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# NATIONAL MUSEUM OF AMERICAN HISTORY

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SCIENCE, TECHNOLOGY, AND CULTURE

*Office of the Director*

March 5, 1987

Mrs. Gwen Bell  
Director  
Computer Museum  
300 Congress Street  
Boston, MA 02210

Dear Gwen:

Enclosed is our official version of the memorandum of understanding that you recently negotiated with Drs. David Allison and Paul Ceruzzi. We are delighted to make the good relations between our institutions more formal.

Sincerely,



Roger G. Kennedy  
Director

Enclosure

cc Bob Adams -

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE DIVISION OF COMPUTERS, INFORMATION, AND SOCIETY  
NATIONAL MUSEUM OF AMERICAN HISTORY,  
THE DEPARTMENT OF SPACE SCIENCE AND EXPLORATION  
NATIONAL AIR AND SPACE MUSEUM,  
SMITHSONIAN INSTITUTION, WASHINGTON, DC

AND

THE COMPUTER MUSEUM  
BOSTON, MASSACHUSETTS

**PURPOSE:** To promote and foster historical research, preservation, and exhibitry related to information technologies, especially digital electronic computers, and their social and cultural context. More specifically, to determine ways in which the Smithsonian Institution and the Computer Museum, with their varied but related interests and objectives, can effectively cooperate to achieve this goal.

**AREAS OF COOPERATION:**

1. **ARTIFACTS:** The two institutions will work together to develop a union list of their artifact collections. Its purpose will be to help prevent unnecessary duplicate collecting and to identify areas requiring further collecting in order to ensure that significant historical artifacts have been permanently preserved. Once the collections of the two institutions have been suitably cataloged, the two institutions will work to expand the union list to cover other repositories that are also collecting and maintaining important historical artifacts.

In addition to cooperation on union lists, the two institutions will work together to foster appropriate loans of artifacts for exhibit and display.

2. **FILMS AND OTHER ARCHIVAL MATERIAL:** The two institutions will share information about their film and archival collections in the interest of developing both complementary collections and complementary collection strategies.

3. PROGRAM INFORMATION: The two institutions will keep each other well informed about significant program plans that will affect the other and also share results of research, publication, and exhibiting activity. The sharing will be through both formal and informal channels. For example, the two institutions will invite representatives of the other regularly to seminars, colloquia, and other significant events related to program development.
4. ADVISORY COMMITTEES: Representatives of the two organizations will be invited to sit on appropriate advisory committees for the other institution. The goal is not interlocking direction, but rather shared information.
5. INFORMAL CONTACTS: Representatives of the two organizations will be encouraged to visit the other institution regularly to maintain good informal contact.
6. JOINT INTERNSHIPS: The two institutions will explore the possibilities of formally encouraging scholars to spend time conducting research in both institutions in order to broaden their research experience.
7. DATA LINK: The two institutions will explore the idea of establishing a data link to facilitate general information flow and also provide ready access to holdings information.

Cat. No.	Specimen	Placed
87.41	Magnetic shift register	
Acc. No.		
1987.0041		
Negative No.	Source Gift	Date
	Vincent E. Giuliano	12/21/86
	241 Glezen Lane	
	Wayland, MA 01778	

**Description**

A digital magnetic shift register from the Harvard Mark IV computer. It is one of 200 used in the computer. The Mark IV was built under Howard Aiken's supervision in 1951/52; it was wrecked in 1958 or 1959. This was the first use of magnetic cores in a working computer and was the first use of magnetic shift registers for digital storage in a working computer.

The unit is mounted in a metal rack, which has a handle at the top to allow the unit to be pulled out of the computer for servicing. There are four metal rods which run end-to-end in the rack. These rods hold the magnetic cores. Three rods hold 32 cores; the fourth holds 34 cores. The cores are separated by holders attached to the rods as well as by insulators and magnetic isolators. The cores are also linked by rectifiers and resistors. Each core is approx. 5/8" in dia. and is wound with fine copper wire. The unit was driven by 4 6V6 vacuum tubes, which are missing. They were mounted at the top of the rack (handle end).

Dimensions:      29" long (incl. handle)  
                      4-7/8" square

77716846/83189H89

CAT. NO.  
323,496

SPECIMEN  
Computer, UNIVAC I, #1

ACC. NO.  
243,210

SOURCE Transfer from  
Department of Commerce  
Bureau of the Census  
Office Services Branch  
Suitland, Maryland

DESCRIPTION

Through: Mr. Richard M. Scammon, Director  
Bureau of the Census

PLACED

CB069-TAPE  
UNIT  
EXH. TANK UNIT

DATE Oct. 31, 1963

Tape drive: front rear (exp.)  
Neg. # 61,745 + 61,745-A

Magnetic Tape Transport unit; acquisition cost \$18,000.

