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Centre for Archaeology

A Model for the Description of Archaeological Archives

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> *The arrangement of archives is an essential feature of their management. This is true of the physical arrangement of materials on the shelves, but it is also true that arrangement is an important part of the intellectual management of the information contained in the materials. It is this intellectual management, or control, with which archival description is mainly concerned.*
>
> (Cook & Procter, 1989, 6)

1 Introduction

The Records Office of the Central Archaeology Service (CAS) was established in 1990, although the post of Archives Officer had existed since 1986, and in August 1999 it merged with the Ancient Monuments Laboratory Curatorial Team to form the Information Management & Collections section (IMC) of the newly-created English Heritage Centre for Archaeology (CFA). IMC has primary responsibility for the CFA's archaeological records management system, and acts as a project information centre. In addition, it advises on policy matters relating to archaeological archives management, is involved in programmes of methodological and technical development, and is active on a number of research projects.

In the specialised field of archaeology, detailed standards and guidelines exist which cover the transfer of archives to museums (e.g. SMA, 1995), the documentation of museum collections (e.g. MDA, 1997), and the physical care and storage of archives (e.g. Walker, 1990, MGC, 1992, and Ferguson & Murray, 1997). However, the same level of information is not available concerning equally important, but perhaps lower profile issues relating to the organisation and description of archives. For an archive to be of use it must not only be physically preserved, but must also be organised in a logical manner and accompanied by finding-aids which facilitate its interrogation by researchers.

The first definition of a cohesive conceptual structure for CFA archives evolved following the publication of the first edition of *Management of Archaeological Projects* (English Heritage, 1989), and was subsequently refined in the light of *MAP2* (English Heritage, 1991). This initial structure consisted simply of a definition of the component parts of an archive, based on the *MAP2* specifications for the site and research archives (English Heritage, 1991, 30-31 and 37-38). The structure developed over subsequent years in tandem with changes to CFA fieldwork and post-excavation procedures. In 1996-7, the development of a new archives management database system (see *Section 5*), prompted a review of the CFA approach to archival description. As a result, a formal model of archival description was developed, based on a review of the various national and international standards for archival and bibliographic description (e.g. Cook & Procter, 1989, Gorman & Winkler, 1988, and International Council on Archives, 1994 (*ISAD(G)*)). The model is based on two key concepts: firstly, that any archive can be described in a hierarchical manner, using a number of levels of description; and

secondly, that the description at each level should be composed of a standardised set of elements. The advantage of this model is that it can be implemented at whatever level of complexity and detail meets the needs and resources of the organisation or individual concerned. Thus, although the implementation adopted by the CFA is described in this document, this is only intended to illustrate the principles concerned and demonstrate one possible approach.

It is hoped that the dissemination of this model will stimulate debate within the archaeological discipline, and begin the process of filling an important gap.

2 The conceptual model

The CFA system for describing and managing archaeological archives is based upon a conceptual model of the archive. Any archive can be described at a number of levels, moving from the general to the specific. The concept of hierarchical levels of description is based upon the model developed in Cook & Procter (1989) (henceforth *MAD2*). This model was designed primarily for use with traditional types of archives, such as are to be found in county records offices and, although its details have required some adaptation to cope with the unique character of archaeological archives, its principles have been found to be equally applicable to this field. The international standard *ISAD(G*) was considered, but the *MAD2* model was deemed more relevant to our needs. However the model will easily map across to the *ISAD(G)* levels of description since, although the terminology differs, the principles are broadly similar.

The *MAD2* system uses six main levels of description, which are described in *Figure 1* below:

