Historical Research and Cataloging Using a Combination of Portable TRS-80 Model 100 and the Pick Database System on an IBM-XT

by David L. Clark¹ 24851 Piuma Road Malibu, CA 90265 (818) 888-9305 Source Mail BBJ 949 The purpose of this presentation is to obtain your comments and assistance in devising a standard data entry form which could be used by both researchers and libraries for historical and other materials in the social sciences and humanities. The computer offers the potential of greatly improving the efficiency and usefulness of the cataloging activities of libraries and the research activities of the individual scholar. Yet the person or institution seeking to realize the promise and potential of this 'Brave New World' of easy information interchange most often receives as a reply that terrible phrase which threatens to become the foremost cliché of our time: "But it's not compatible."

The use of a standard form incorporated in a database system would allow both researchers and libraries to take much greater advantage of library resources and of cataloging efforts. For example, when a library sells copies of its historical photographs the institution could also sell copies of the database catalogue entries for those photos, including descriptions, identification of people and places, and Library of Congress subject terms for database searching. The library could sell the catalogue entries in electronic form, either on diskettes, over the telephone line or by transfer directly to the memory of a portable computer such as the Radio Shack Model 100.

The library could also tap into the expertise of researchers much more easily and productively if the scholar's information and identification of dubious items could be transferred from the researcher's database into the library's. Most of a researcher's work never reaches the printed page. It is stored on 3-by-5 cards, handwritten in cryptic note-taking style and virtually beyond retrieval by the person who wrote them two years later. There has been no mechanism for treating such work as an inventory upon which to draw after the current project is finished. Computer database management offers such a mechanism.

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Securing the adoption of a common database entry form on a grand scale would probably prove as difficult as persuading all of the NATO countries to adopt the same rifle. Some will insist upon keeping incompatible weaponry. particularly if it is manufactured locally. However the concept of a common form can prove useful even on a very limited scale. among a group of scholars and/or libraries working in the same field. For example, there are perhaps a dozen libraries with significant holdings of historical photographs of Southern California, and several hundred active professional and amateur historians. Such a group could exchange the information of greatest interest to it in a common form. The idea would gain impetus when researchers and publishers who purchase photographs begin to prefer one library over another on the basis of its ability to provide electronic copies of

database entries for its photographs.

The program that I have written uses the Model 100 for data entry in the field and the Pick Operating System on a larger computer for managing and utilizing the database. The Radio Shack Model 100 is ideal for straight-forward data entry in libraries, archives and other field locations. This portable computer weighs only four pounds and can be powered by four penlight batteries. The screen is very readable. and may be used on a full time basis without evestrain. With 32,000 characters of memory, the machine costs only \$450. Cost is a particularly important factor when considering the hazards to which a portable machine is subject. Data entered on the Model 100 may be transferred to a small cassette tape recorder (cost: \$35) or to a portable disk drive (cost: \$200). The Model 100 has standard serial and parallel printer outlets. The portable printer supplied by Radio Shack costs \$200 and will print on either plain or thermal paper. The Model 100 also includes a modem for transferring information over the telephone, and a bar-code reader outlet.

Accompanying this paper, to illustrate the database entry process on the Model 100, are examples from work on a history of UCLA and the cataloging of historical photographs from the Security Pacific Collection. I have included a copy of the procedure in the hope of obtaining your suggestions for improvement.

Figures #11 and #12, contain a complete listing of the fields in the database in its present version. I would be grateful if you would, as you read the paper, circle those features, fields and cataloging terms that you would definitely want, cross out those for which you would not have any use, and add any which you would wish to see included, and return the listing to me. My mailing address appears at the head of this paper.

Figure #1 presents the information and choices that first appear on the screen after entering the History Database program on the Model 100. Screen #1 asks whether you wish to add new data, edit old data, print out data in the form of a report, or transfer data to another computer or to a tape recorder, disk drive or telephone. The first screen is the "Main Menu" of the program. You will always return to this point after completing any task.

Note that the first item on a list is always the "default" choice. You may select that choice simply by pressing the ENTER key, without typing a number.