Marked on front of cabinet: "UNIVAC by Remington Rand."  
Aluminum cabinet, 21-1/2" deep (52 cm.); 29-1/2" wide (75 cm.);  
61" high (155 cm.). The cabinet's light gray front is  
removable, this has a clear plastic panel in the lower front

DIVISION OF Physical Sciences

(over)

SECTION OF

SI-MENT-101  
Rev. 9-64

SCIENCE AND TECHNOLOGY CATALOG

and sliding plastic doors at the top. The back half of the cabinet is light brown. There is a 8" fan in the back above the wooden door to the circuit. The tape unit is in the upper front of the cabinet, one tape reel is missing. The circuit appears to be intact.

Mercury tank: Unit acquisition cost of \$30,000.

Made of aluminum, the cylindrical tank is 9" diameter (23 cm.); 36" long (91.5 cm.) and 14-1/2" diameter overall (37 cm.). Marked with ink "Ser. #7." One end has two pigtail connectors each with 21 prongs. The following connectors are arranged radially around the tank: each end has 18 "L" shaped bracket connectors; one end also has 18 insulated, single pin standoff terminals; the other end also has 18 insulated, off center single pin standoff terminals; 18 plug connectors each have 2 guide pins and 14 spring clips.

UNIVAC I, #1 was the first data-processing electronic computer.

NMAH/BCM MEETING

May 15, 1987

A G E N D A

- |  |                  |
|--|------------------|
| 1. Introduction                          | Allison          |
| 2. Overview of Cataloging/Registration   | Eklund<br>Seeger |
| 3. Discussion of Fields in Object Record | All              |
| 4. Discussion of Procedures/Methods      | <u>All</u>       |

OBJECTS

OBJECT RESTRICTIONS -- PHYSICAL } changed  
OBJECT RESTRICTIONS -- LEGAL

*MASTER*

MUSEUM NUMBER  
MUSEUM NUMBER, TRANSACTION YEAR  
MUSEUM NUMBER, TRANSACTION NUMBER WITHIN YEAR  
MUSEUM NUMBER, OBJECT NUMBER WITHIN TRANSACTION  
MUSEUM NUMBER, OBJECT PART

*OTHER*

~~FORN~~ CATALOG NUMBERS (up to 3)

CURATORIAL UNIT

*Maker*  
*Manufacturer* *Name*

~~CLASS NAME (Object Name)~~ - *analog digital analog digital*  
*digit. calculators, computers, memory, processors, transducers,*  
CLASS - ALTERNATE CLASS NAME *controlled vocals.*  
OBJECT SECTION NAME

CLASS - FOREIGN NAME  
~~CLASS - PROPER NAME~~ - *(uncontrolled vocals)*  
CLASS - PROPER NAME IDENTIFIER  
CLASS - MISNOMER  
CLASS - TYPE

CLASS - SUPERCLASS IV  
CLASS - SUPERCLASS III  
CLASS - SUPERCLASS II  
~~CLASS - SUPERCLASS I~~ - *calculator (analog, digital) computer (ana + dig.) memory, processors, transducers, ephemera, controlled vocals.*

~~CLASS - SUBCLASS I~~  
~~CLASS - SUBCLASS II~~  
~~CLASS - SUBCLASS III~~  
~~CLASS - SUBCLASS IV~~ } *adjectives*

*Summary text*

DESCRIPTION, COLOR  
DESCRIPTION, MATERIAL  
DESCRIPTION, PRODUCTION METHOD/TECHNIQUE  
DESCRIPTION, SHAPE  
DESCRIPTION, STYLE  
~~DESCRIPTION, TECHNOLOGY~~ (controlled vocabulary)

MARKS, LANGUAGE  
MARKS, ALPHABET  
MARKS, ALPHANUMERIC  
MARKS, TEXT  
MARKS, NON-ALPHANUMERIC  
MARKS, Type



OBJECTS

MEASURE, VALUE  
 MEASURE, UNIT  
 ✓ MEASURE, DIMENSION (*incl. weight*)  
 MEASURE, DEVICE  
 MEASURE, TYPE  
 MEASURE, SIZE