Figure 1: *MAD2* levels of description

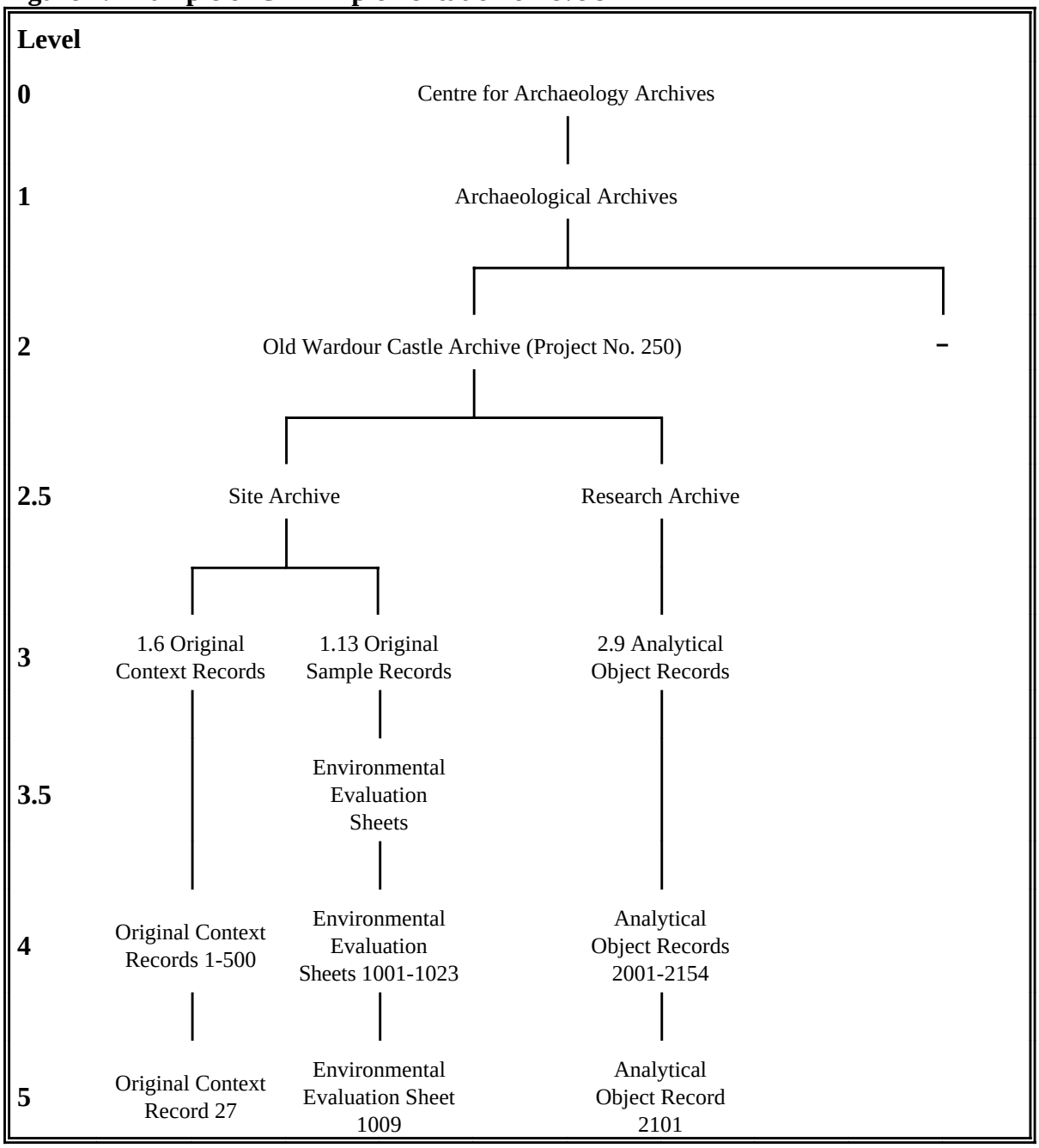
Level No.	Level Name	Description
0	Repository	This level simply identifies the repository which holds the archives being described.
1	Management Group	This level allows archival collections of similar type to be grouped together for management purposes. A repository could therefore use it to distinguish archaeological archives as a discrete entity within its collections.
2	Group	The group describes records which are related by provenance. Traditionally, it refers to the records of a particular organisation or individual. However, in archaeology it is the *project* which provenances a particular archive, and which future researchers will wish to use to retrieve information at the highest level.

Level No.	Level Name	Description
2.5	Sub-Group	This allows subdivisions to be made within a group, eg. to distinguish between the Site and Research Archives within each project archive.
3	Class	This describes all records which "result from the same original compiling... process, are of broadly similar physical shape and informational content, and are referred to collectively by a specific title" Cook & Procter (1989, 19).
3.5	Sub-Class	A sub-level can also be used to further differentiate material within a class.
4	Item	This describes individual records within a class. The item is the basic physical unit used in the handling, storage, and retrieval of archives, and may either be a single document, such as a report, or a group of records, such as a block of context records within a single record number range.
5	Piece	This is the smallest level of description used, and describes the component parts of an item, such as a single context record within a block.

However, the *MAD2* system is designed to accommodate archives of many diverse types and provenances and in the case of archaeological archives, which represent a relatively narrow and homogeneous group, the content of some of these levels will always remain constant. The CFA adaptation of this structure, with examples, is shown in *Figure 2*.

Levels 0 (the repository) and 1 (the management group) will normally remain constant for every archaeological archive held by one organisation, and therefore need only be used at a conceptual level. Additionally, in the case of the CFA, the majority of the individual site records, such as context, finds, and environmental data, are entered onto site databases either during, or immediately following the completion of fieldwork. This practice provides a digital security copy of the data and facilitates subsequent analysis. Since the individual database records effectively provide a form of Level 5 description, CFA does not currently implement this level. However this will change in the future, when it is intended to link the archive management database to the individual site databases.