Screen #2 presents the "Setup" which was in effect the last time the program was used. The Setup is a combination of the name of the Project, the name of the writer of the entries, and the type of data to be entered. (The term "Data Type" may be familiar to you as "Relation" or "Table".) A file must be created to hold your data until it transferred. The History Database program creates a name for the file from the one-letter codes for Project. Writer and Data Type. To those three letters, the program adds day of the month and an "A" for yor first file created on that day. Your choices appear at the bottom of the screen. If you choose "New Setup" you will be shown the lists of choices available for Projects, Writers and Data Types.

Screen #3 (figure #2) contains an example of a list of Projects. This list is in a text file that can easily be changed. This is also true of the lists of Writers, Data Types, names and sizes of data entry fields, size of the largest data entry form, the requirements of any database program to which you are transferring, as well as many other parameters. All important parameters can be changed without changing the programs.

Screens #4 and 5 present lists of Writers and Data Types. After choosing the new setup of Project, Writer and Data Type, the program will return to Screen #2, the "APPROVE SET" screen, for your final approval.

The following page (figure # 3) presents a guide to the data entry and editing keys used for the History Database program on the Model 100. The purpose of this program is to support research which may involve long textual entries rather than short items such as would appear an address list. Therefore full editing capabilities are provided.

Screens #6, #7, and #8 (figures #4, #6, and #8) present data entry forms for Data Types Photo Caption, Text and Bibliography. Each form encompasses one item. An Item, sometimes called a Record, is a collection of fields (or Attributes). Note that the Model 100 screen displays 8 rows of 40 characters each; therefore the data entry screens as presented are divided into multiple screens on the Model 100.

As you enter each screen, the program presents the entries most recently made for that Seup of Project, Writer and Data Type. Most data entry work involves a great deal of repetition. The program allows you to repeat automatically any information which remains the same from one entry Item (or Record) to the next. You can accept an entire field for automatic repetition, or edit the information in the field and subfields. The very long descriptive field which appears at the bottom of the Photo Caption and Text entry forms is not repeated, it is left blank for new information.

The field entries available for automatic repetition are taken from the most recent entries, even if the computer has been turned off or used for other tasks in the meantime. The program will always return to the point at which you left it. Thus, if you are resuming data entry after an interruption, you can return to your entry form with only two keystrokes: press ENTER on Screen #1 for the first choice of Add New Data, then press ENTER on screen #2 to approve the same Setup and Data File name, and the program will present your previous field entries for approval or change.

The first field, "Temporary", (see figure #4) is a place marker. The program will automatically enter the word "New" in that field. When the file is transferred to the database program on an IBM-XT, the larger database program will automatically present for your approval the Items which contain the word "New" in the Temporary field. To approve the item for admission into the database, remove the word "new". When working with the database, the Temporary field serves as a place marker, similar to a bookmark. For example, when selecting photo captions for printing, individual items might be coded "Yes" or "Maybe" in the Temporary field. Compare the data entry form to the following page (figure #5), which was printed with the Model 100 and the portable printer. Note that the Temporary field has not been printed, since it is only for internal use,

The fields Bibliography#, Part#, and SubPart# correspond to entries in the Bibliography and will be used to identify the sources of the photographs, the collections and libraries in which they are contained, and their format, without the need to type and store such repetitious information separately for each Item. In the example (figure #4), the photo was part of the Security Pacific Collection which is #1 on the Bibliography list, the format of the photo is 5x7, and the SubPart# field is not used, so a "1" has been entered as a dummy. The Entry# designates the data Item within a given collection. When comparing the entry form to the printed version, you will see that the program has combined Bibliography#. Part#, SubPart# and Entry# into an Item ID. separating the components with asterisks, and has made that Item ID the first field. The Item ID uniquely identifies an Item within the database. Unique identifiers are necessary for many database programs and desirable for others. When the file is transferred into a larger computer's database, Item ID can be handled with some flexibility, depending on the requirements of the larger computer's program.