✓ LOCATION  
 OWNER

DEPICTED - LOCATION  
 DEPICTED - CONCEPT

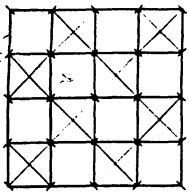
SUBJECT ASSOCIATION

✓ SUMMARY TEXT

LINK TO EVENTS  
 EVENT ID

LINK TO BIOGRAPHY  
 LINK TO OBJECT  
 LINK TO COMPANY  
 LINK TO BIBLIOGRAPHY

*Year of Manufacture*  
 ✓ *Donor (last + first name)*



# THE COMPUTER MUSEUM **NEWS RELEASE**

## **THE SMITHSONIAN INSTITUTION, NATIONAL MUSEUM OF AMERICAN HISTORY AND THE COMPUTER MUSEUM**

### **FORGE UNPRECEDENTED JOINT COLLECTING AGREEMENT**

Boston, MA - The Smithsonian Institution, National Museum of American History, and The Computer Museum have signed an historic collaborative agreement which promises to enhance the computing collections of both institutions.

"This is the first such formal joint collecting agreement the Smithsonian has made with a museum of the stature of The Computer Museum," said Dr. Arthur P. Molella, chairman of the Department of the History of Science and Technology, at the Smithsonian's National Museum of American History, and a member of The Computer Museum's Board of Directors.

The joint arrangement with the Division of Computers, Information, and Society of the National Museum of American History is broad in scope, affecting historical research, preservation and exhibitry.

The two institutions will cooperate in: creating a common catalogue or database of their collections, exchanging artifacts, sharing information about programs, research, exhibiting and publications, formally by sitting on committees, and informally through regular visits. In addition, the museums will explore joint internships to scholars in order to foster research at both institutions and the formation of a data link to improve the exchange of information.

"The field is so large and there is so much to do that it's necessary for us to make agreements in important collecting fields with the leading specialized museums," Dr. Molella explained. The Computer Museum, located in Boston, Massachusetts, is the only museum in the world devoted entirely to computers and their impact on society.

"We've cooperated in the past," he added. "The agreement is another instance of collaboration on an important technological issue shared by our institutions."

"Clearly, the computing field has come of age," said Joseph F. Cashen, executive director of The Computer Museum, "when a specialized museum such as ours and an institution as prominent as the Smithsonian make this kind of an agreement."

"Collecting should not be a competitive game," said Dr. Gwen Bell, founding president of The Computer Museum. "The agreement is a win-win situation for both museums. A specialized museum such as ours can focus on its mission, which is to collect, educate and inspire the public about the evolution of computing."

Now, with a common catalogue or database, "we can both do the best exhibitions possible," said Dr. Bell. In effect, "we are building a single collection, which keeps us from being redundant and is more time and cost efficient."

The common catalogue will also foster the historical studies of researchers and increase the general public's access to both museums, which will prevent collections from being "lost in some dusty old basement, where they do no one any good," Dr. Bell explained.

Among the artifacts already on loan to The Computer Museum from the Smithsonian: UNIMATE 1, one of the first industrial robots, Odex-1, the first commercially available walking robot, and a part of ENIAC, the first true electronic computer. In turn, The Computer Museum will cooperate with the Smithsonian on their major upcoming exhibit on the information revolution in America.

According to Cashen, such cooperative agreements between museums and educational institutions are part of The Computer Museum's long-term strategy "because they benefit the public and all the institutions involved. This agreement is the first of its type the Smithsonian has signed. We hope to forge such agreements with other institutions in the future."

The National Museum of American History, in Washington, DC, is devoted to the exhibition, care and study of artifacts that reflect the experience of the American people, and offers a variety of scholarly and public programs which interpret that experience, according to the museum.

With the largest collection of computer hardware in the world, as well as the most extensive assortment of robots, The Computer Museum has as its mission the preservation of artifacts, the study of their role in society and the education of the public with hands-on exhibits that are both fun and educational.

The Computer Museum became a private non-profit institution in 1982 and is funded through corporate and individual support, admissions, foundation and government grants.

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# NATIONAL MUSEUM OF AMERICAN HISTORY

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SCIENCE, TECHNOLOGY, AND CULTURE

June 27, 1988

Allison Stelling, Registrar  
The Computer Museum  
300 Congress Street  
Boston, MA 02210

Dear Allison:

A great pleasure to meet and talk with you in Boston the week before last. It was a very good trip both before and after Boston, and I got back last week very enthusiastic about the possibilities for The Computer Museum. In particular, I look forward to working with you to bring the joint catalog to fruition.