Figure 2: Example of CFA implementation of levels



3 The archive class structure

The component records of most modern archaeological archives tend to be produced in a relatively predictable and structured manner, as a result of the standardised working procedures employed by units, and the widespread adoption of *MAP2*. It is therefore possible to construct a standardised scheme of archive classes which can apply to every project archive. However, the scheme must be flexible enough to adapt to the development of new methodologies and refinements in working practices, and it must also allow for the incorporation of older, pre-*MAP2* archives where necessary. The CFA archive classes outlined below (*Figures 3* and *4*) provide an example of one such scheme.

The archive group is sub-divided (Level 2.5) between the Site and Research Archives in accordance with the principles of *MAP2*, with each sub-group having a separate set of classes. However, some classes of material, such as **correspondence** and **archive reports**, can span both parts of the archive. In these cases, the class has been assigned to one sub-group only and differentiation is provided using the sub-class level. Thus, **correspondence** could be divided into sub-classes of **site correspondence** and **post-excavation correspondence**. Similarly, **archive reports** can be sub-divided into **notes to file**, **archive summary reports**, and **full written reports**. In more general terms, the sub-class level provides a facility to customise the classes to individual recording systems and work practices.

Each class is assigned an Index Number, which acts as an aid to physical retrieval. Classes within the Site and Research Archives are assigned Index Numbers of the form 1.*n* and 2.*n* respectively, and, in order to keep the mapping across as simple as possible, *n* remains the same for similar classes in both parts. Thus, for example, **original context records** have the Index Number 1.6, while **analytical context records** are assigned to 2.6. However this does mean that there are gaps in the number sequences, eg: 1.4 refers to **site notebooks** for which there is no analytical corollary, and 2.4 therefore does not exist.

Figure 3: The site archive

Class	Index No.	Definition
Project Designs	1.1	The project design agreed prior to implementation, which details the justified aims, methodology and resources for the implementation programme.
Documentary Research	1.2	All documentation produced as part of background research for the project at any stage, from initiation through to analysis.
Site Survey Records	1.3	Data, text and illustrations for specialist surveys.
Original Notebooks and Diaries	1.4	The original documents produced during fieldwork, which hold data not on pro-forma.

Class	Index No.	Definition
Original Field Walking Records	1.5	Original records produced as a result of field walking
Original Context Records	1.6	The original context records produced during fieldwork
Original Building Recording Records	1.7	Original records created specifically for recording standing buildings
Matrices	1.8	Matrices/diagrams/illustrations produced during fieldwork or assessment, which demonstrate the stratigraphic relationships between contexts
Original Object Records	1.9	The original object records produced during fieldwork
Original Bulk Finds Records	1.12	The original bulk finds records produced during fieldwork, including spot dating lists
Original Sample Records	1.13	The original sample records produced during fieldwork
Original Skeleton Records	1.14	The original skeleton records produced during fieldwork
Finds and Samples Box Lists	1.16	The latest version of the project finds and samples box list
Original Photographic Records	1.17	Indices of all photographic images taken during fieldwork, containing both descriptive and format information
Photographs	1.18	All photographic images produced as part of the project
Original Drawing Records	1.19	Indices to all drawings taken during fieldwork, including descriptive and format information
Original Drawings	1.20	All drawings produced on site as part of recording
Interim Reports	1.21	Any interim reports, whether published or produced for restricted circulation.
Correspondence	1.26	All project related correspondence

Figure 4: The research archive

Class	Index No.	Definition
Assessment Reports and Updated Project Designs	2.1	An objective statement of the results, an assessment of the projects potential for analysis, and the justified aims, methodology and resources for the analysis programme.
Analytical Field Walking Records	2.5	Field walking information amended and corrected during analysis.