The field Ref# is intended to contain any identifying number that may already been assigned to the photo or other material that you are describing. For example, when taking notes from a book, you might use the page number. The field "Units" is intended for collections. A single photo description might apply to more than one photograph. In the example, rather than entering 17 separate items for 17 photos of the construction of the Samson Tire and Rubber plant, all 17 have been included in one Item. A library patron ordering a photograph would specify the Item ID and the individual number, for example "1*57*1*1845 #13".

After the Dates on which the photos were taken, appear the fields "EraType" followed by "Era". In the same manner, the field "Location" is followed by "AreaType", then by "Area". In the printed report the History Database program pairs the "Type" field entries their counterparts in the descriptive fields. Thus: "EraType: Decade Era: 1920; 1930" on the entry form has become "Decade: 1920;1930" in the printed report, and "AreaType: City: County area: City of Commerce; Los Angeles" has become "City: City of Commerce County: Los Angeles". The format of Type-Description pairs allows the accommodation of new and unexpected needs without requiring changes in the data structure. For example, "Type" of geographic area might be a city, county, state, or other entity. In Los Angeles, most of us refer to ourselves as living in communities, such as Hollywood or Venice, which have no incorporated legal status. For some research purposes, the relevant area might be the Congressional District or the Census District. For other purposes one might speak of an Irrigation District, a Federal Court District, or a Parish. The variety of such designations defy all attempts to lock a particular term into a database within a reasonable total number of fields. Therefore the Type-Description pair allows you to designate the type of unit that is relevant to your purpose while maintaining a structured format. One could not simply have an Area field and write in "Los Angeles." because no one would know whether you meant the city, the county or the state of mind.

In addition to allowing you to designate the relevant "Type" of unit, the Type-Description pairs also allow multiple entries, such as "Community: Venice" followed by "City: Los Angeles". Multiple entries in a single field are referred to as Multi-Values or Sub-Fields. In the example, the History Database program has separated and paired off the Sub-Fields to produce a clear printed report. A prime reason for choosing the Pick System to manage the database after entry onto the IBM-XT is Pick's handling of Sub-Fields. Pick can be used to create "Controlling - Dependent" relationships between fields and between their corresponding Sub-Fields. Thus, PICK can be used to select Items in the database from the city of Los Angeles but not including everything from the entire county of Los Angeles, even though there are no fixed City and County fields defined. You can designate: If City = "Los Angeles"

when conducting a search and retrieve only those Items in which you specified the correponding AreaType as "City".

Pick will also treat the Sub-Fields as separate entities for Global Search and Replace and for Correpondence Tables. When Pick stores an Item, the Pick System keeps the fields separate and within each field also keeps the Sub-Fields separate. Thus, if the Library of Congress changes a standard subject term from "Agricultural utensils" to "Farm tools" you can make that change throughout your database with one command, whether or not your Subjects field contains multiple entries. Other database programs, such as Rbase, will treat the entire Subjects field as one entry, even though you may have placed multiple subjects there. Thus with Rbase, the Global Search and Replace command is only useful for single-entry fields.

Free Text systems, which some researchers and libraries have adopted in the mistaken belief that such programs are simpler to learn than database programs, will not perform Global Search and Replace at all. To change "Agricultural utensils" to "Farm tools", you would have to make the change in each individual Item. One alternative is to load the entire database into a word processor, and make the change with the word processor's Replace command, but a word processor does not know one field from another, and would make other. unexpected, changes. The cataloging of materials, whether by a researcher or a library. is very straight-forward database usage. To adopt a Free Text program for such a purpose would be inefficient. The History Database program which I have placed on the Model 100 includes features to facilitate a changeover from Free Text to database, or from one database program such as Rbase to Pick. Thus, after a data Item has been created, during the transfer process, one can choose to send only certain fields to one program and other fields to another.

Continuing with the entry form (figure #4), the field Project indicates the particular project for which the research was conducted. In an institutional context, the entry might be the name of a department or funding source. The following two fields, FileHead and Topics, are dependent upon the field Project in the sort of Controlling-Dependent relationship mentioned earlier. In my example, the Project is "Security Pacific" for the cataloging of the collection of Security Pacific photographs. The FileHead "Factories-Rubber industry and trade" designates the label on the file folder in which the photographs have been placed within the Security Pacific Collection and would not be confused with a similar file heading that might be used in the Business Department of the library.

