconographic sources are linked to a tree subject index, with a thesaurus of terms and head-words to be used to search the images according to the represented subjects; this index has to be customised according to the specific requirements of the prototype and is to be implementable in progress. These three databases are linked to authority files concerning persons, places and things in relation with examined documents. The authority file of person (authors&artists) is also related to a database of biographies.

The system allows to fill a form for every kind of document, according to running standards, to compare information of different databases of the archive, to entry data in a normalized way, avoiding variances from the authority files, to make queries in the whole of data and to organize more complex indexes.

The software used in the project is web-based, and runs on an ASP content management system, so that it can work in every operating system, and allows data entries by the scientific operators in the simple html format from different internet points, just using a browser, without any intermediate intervention of the technicians. Moreover it assures an immediate and easy data query on line from everywhere.

The Archive is linked to a virtual library, with digital reproductions of published and unpublished books from which documents are taken. At the moment the archive has 600 iconographic sources, from nearly 60 bibliographic and archival sources, partially put in the digital library.

1.4. PHASES.

The development consists in increasing contents of the existing archives and virtual library and to integrate them to the photographic archive and to the GIS support both provided by the Soprintendenza of Pompeii who cooperates directly in this project.

Thereafter the research is at first based on finding, selecting, digitising published and unpublished documents, to be analysed and treated for the data entry. The great amount of unpublished bibliography and documentation on Pompeii forces to plan a work in progress, starting from most precious, ancient and rare documents.

On a second level of the first phase, the existing platform (with documents of XVIII-XIX centuries) will be connected with referenced links to a second data-base, which will contain XX century photographic archive belonging to Soprintendenza of Pompeii (partially already digitised). A specific digital archive will be planned and produced that can be integrated on line to the first data-base. This data base too will correspond to the running standards, to be easily increasable by the operators and to be able to support the on line queries in real time. The third platform will put together topographic data and texts concerning single Pompeii monuments. This platform will be based on the cadastral map of the GIS produced by Studio di Architettura (Rome) for the Soprintendenza, built on a bi-dimensional geographic plan that uses as cartographic foundation the vectorial digitalisation of Rica Map, on which has been built the cadastrian corresponding to Pompeii situation in 79 a.C. in L. Esherbach study (Gebäudeverzeichnis und Stadtplan der antiken Stadt Pompeji, Köln, 1993). The GIS contains nearly 3000 polygons, which show the urban texture as real estates or sheltered environments, with 9 classification each (about 27000 data). The represented surface is about 100 hectare, corresponding to the excavation area.

The system (in Esri ArcView) will be translated in html, ready for query by web. To make easier the approach to the map, a layer raster with the aerial photo of the site given by the Soprintendenza will put over the vectorial plan. The GIS, already linked to the address book of Pompeii, containing the list of buildings, streets, Insulae and Regiones, will be linked to an increasable on line database of archaeological finds, that is the monuments of the site and the objects found there.

1.5. RESULTS AND RESEARCH PRODUCTS.

The whole system will be finally settled together in order to integrate: the archive of documents until the end of 1800 with the connected virtual library; the photographic archive of XX century; the archive of finds and monuments and the GIS.

The main products of the project will be the web sites containing the databases, to be enlarged in progress; editions on paper and in CD-rom. The scientific research could be used also organize exhibitions, meetings and other events.

An interesting development for the communication of the project could be the use of new informatics technologies to transfer the archive contents with GSM for mobile telephone usage; data information about archaeological sites and objects could be customised to be used in audio guides for tourists or to derive tailored electronic prototypes to be used by blind persons that use internet.

2. THE BASILICA OF ASSISI AND THE CYCLE OF FRESCOES: THE RESTORING CAMPAIGNS AT THE END OF XIXTH CENTURY AND THEIR HISTORIC DOCUMENTATION IN A DATABASE PROTOTYPE.

2.1. DESCRIPTION AND TASK.

The project aims at building a database of documents on the restoration campaigns performed in of Basilica of San Francesco in Assisi (and especially those concerning the cycle of frescoes of Giotto), since those promoted by Cavalcaselle at the end of XIX century. They were carried out after some careful graphic and early photographic recognitions, now available in manuscript handbooks in form of "visual notes" (sketches, drawings, etc), and in a collection of "historical photographs, aimed at supporting the restoring interventions carried out under the direction of Cavalcaselle at the end of X IX century. These documents, now to be organized in three databases, must be linked one to other in a second phase of the project, give the real conservation condition in every lapse of time, and also offer a wide spectrum of critical researches. In fact, they explain the achieved know-how and the following developments of intervention not enough analysed from a technique history point of view, and offer the possibility to study topics of other sciences: art history, artistic historiography, history of tecniques an of photography. This corpus of documents is an useful tool to active an interdisciplinary forum between restorers, art historians, philologists, scientists about problems and methodologies of modern restoration science.

Finally, this project aims to become a model to study the story of the conservation of other monuments, giving an appropriate tool to deeply understand the "palimpsests" that, during time, have been heavily changed.

2.2. STRUCTURE.

The project and a first version of the informatics program (shown at the meeting organized in Rome by Università La Sapienza and Accademia di San Luca, 20-21st February 2004) allow to visualize plans, views and sections of the basilica, then to see single art pieces, groups of objects or portions of the architecture, and finally to study all the documents connected to the art piece using a cross query among textual and visual files. Actually the research team is completing the data entry of documents concerning restoration started by Cavalcaselle in 1871.

Textual and visual sources already selected are indicated in the following section 2.4.a Riferimenti bibliografici. This great amount of documents has been put in relation also with a very large and varied bibliography of the period, from artistic historiography to (Crowe and Cavalcaselle, Henry Thode) to guides (local or for foreign tourists, as the handbooks of Murray and Baedeker), to pamphlets about the removal of choir of Domenico da San Severino, to articles on local and foreign newspapers, to periodical issues.

When this first part of the project on Cavalcaselle's interventions in 1800, the research will go on choosing and putting in the database the textual and visual documents about following restoration interventions, until those now running. The following intervention will be studied:

Restorations of Giuseppe Sacconi and Dante Viviani (1892-1918)

Restorations of Tito Venturini Papari (1923-1924).

Restorations of Mauro Pelliccioli (1938-1945).

Restorations started by Istituto Centrale del Restauro in the Fifties.

Restorations started by Soprintendenza dell'Umbria collaborating with Istituto Centrale del Restauro (1976-1982).

Restorations after earthquake in 1997, under the direction of Istituto Centrale del Restauro.