ADMINS - for Computer Based Library Management

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INTRODUCTION

A social-survey data file may be perceived to be a handbook containing information about people. A social-survey data codebook may be perceived to be a table of contents of a particular handbook. An inventory catalogue of these handbooks (i.e. codebooks and data files) where 'author' is survey research organization and 'title' is type of survey, guides access to the location of the handbooks. A subject catalogue guides access to the content, i.e. the subject topics in the 'handbooks'. ADMINS is a computer based data management system which is used to structure, process and re-organize bibliographic data about 'handbooks'. The same system i.e. the same set of computer (programs) based sub systems, may be used--with a different emphasis on procedures--to analyze the data from various 'handbooks'. As ADMINS is an interactive system in a time sharing environment, a process catalogue keeps a record of derived data representing a users viewpoint of the collection, and a user catalogue keeps a record of use for accounting and resource allocation purposes and as a guide to system development.

INVENTORY CATALOGUE

Acquisition is the problem of recording bibliographic data about accessions of codebooks and their actual data sets. A bibliographic data item consists of actual entries as qualitative codes or numerical values under the various categories of information describing the accessions to the collection of 'handbooks'.

We type in at the time sharing console the relevant bibliographic data. TABLE 1 and TABLE 2.

We type in under control of a program which knows the legal entries for each category of information in the data items. In TABLE 3 we see the norm under which the program accepts lines (bibliographic data items) typed at the console. In TABLE 4 we see the 'Adform' which records the specifications of the data codes and controls the processing of the data set which is the inventory catalogue.

TABLE 1

Bibliographic Categories

		Example of Code
***	Archive Number	FR1
*	Survey Organization	IFOP
*	Supplier Number	95321
*	Supplier Code	XX
*	Country	FR
*	Survey Date	5401
***	Hard Copy Codebook	Y
*	Codebook Pagination	35
*	Sample Size	903
*	Cards per Respondent	5
*	Number of Questions	300
*	Format of Data	COLBIN
***	Data in Collection	Y
**	Data Tape Reel Number	24
**	Tape File Beginning Number	1
**	Tape File End Number	5
**	Dissemination Restrictions	R

* Obtain information from codebook for data set

** Obtain information from acquisition documents

*** Assign when in archive

TABLE 2

Category Names for Bibliographic Data

	Examples of Codes		
arcno	UK32	DE1	GE75
surorg	RSL	GALMAR	DIVO
suppno	719	5901	0192
suppcd	U	CQ	A
cuntry	UK	DE	GE
surdat	5512	5901	5509
cbhc	Y	N	Y
bpag	2	4	4
sample	319	464	500
cards	1	1	1
questn	11	21	15
format	R-1401	R-1401	R-1401
data	N	Y	Y
dtreel	15	12	2
dtfilb	32	1	18
dtfile	32	2	18
strict	R	R	U

The category names are mnemonics for the bibliographic categories. The specifications of the data codes are described in the TABLE 4 'Adform'.

TABLE 3

UKINV NORM

```
r ned ukinv console

arcno c 5
surorg c 6
suppno i 9
supped c 3
cuntry c 2
surdat i 4
cbhc c 1 y n
cbpag i 3
sample i 6
cards i 2
questn i 3
carret
format c 6
data c 1 y n
dtreel i 2
dtfilb i 3
dtfile i 3
strict c 1 r u
stop
```

```
c 5   means expect five characters
i 4   means expect four integers
c 1 r u means expect one character = r or u
```

UKINV DATA

```
r ned ukinv

uk1 bipo 5200 xx uk 3811 y 2 1171 1 11
r-1401 y 14 1 1 r
uk2 bipo 5300 xx uk 3812 y 3 1868 1 13
r-1401 y 14 2 2 r
uk3 rsl 280 cqb uk 4006 y 6 1609 1 32
r-1401 y 5 3 3 u
```

Example of how the data codes are typed in under control
of the program.

This program is both an audit program i.e. we can tell it what
is a legal entry and it will tell us interactively if we have typed in
an illegal entry; and an edit program i.e. we can interactively find,
change, and display the bibliographic data entry.

Inventory

We build up our inventory catalogue by preparing the bibliographic
data items which describe each accession to our collection of 'handbooks'
i.e. codebooks and actual data sets.

The inventory catalogue can be perceived as a bibliographic data
set whose structure we know. TABLE 4.

This adform of the inventory catalogue is also typed in at the
console. There is a program which checks out the syntax and coherence
of the adform statements and converts them into computer executable tables
and routines.

This computer executable adform then controls another program which
processes the inventory catalogue data, making any recoding changes spec-
ified by the adform. After interactively processing the data during
which we can feedback and change errors, we end up with a processed set
of the bibliographic data items in the inventory catalogue.

We then re-structure so that we obtain for each category of inform-
ation in the inventory catalogue, a category record containing the charac-
teristics of each data item for this category. Also the textual description
of each characteristic, the aggregate of the characteristics for all the
data items, and control information which enables a category record to be
self documenting of subsequent transformations. TABLE 5.

Re-organization

The inventory catalogue contains basic bibliographic data about
the codebooks, data sets and their location. In order to find the location
of certain codebooks for a particular country and type of study, one has
to search the inventory catalogue. TABLE 6.