A researcher might enter into the Project field the title of a book on which he was working. and FileHead could be used to indicate the chapter in which he expected to place the information. Thus in another example, I named the Project "UCLA History", to indicate a book I am struggling to finish: the FileHead is "Graduate School Founding-Opposition by the Regents" to indicate the relevant chapter and subchapter. A scholar might be working on several different books at the same time, and could indicate the relevance of the information for different chapters in different books. A library might also be combining funding from several sources or wish to designate where a photo might be used in an exhibit in addition to its placement within a collection. Thus to the Project field could be added the name of an upcomg exhibit such as "Los Angeles at Work" and to the FileHead field one could add, in a corresponding position, "Factory Architecture", The field Topics contains subject headings which pertain only to a given project, and should not be confused with the standard Library of Congress subject headings in our Subjects field. Since standard subject terms are preferable, the use of the Topics fields should be limited as much as possible.

Because the Pick System allows us to create Correspondence Tables, even when a field contains multiple entries, we can make our work much faster and productive in several ways. For example, the researcher can indicate the order in which he expects the chapters and subchapters to appear. The table consists simply of his book outline, with rows of chapter names in one column and corresponding numbers in another. When the researcher is ready to write a chapter, he can bring the information from his database into the word processor sorted in the order of his outline. If he wishes to change the order, he need only change the outline.

The program will also deliver the information with a footnote attached. To construct the footnote, Pick will use information regarding sources from the Bibliography, for which reason the Text or Photo Caption Item contains the Bibliography# of the corresponding Item in the Bibliography list.

Just as a researcher retrieves information for his book, in the same manner a library can easily give its staff a list of photos to be retrieved in the order in which they are filed, even when different ordering systems have been used for prints and negatives. To change the order on the computer, one need only change the table.

A Correspondence Table can also be used to check the terms that are entered. Thus, if you type a file heading or chapter name that does not appear on the approved list for the FileHead field, the program will return it as an incorrect entry. This prevents the typing errors and other mistakes that plague cataloging. A single mis-typed letter will often place an Item beyond retrieval. Lists can be created with the name of each allowable Project, FileHead, Topic, EraType, AreaType, etc. Pick also contains a feature called "Soundex" which allows one to search for variations of names, as long as the sound of the name remains similar. The Correspondence Table used for error checking can also be used for abbreviations. Enclosed are examples of each table. Rather than writing "Census District" as the AreaType, one could type "cs". Whether you typed "cs" or "Census District" the program would take up only the storage space required for "cs". When the data are printed or displayed on the screen. the program automatically converts "cs" to "Census District". You could search for the AreaType as either "cs" or "Census District". The shorter format would be easier for someone entering many Items, the longer format might be easier for someone who did only occasional searching. The Pick system provides extensive facilities for such conversions between internal and external formats.

Pick can also create Virtual Fields or Symbolic Fields which contain no data of their own, but which display the results of manipulating other fields. Thus although the Photo Caption entry contains no designations for Source or Collection, one could search for such fields, because Pick would take the information from the Bibliography, just as it did when constructing the footnote mentioned above.

To finish the Photo Caption form, we enter under Names the names of relevant individuals and companies, and under Subjects, standard Library of Congress headings. It should be stressed that the use of standard subject terms is absolutely essential. It is easy to believe, in the beginning, that you can simply create your own terms as you proceed, but you will soon find that you have used different terms at different times for the same purpose, making searching very difficult.

The final field, Caption, contains a description of the photographs. You will notice that the description here of the building of the "Assyrian Rubber Factory" is written in draft manuscript form, not in cryptic note-taking style. When working in a library or archives with the History Database program on the Model 100, it is actually easier and faster to type complete sentences than it was previously to scribble notes on 3-by-5 cards. When the information is retrieved a year later for use in a book or article, rather than hand-written notes which even the writer can barely decipher, one has instead a rough draft manuscript chapter, with footnotes.