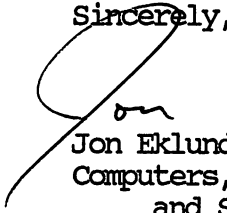
To confirm our conversation of Friday the 17th (and please call or write and tell me if this does not square with your understanding and recollections). Within a month of our conversation, you will send me: 1. a list of all of the fields you are currently using and 2. the maximum length of those fields. My job is to finish our thing within a month and so that I can turn my attention to your lists and get them into the combined database.

I hope to have our material into RBase V by July 22. If you could have an ASCII version of your stuff to me around that time I could get to work on it and perhaps have a version by September 1st.

Please do get dBase III+. It is as close to a standard for database interchange as there is, and really has some very good features if you want to do anything fancy and flexible. Many feel it still has the best database procedural programming language.

There may be another alternative. Gwen mentioned that you are using an ATT database which is supposed to be a clone of dBase III+. I think we should work toward the following standard: whatever any of us may use as a database program in day-to-day work, our software must be able to put out a version which can be taken directly into dBase III+. If you can get your stuff into that form with the ATT clone, that would be fine. In any event, I would love to get the material on or about July 22.

Sincerely,



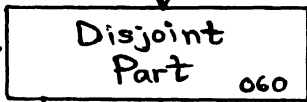
Jon Eklund, Curator  
Computers, Information  
and Society

002: Museum Index No. →  
017: Divisional Catalog No. →  
(if different)

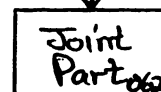
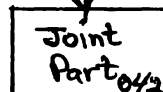
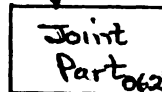
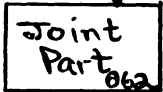
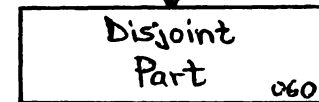


← className

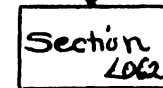
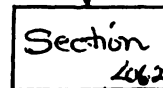
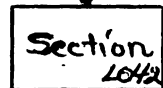
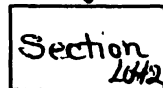
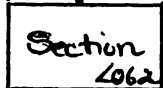
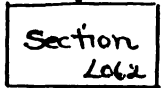
017: Divisional Catalog No. →  
(with suffix)



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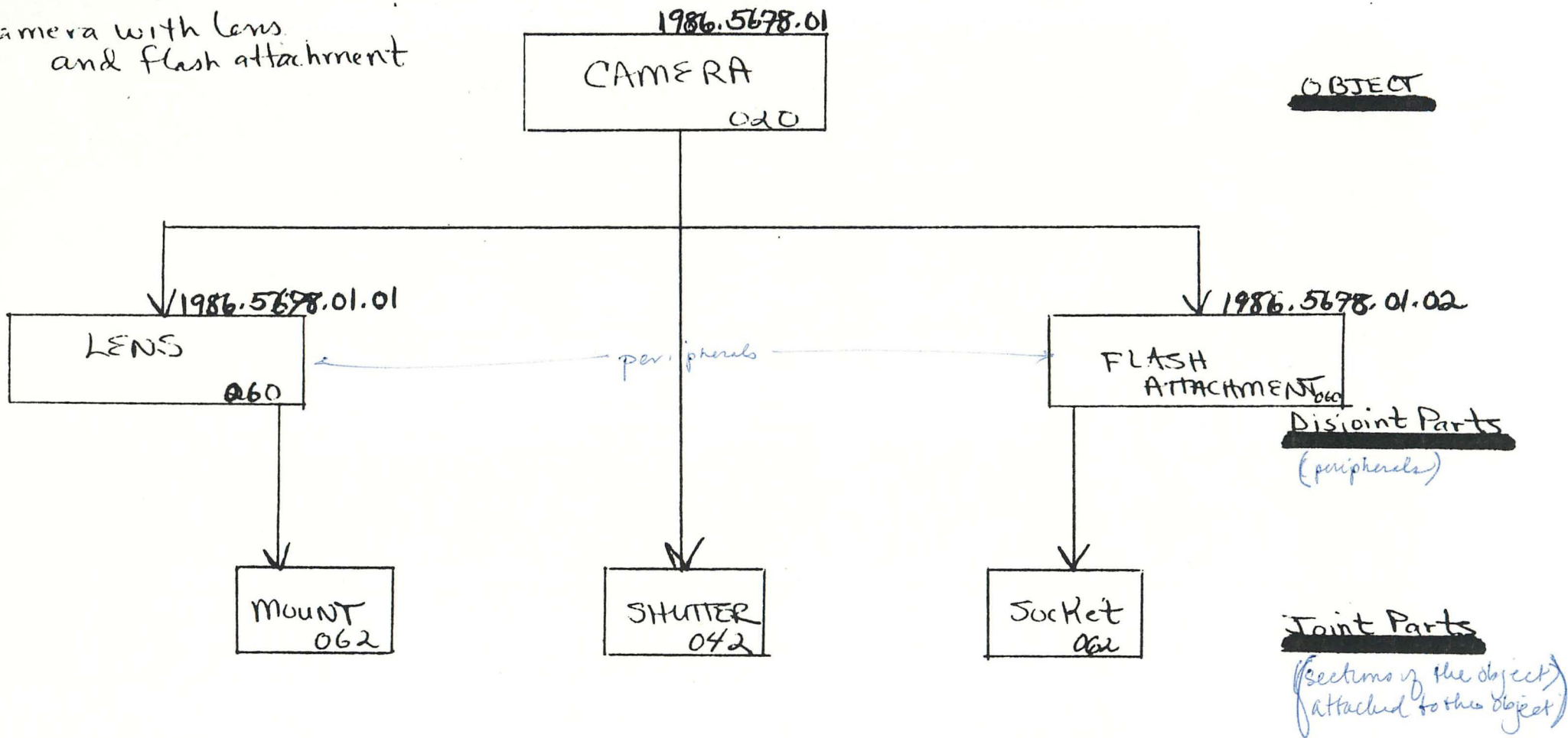