Class	Index No.	Definition
Analytical Context Records	2.6	Contextual information amended and corrected during analysis.
Analytical Building Recording Records	2.7	Building recording information amended and corrected during analysis.
Phasing/Matrices	2.8	Matrices and phasing information produced during analysis which demonstrates stratigraphic and chronological relationships of the site.
Analytical Object Records	2.9	Object data amended and up-dated during analysis.
Conservation Records	2.10	Records of finds which have undergone conservation treatment.
X-Radiographs	2.11	X-radiographs produced during analysis or conservation work.
Analytical Bulk Finds Records	2.12	Bulk finds data amended or up-dated during analysis.
Analytical Sample Records	2.13	Sample data amended or up-dated during analysis.
Analytical Human Bone Records	2.14	Human bone data amended or up-dated during analysis.
Analytical Animal Bone Records	2.15	Animal bone data amended or up-dated during analysis.
Integrated Analytical Records	2.16	Data which has been integrated from more than one information class, for example, a site database.
Photographic Catalogues	2.17	Indices of all project photographic images, which contains descriptive, cross referencing, and format information.
Drawing Catalogues	2.19	Indices of all project drawings, which contains descriptive, cross referencing, and format information.
Analytical Drawings	2.20	Amended, composite and transcribed versions of original site drawings, annotated with cross checked context, finds and sample numbers as required. Graphics for all publication work should be included.
Analytical Reports	2.22	The full text, including any accompanying data and illustrations of any specialist reports.
Archive Reports	2.23	The complete text of the full report where no publication is intended.
Published Reports	2.24	The published text with all accompanying illustrations.
Ancillary Publications	2.25	Any publications which are based on, or make extensive reference to information from the project, but which are not produced as part of the final report.

4 The data elements

Archival descriptions are composed of discrete, standardised units of information, called data elements, each dealing with one aspect of the archival entity being described. The use of these elements has two main advantages: firstly, it ensures consistency in the preparation of descriptions, and secondly, it allows efficient searching and retrieval of information, whether using paper or computer. *MAD2* defines a detailed set of data elements covering both the description and management of an archival entity, and CFA has adapted these to develop specific sets of data elements for use at each level of description. The subset of these elements which specifically relate to the description of an entity are shown in *Figure 5.* The additional elements required to cover wider issues of provenance and physical management fall beyond the scope of this document, but a description of the CFA implementation of them will be disseminated as part of the full *CASPAR* data model.

Figure 5: CFA data elements

Level	Element Name	Description	Example
Management Group (1)	Management Group Title	The title of the archival management group	Archaeological Archives
Group (2)	Group Reference Code	The reference code for the archival group. In CFA practice this equates to the Project No.	Project No. 250
	Group Title	The title of the archival group. In CFA practice this equates to the Project Name	Old Wardour Castle Archive
Sub-Group (2.5)	Sub-Group Title	The title of the archival sub-group	Site Archive
Class (3)	Class Reference Code	The reference code of the archival class. In CFA practice this equates to the Archive Index No.	1.13
	Class Title	The title of the archival class	Original Sample Records
Sub-Class (3.5)	Sub-Class Title	The title of the archival sub-class	Environmental Evaluation Sheets

Level	Element Name	Description	Example
Item (4)	Item Reference Code	The reference code for the archival item. In CFA practice this equates to the Accession No.	12345
	Fieldwork Event No.	The reference code for the fieldwork event within the project, with which the item is associated	1989a
	First Record No.	The first record number in the range covered by the item	1001
	Last Record No.	The last record number in the range covered by the item	1053
	Non-Record No. Type	The type of number associated with the item, if not part of the project record no. series	Sheet
	First Non-Record No.	The first non-record number in the range covered by the item	1
	Last Non-Record No.	The last non-record number in the range covered by the item	11
	Item Description	A free text description of the item, containing any information not covered by other data elements	
	Item Size	The physical size of the item	A4
	Item Format	The physical format of the item	Proforma

5 Implementing the model

This model is designed to be independent of any particular system of implementation; it is intended to be equally applicable to card catalogues and relational databases. However, it is undoubtedly true that the widespread availability of PCS, combined with the increasing use of relational database software amongst those involved in archaeology, makes the latter an attractive option.