The next example (figure #6) is of the Data type called "Text" which is used for textual materials, such as books and collections of private papers. The entry form is identical to that used for photographs, except that the last field is labelled Text rather than Caption. The last field again contains the main descriptive entry, which in the example (figure #7) is a description of the struggle in the 1930s to found a Graduate School at UCLA. The description is written in manuscript style, but took no more time to write than did scribbled notes previously.

The final examples (figures #8, #9, and #10) of the bibliographic entries which support the Photo Caption and Text entries shown earlier. The bibliographic material can be long and detailed, because it is only entered once, rather than repeated in each Text or Photo Item. The top half of the Bibliography form also includes Location, Project, Subjects, etc.

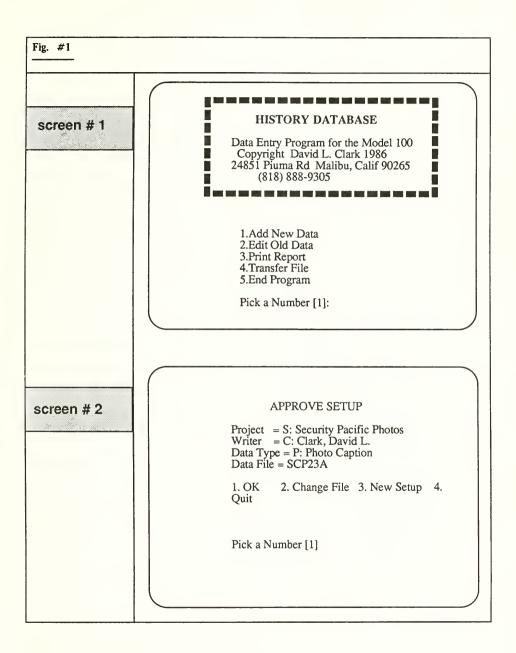
Please note that there is very little penalty under Pick for fields that often not used. Pick uses variable-length fields; It will take up room only for the data that you enter, plus a single character used to separate one field from another. A fixed-field system such as Rbase requires that you specify the length of each field, and each field will take the predetermined amount of space whether or not there is anything entered.

One rationale in the past for the adoption of Free Text programs has been that they often permit variable length fields. However, they do not allow you to do anything with the data once it is entered, other than to change it item by item. Free Text programs use the computer as a glorified typewriter and filing cabinet. In addition, a Free Text program such as InMagic will require several times more space for field indexing than a fixed-field program such as Rbase would have used. InMagic will not search fields that have not been indexed, so in effect indexing is required. Pick does not require indexing, it does not require fixed-length fields, and it allows full manipulation of your data.

The bottom half of the Bibliography form (figure #8) contains the fields SourceType. Source and ColType, Collection. These are Type-Description pairs similar to EraType and AreaType shown earlier. Thus you could indicate that the "Type" of Source involved was an Author, a Photographer, a person who was interviewed, a correspondent, or an Organization such as the Census Bureau or General Motors. The "Type" of Collection could be Archives or a Collection of papers. The Collection field indicates the relationship between an Item of information and some larger body of information in which the Item is contained. Defining that relationship may call for some creative thinking, because the individual photo or piece of data will often be contained in other entities which are in turn contained in other collections and so on, several levels deep. The Type-Description pair will allow you to include all the levels, and indicate just what sort of object is involved in each case.

The Category field might indicate Photographs, Published Materials, Unpublished Papers and Ephemera, to provide separate listings in the bibliography of a book, or for a library organizing its materials. The Format field will be most usefully applied to photographs or other materials whose format determines physical storage location. If desired, the Format from the Bibliography can be used automatically as the Part# in the ItemID. The Note field contains extra remarks. Publisher, Place and Volume, Library and Call # would help you find the photo, book or journal again. The last field contains any Credit line that might be required for use of a photograph or other material.