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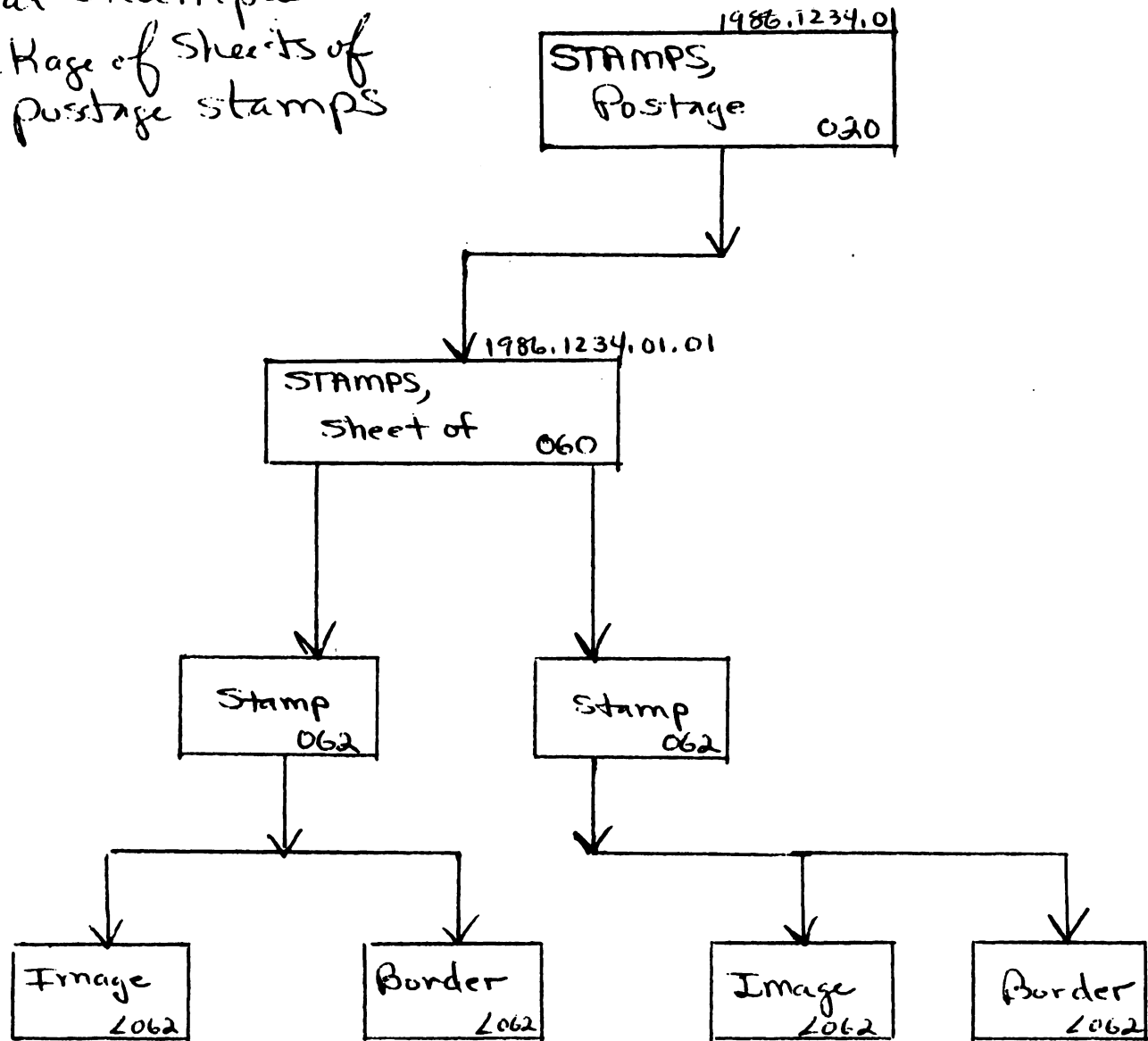