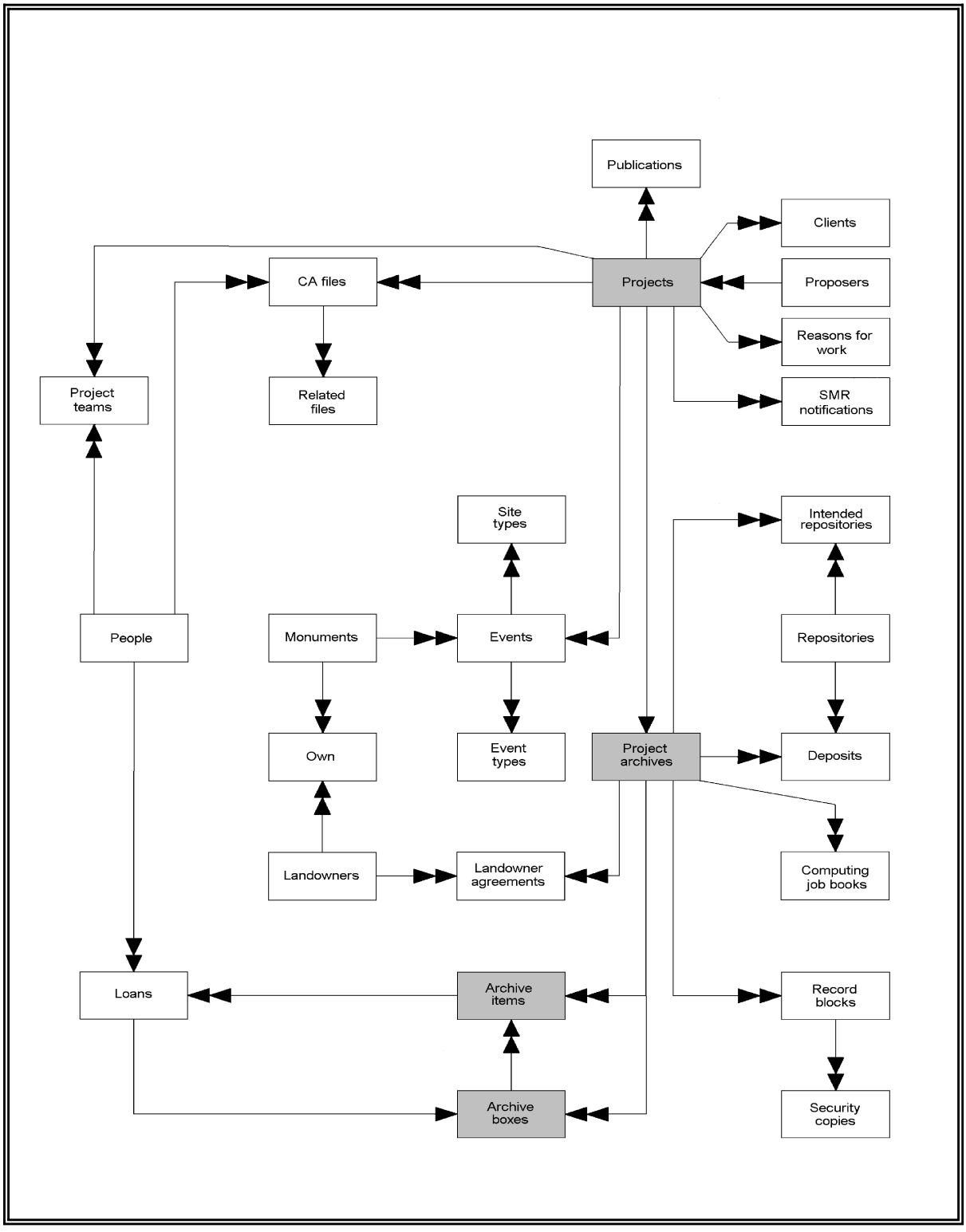
The CFA has been using databases to manage its archives since 1990. The original system, which used the *Delilah* database software, comprised a flat file structure, with one record for each project archive. Within a record, each class of archive material was represented by a separate field, containing a free text description of the items in that class. The limitations of such a structure are obvious: for example, it is impossible to control the format of entries, or impose any kind of glossary control, and the possibilities for searching or retrieval of information are severely restricted.

In 1997 the IMC section began developing a new, relational database system to meet its requirements. *CASPAR* (the CAS Projects and ARchives system) holds core information on every project undertaken by the former CAS, together with detailed information on the related project archives, and utilises the new model for archival description. The design of the system is based upon existing data standards and data models for heritage database systems (e.g. CIDOC, 1995, RCHME, 1993, and RCHME, 1998). However, these standards are primarily concerned with monuments and fieldwork events, and do not cover archaeological archives in any detail.

The CFA implementation of the archival description model is best illustrated by means of a data model, which shows the relationships between individual tables in the database (see *Figure 6*). The parts of the data model most relevant to this paper are highlighted. In principle, each level of description is stored within a separate table, the fields of that table equating to the appropriate data elements. However, in practice some levels have been combined in single tables. Information on individual projects is related to a separate table holding basic information about the project archive as a whole, such as intended or actual repositories, and dates of deposition. This equates to the Level 2 description in the conceptual model. Records for individual items within the archive are stored in another related table, equating to the Level 4 (item) description. The physical locations of individual archive items are then recorded by placing them within archive boxes, information about which is stored in a fourth table. In the future, it is hoped to provide a link between the archive item record and the related records on the site database, which represent the Level 5 (piece) description.

Full details of the *CASPAR* data model will be disseminated as the next stage in this consultation process.

Figure 6: The *CASPAR* data model, highlighting the archive elements



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