After the material is entered, the remaining Screens on the Model 100 will guide you through the process of re-editing the data entries, printing the data, or transferring it to a larger computer. When the program transfers a file, it uses parameters previously indicated as required by the recipient database program. Thus the same data can be transferred to a variety of different programs in a compatible matter. In the same manner, a library offering information in electronic form could use the Pick System to export the information in the format required by the researcher. Thus it is not necessary to achieve absolute conformity in order to have compatibility, but it will be necessary to bring to researchers and librarians an understanding of the advantages of entering all information from the first step in electronic form, such as is made possible with the Model 100, and then transferring that information into a powerful database management system such as Pick I



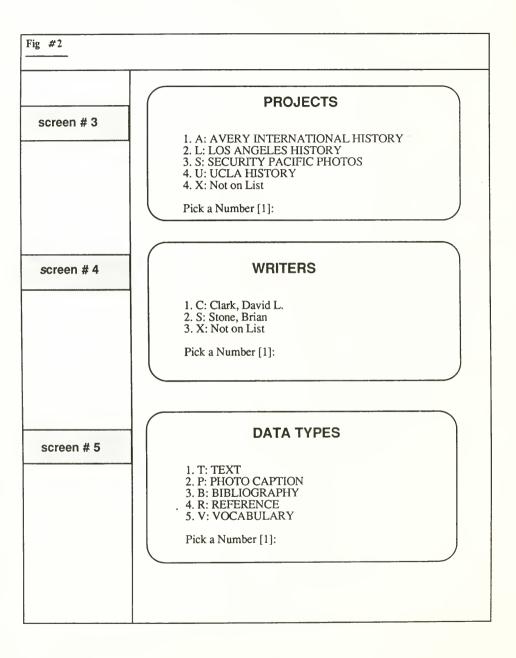


Fig. #3	
	HISTORY DATABASE Data Entry Program for the Model 100 Copyright David L. Clark 1986 24851 Piuma Rd Malibu, Calif 90265 (818) 888-9305
	DATA ENTRY NEWS PRESS KEY: TO: ENTER Send Entry to the computer, Move to the next Field ESCAPE Quit DELETE Delete 1 character BACKSPACE Backspace and erase 1 character TAB Move Right 8 characters
	ARROWS: LEFT Left 1 character RIGHT Right 1 character UP Up 1 line within Field DOWN Down 1 line within Field SHIFT-LEFT Left 8 characters SHIFT-RIGHT Right 8 characters SHIFT-UP Previous Field SHIFT-DOWN Next Field
	 CONTROL-LEFT Start of Field CONTROL-RIGHT End of Field CONTROL-UP Previous Page CONTROL-DOWN Next Page F1 Not Used on Model 100 (On IBM-XT Displays a Help Screen) F2 Clear the Field from the Cursor F3 Delete Word F4 Delete Sentence
	F5 Toggle between Insert and Over-Type modes F6 Delete Sub-Field F7 Set New ItemID F8 Quit CONTROL-P Power Off, Resume at that point when machine turned on

	DATA ENTRY FORM:	
screen #6	PHOTO CAPTION	
	Temporary:New Bibliography#:1 Part#:57 SubPart#:1 Entry#:1845 EntryDate:05/22/86 Researcher:Clark, David L. Ref#:Lot 955 Units:17 Date:05/29/1929; 12/26/1929 EraType:Decade Era:1920; 1930 Location:5725 Telegraph Rd. Area Type:City; County Area:City of Commerce; Los Angeles Project: Security Pacific FileHead:Factories-Rubber industry and trade Topics: Names:Samson Tire and Rubber Corp.; U.S. Rubber Corp. Subjects:Factories-Design and construction; Rubber industry and trade; Tire industry; Architecture, Assyrian; Wit and humor; Construction Caption:Construction of the Samson Tire and Rubber factory. Because the company name was "Samson" a Babylonian style was chosen for the building, giving it the popular name of the "Assyrian Tire Factory." Photos #1-6 The start of construction, 05/29/1929. Photos #7-17 Later construction on 12/26/1929 when the Assyrian appearance had become evident. Samson was a subsidiary of U.S. Rubber. Branch plants built by national rubber companies in L.A. in the 20s and 30s made the area 2nd to Akron in rubber.	