trial Example:

Camera with lens  
and flash attachment



Partial Example:  
Package of sheets of  
postage stamps



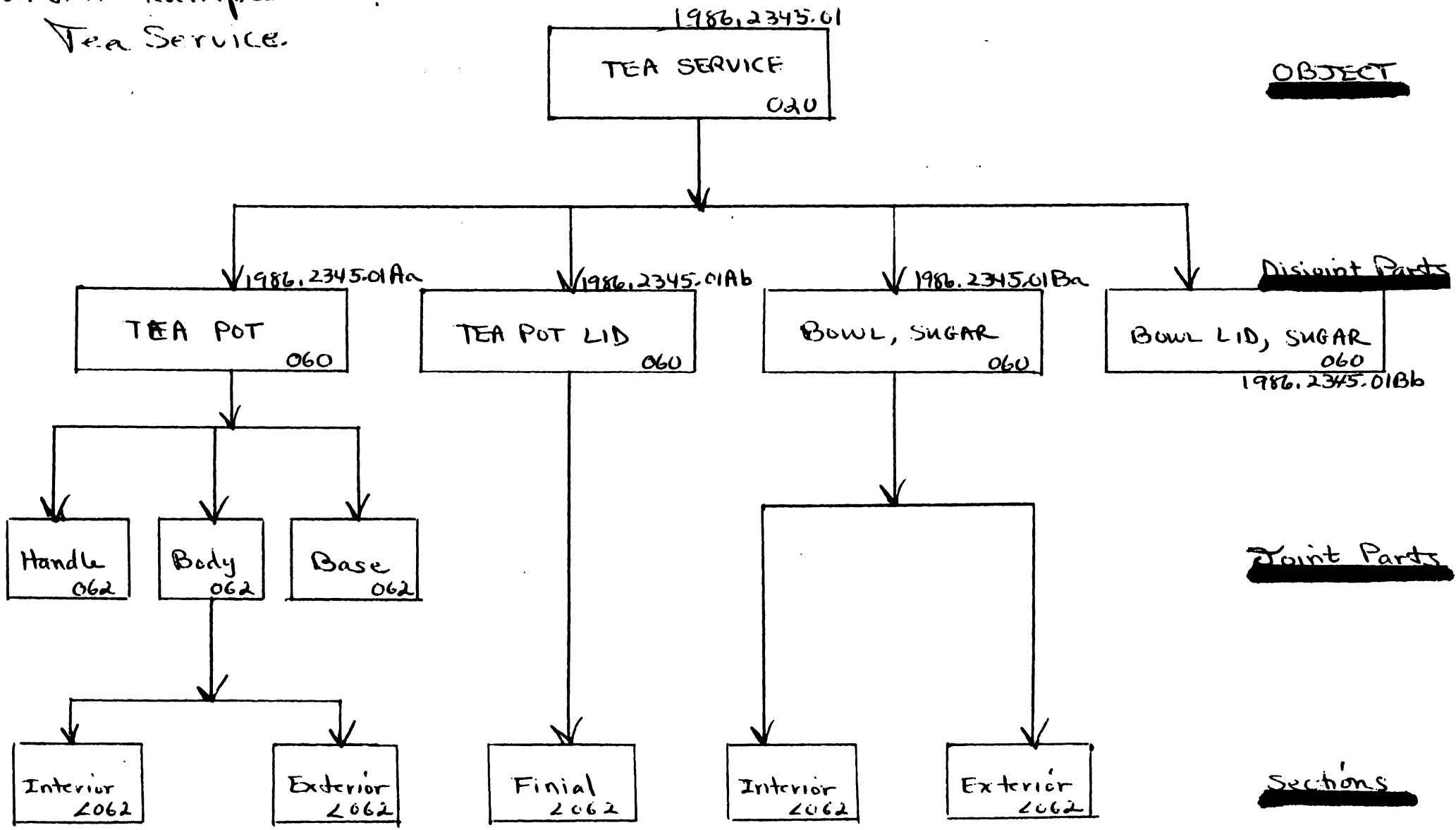
OBJECT

Disjoint Parts

Joint Parts

Sections

Partial Example:  
Tea Service.