Fig. #5	
	David L. Clark 05/22/86 15:49
	SECURITY PACIFIC PHOTOS
	PHOTO CAPTION
	ItemID:1*57*1*1845 Bibliography#:1 Part#:57 SubPart#:1 Entry#:1845 EntryDate:05/22/86 Researcher:Clark, David L. Ref#:Lot 955 Units:17 Date:05/29/1929; 12/26/1929 Decade:1920; 1930 Location:5725 Telegraph Rd. City:City of Commerce County: Los Angeles Project:Security Pacific FileHead:Factories-Rubber industry and trade Topics: Names:Samson Tire and Rubber Corp. ; U.S. Rubber Corp. Subjects:Factories-Design and construction; Rubber industry and trade; Tire industry; Architecture, Assyrian; Wit and humor; Construction
	Caption:Construction of the Samson Tire and Rubber factory. Because the company name was "Samson" a Babylonian style was chosen for the building, giving it the popular name of the "Assyrian Tire Factory." Photos #1-6 The start of construction, 05/29/1929. Photos #7-17 Later construction on 12/26/1929 when the Assyrian appearance had become evident. Samson was a subsidiary of U.S. Rubber. Branch plants built by national rubber companies in L.A. in the 20s and 30s made the area 2nd to Akron in rubber.

creen # 7	DATA ENTRY FORM:
	TEXT
	Temporary: Bibliography# Part# SubPart# Entry# EntryDate: Researcher: Ref# Units: Date: EraType: Era Location: AreaType: Area: FileHead: Topics: Names: Subjects: Text:

Fig. #7	
	David L. Clark 05/22/86 22:51
	UCLA HISTORY
	ТЕХТ
	ItemID:6*20*10*126 Bibliography#:6 Part#:20 SubPart#:10 Entry#:126 EntryDate:05/22/86 Researcher:Clark, David L. Ref#:Page 1 Units: Date:06/12/1933 Decade:1930 Location: State:California Project:UCLA History
	FileHead:Graduate School Founding Topics: Names:UCLA Graduate School; Earl, Guy C. ; Regents of the University of California
	Subjects:Universities and colleges-Graduate work; Regionalism Text:As the Board of Regents of the University of California continued to refuse to allow graduate work to begin at UCLA, Edward Dickson, the Regent most active in promoting UCLA, expressed his reaction in a letter to his friend and fellow Regent Guy Earl. Dickson portrayed all of Southern California as up in arms over the "outrage" perpetrated of the Southland by the Berkeley-dominated board, "The people here are indignant. There is growing resentment. They were led to believe that at last the stigma that attaches to the University here as not being able to undertake graduate work was to be removed Now we may look forward to years of warfare."

	-	DATA ENTRY FO	RM:	
sreen #8		BIBLIOGRA		
	Temporary: Bibliography# EntryDate: Ref# EraType: Location: AreaType: Area: FileHead: Topics: Names: Subjects: SourceType: Source: ColType: Collection: Title:	Part# SubPart# Researcher: Units: Date: Era:	Entry#	
	Category: Note:	Format:		
	Publisher: Place: Library: Credit	Volume: Call#		

Fig. #9	
	David L. Clark 05/22/86 15:53
	SECURITY PACIFIC PHOTOS
	BIBLIOGRAPHY
	ItemID:1*57*1*1 Bibliography#:1 Part#:57 SubPart#:1 Entry#:1 EntryDate:05/21/86 Researcher:Clark, David L. Ref#: Units:100000 Date: Decade:1920; 1930 Location: State:California Region:Southern California Project:NEH-Security Pacific FileHead:California-History Topics: Names:Los Angeles Chamber of Commerce Subjects:California-History; Economic history; Industry; Factories Organization:Los Angeles Chamber of Commerce Donor: Security Pacific National Bank Collection:Security Pacific Title:
	Category:Photos Format:5x7 BW Note:
	Publisher:
	Place: Volume:
	Library:L.A. Public Library Call#:History Dept.
	Credit:L.A. Public Library/Security Pacific Photo Collection

Fig. #10	
	David L. Clark 05/22/86 23:04
	UCLA HISTORY
	BIBLIOGRAPHY
	ItemID:6*20*10*1 Bibliography#:6 Part#:20 SubPart:#10 Entry#:1 EntryDate:05/22/86 Researcher:Clark, David L. Ref#: Units: Date: Decade:1910; 1920; 1930; 1940 Location: State:California Project:UCLA History
	FileHead: Topics: Names:Dickson, Edward A.; UCLA Subjects:Universities and colleges Source:Dickson, Edward A. Collection:Dickson, Edward A., Private Paper Title:
	Category:Unpublished papers Format:
	Note:The papers are stored in 27 boxes. The Part# refers to the box, the SubPart# indicates the folder.
	Publisher: Place: Volume: Library:UCLA Special Collections Call#:Dickson Papers Credit:

g. #11		
	HISTORY DATABASE C	
	HISTORY DATABASE C	CODES David L. Clark 05/08/86 Page 1
	Circle the items that you v	would definitely want included.
		at you would have no use for.
	Add any new items that y	
	i de any non nome mary	
	SOURCE:	
	ac = Architect	io = Journal
	ag k= Agency	si = Series
	at = Artist	
	au = Author	
	bd = Builder	ERA:
	bu = Bureau	ce = Century
	cp = Company	de = Decade
	cr = Correspondent	dm = DayOfMonth
	ct = Collector	dw = DayOfWeek
	de = Department	er = Era
	dv = Division	hc = HalfCentury
	do = Donor	mo = Month
	ed = Editor	sa = Season
	gr = Group	sf = Shift
	in = Interviewee	tm = Time
	ir = Interviewer	we = Week
	iv = Inventor	ye = Year
	mf = Manufacturer	
	of = Office	
	or = Organization	AREA:
	ow = Owner	ad = AssemblyDistrict
	pa = Painter	ao = Arrondisement
	ph = Photographer	ar = Area
	rc = Recipient	as = AssessmentDistrict
	sc = Sculptor	bo = Borough
	se = Section	cc = CouncilDistrict
	so = Source	cd = CongressionalDistrict
	wr = Writer	ce = Commune
		ci = City
	COLLECTION:	cm = Community
	av = Archives	cs = CensusDistrict
		cu = County
	fi = File	de = Department
	ne = Newspaper	di = District

STORY DATABASE CO	DES David L. Clark 05/08/86 Page 2
ds = Diocese ed = EnumerationDistrict	
fc = FederalCourtDistrict	
id = ImigationDistrict	
ld = LegislativeDistrict	
ma = Map mc = MapCoordinates	
md = MarketDistrict	
mn = MapName	
mp = MapPage ms = MapSection	
na = Nation	
nd = NationalAssemblyDistri	ict
ne = Neighborhood pa = Parish	
pc = Precinct	
pk = Park	
pr = Province re = Region	
sa = StateAssemblyDistrict	
sd = SenatorialDistrict	
se = Section sh = SchoolDistrict	
sp = SupervisorialDistrict	
ss = StateSenatorialDistrict	
st = State su = Suburb	
te = Territory	
to = Town	
vi = Village wa = Ward	
wa = waro wd = WaterDistrict	
zc = ZipCode	

Fig. #13	
	David L. Clark 05/22/86 15:49
	SECURITY PACIFIC PHOTOS
	PHOTO CAPTION
	ItemID:1*57*1*1829 Bibliography#:1 Part#:57 SubPart#:1 Entry#:1829 EntryDate:05/15/86 Researcher:Clark, David L. Ref#:Lot 955 Units:9 Date:12/31/1927 Decade:1920; 1930 Location:1200 No. Main St. City:Los Angeles County:Los Angeles Project:NEH-Security Pacific FileHead:Factories-Steel industry and trade Topics: Names:Llewellyn Iron Works; Union Iron Works; Columbia Steel Corp. Subjects:Factories; Steel industry and trade; Iron industry and trade; Metal trade; Boilers Caption:The Llewellyn Iron Works, which in 1930 was absorbed into the Union Iron Works. Photo #1 Administration building. #2 Machine shop. #33-4 Swinging fabricated steel trestles on an overhead track to the paint shop. #5 A 32 ton housing cast by the Columbia Steel Corp. of Torrance and machined by Llewellyn. #6 An hydraulic riveter. #7 The forge shop making a huge drive shaft for steamships. #8 The vertical boring mill. #9 Making boilers.