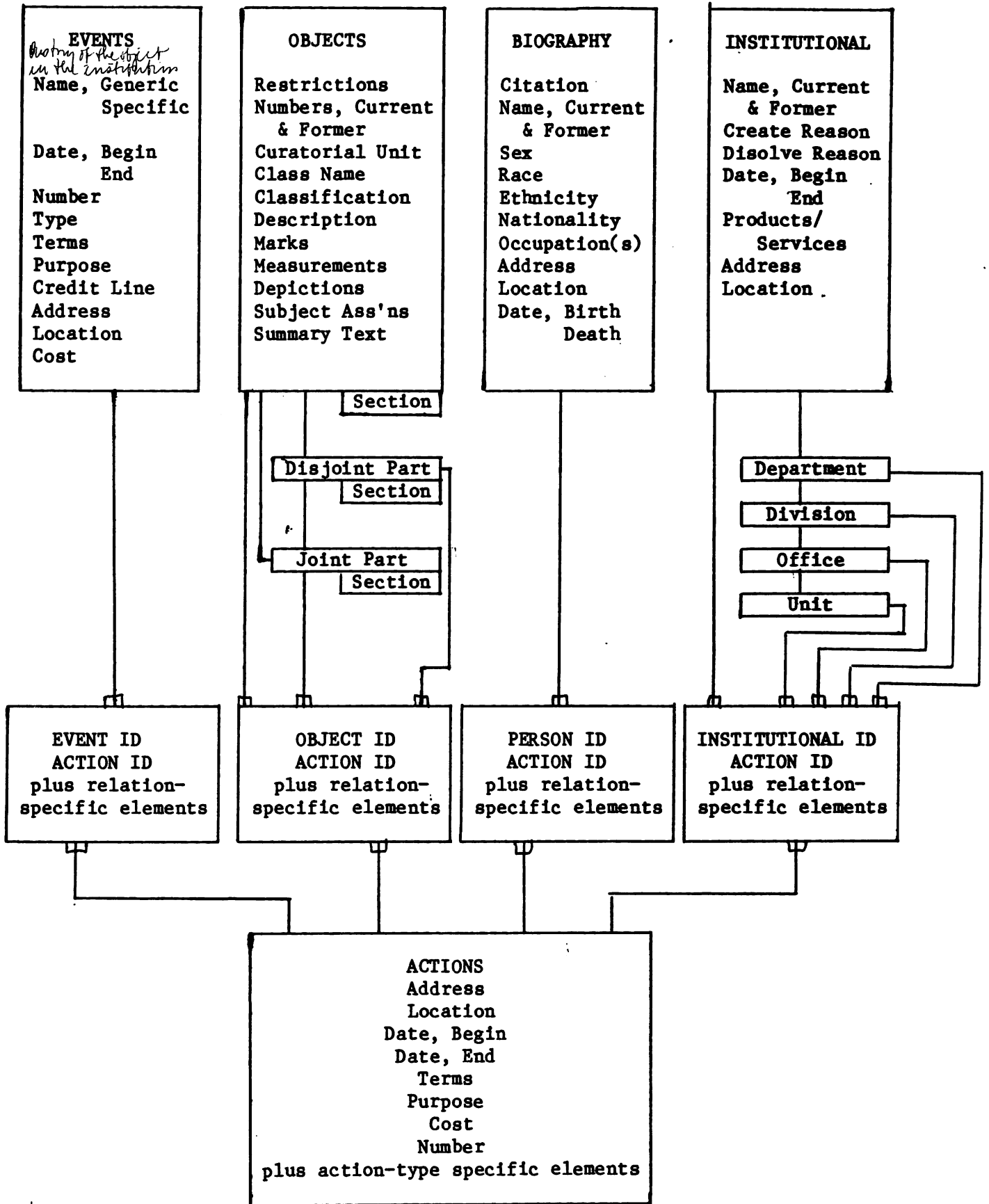
OBJECT

Disjoint Parts

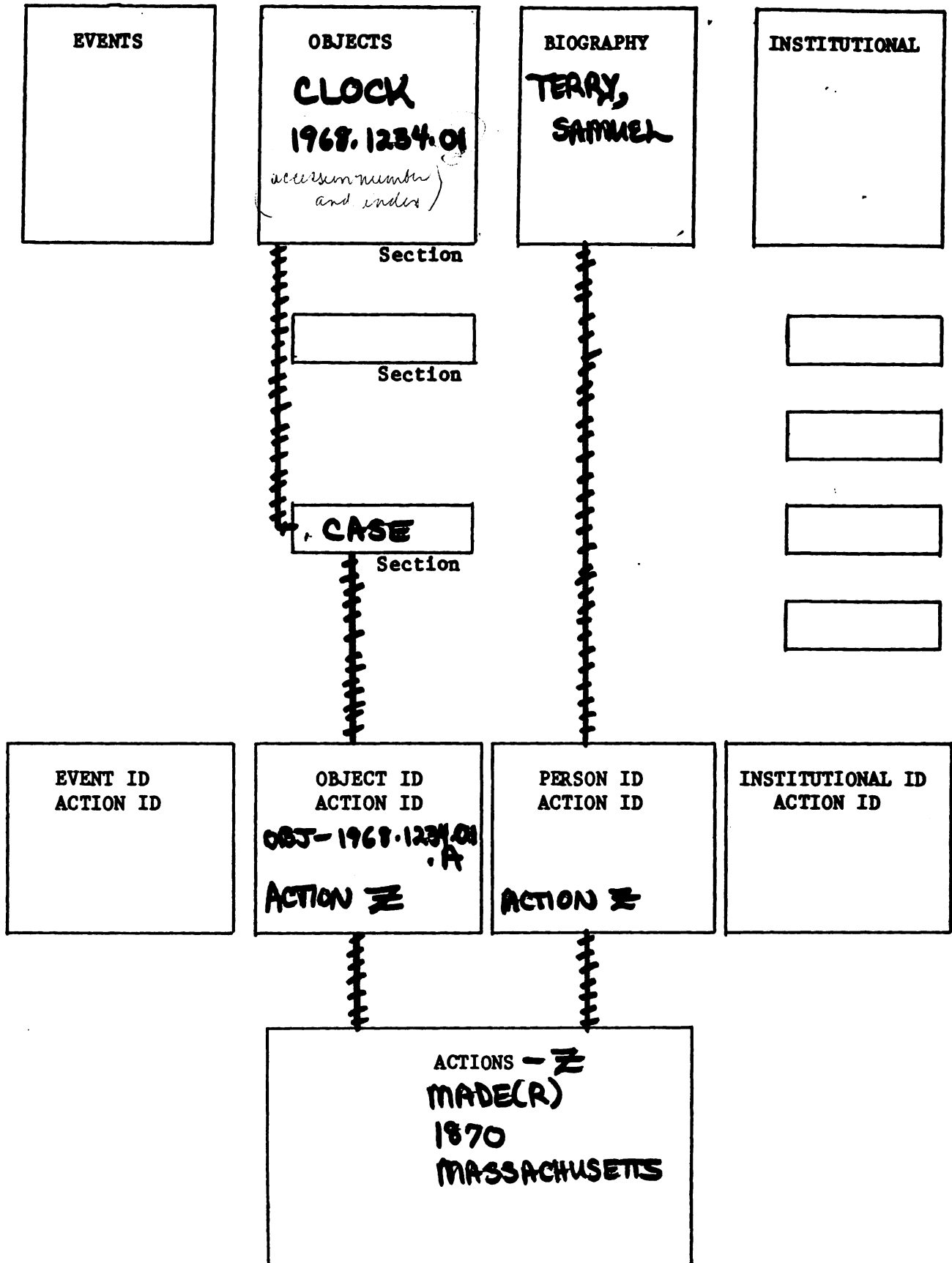
Joint Parts

Sections





NATIONAL MUSEUM OF AMERICAN HISTORY -- CIS DATA MODEL -- DRAFT -- 1 APRIL 1987  
EXAMPLES



NATIONAL MUSEUM OF AMERICAN HISTORY -- CIS DATA MODEL -- DRAFT -- 1 APRIL 1987  
 EXAMPLES