TABLE 4

Adform Categories of Adform INVCAT

```
N = ARCNO.
FMT = ARCNO.
D = ARCHIVE NUMBER.
E = A,6..

N = SRORG1.
FMT = SURORG.
RSC = $ASHFRD$ + $BASR$ + $BERGER$ + $BIPO$ + $BSSR$ + $CISER$ +
$CRSI$ + $DEMOS$ + $DIVO$ + $DOXA$ + $GALMAR$ + $IBEROM$ + $IFMM$ +
$IFOP$ + $IIPO$ + $IIOP$ + $IISR$ + $IMUM$ + $INRA$ + $IRC$ + $ISOP$.
PERMIT $LIFE$ + $MENDEL$ + $NEHNEV$ + $NGIT$ + $NIPO$ + $NORC$ +
$POOL$ + $PSA$ + $RA$ + $RFE$ + $RS$ + $RSL$ + $SIFO$ + $SSL$ + $SSS$ +
$WILL$ + $$.
E = 21,1,0.'
D = SURVEY ORGANIZATION CODES A THROUGH I
/ASHFRD - MOROCCO
/BASR - GREECE
/BERGER - EGYPT
/BIPO - ENGLAND
/BSSR - LAOS
/CISER - ITALY
/CRSI - JAPAN
/DEMOS - GERMANY
/DIVO - GERMANY
/DOXA - ITALY
/GALMAR - DENMARK    GALMAR - DENMARK
IBEROM /          - SPAIN
/IFMM - BELGIUM
/IFOP - FRANCE
/IIPO - INDIA
/IIOP - ITALY
/IISR - BRAZIL, ETC
/IMUM - AUSTRIA
/INRA - CHILE
/IRC - GREECE
/ISOP - SWITZERLAND.
F = IF BS OR (B1 - B21) GO TO STRICT..

N = SRORG2.
FMT = SURORG.
RSC = $LIFE$ + $MENDEL$ + $NEHNEV$ + $NGIT$ + $NIPO$ + $NORC$ + $NSO$ +
$POOL$ + $PSA$ + $RA$ + $RFE$ + $RS$ + $RSL$ + $SIFO$ + $SIFO$++ $SSL$ +
$SSS$ + $WILL$ + $/$.
E = 18,1,1.
D = SURVEY ORGANIZATION CODES L THROUGH W
```

cont'd.

TABLE 4 cont'd.

```
/LIFE - USA
/MENDEL - JAPAN
/NEHNEV - BRAZIL, ETC
/NGIT - NORWAY
/NIPO - NETHERLANDS
/NORC - NATIONAL OPINION RESEARCH CENTER
/NSO - THAILAND
/POOL - USA
/PSA - PERU
/RA - ENGLAND
/RFE - RADIO FREE EUROPE
/RS - PHILIPPINES
/RSL - ENGLAND
/SIFO - SWEDEN
/SSL - ENGLAND
/SSS - FRANCE
/WILL - COSTA RICE
/NO ENTRY..
```

```
N = SUPPNO.
FMT = SUPPNO.
D = SUPPLIER SURVEY NUMBER 'SEE ALSO SUPPLIER ALPHABETIC CODE'.
E = N,1000000000..
```

```
N = SUPPCD.
FMT = SUPPCD.
D = SUPPLIER SURVEY ALPHABETIC CODE.
E = A,3..
```

```
N = CNTRY1.
FMT = CUNTRY.
RSC = $AU$ + $BE$ + $BR$ + $BU$ + $CH$ + $CR$ + $CO$ + $CU$ + $CZ$ +
$DE$ + $DR$ + $ES$ + $EG$ + $UK$ + $FR$ + $GE$ + $GR$ + $HO$ + $HU$.
PERMIT $IL$ + $IN$ + $IS$ + $IT$ + $JA$ + $LA$ + $MO$ @ $NE$ + $NI$ +
$NO$ + $PA$ + $PE$ + $PH$ + $PO$ + $PU$ + $RU$ + $SP$ + $SW$ + $SZ$ +
$TH$ + $US$ + $VI$ + $YU$ + $$.
D = COUNTRY CODES A THROUGH H
/AU - AUSTRIA
/BE - BELGIUM
/BR - BRAZIL
/BU - BULGARIA
/CH - CHILE
/CR - COSTA RICA
/CO - COLOMBIA
/CU - CUBA
/CZ - CZECHOSLOVAKIA
/DE - DENMARK
/DR - DOMINICAN REPUBLIC
/ES - EL SALVADOR
/EG - EGYPT
```

TABLE 4 cont'd.

```
/UK - ENGLAND
/FR - FRANCE
/GE - GERMANY
/GR - GREECE
/HO - HONDURAS
/HU - HUNGARY.
E = 19,1,0.
F = IF SB OR (B1 - B19) GO TO CBHC..


N = CNTRY2
FMT = CUNTRY.
RSC = $IL$ + $IN$ + $IS$ + $IT$ + $JA$ + $LA$ + $MO$ + $NE$ + $NI$ +
$NO$ + $PA$ + $PE$ + $PH$ + $PO$ + $PU$ + $RU$ + $SP$ + $SW$ + $SZ$ +
$TH$ + $US$ + $VI$ + $YU$ + $/$.
D = COUNTRY CODES I THROUGH Y
/IL - INTERNATIONAL
/IN - INDIA
/IS - ISRAEL
/IT - ITALY
/JA - JAPAN
/LA - LAOS
/MO - MOROCCO
/NE - NETHERLANDS
/NI - NIGERIA
/NO - NORWAY
/PA - PANAMA
/PE - PERU
/PH - PHILIPPINES
/PO - POLAND
/PU - PUERTO RICO
/RU - RUMANIA
/SP - SPAIN
/SW - SWEDEN
/SZ - SWITZERLAND
/TH - THAILAND
/US - USA
/VI - VIRGIN ISLANDS
/YU - YUGOSLAVIA
/NO ENTRY.
E = 24,1,1..


N = SURDAT.
FMT = SURDAT.
D = SURVEY DATE.
E = N,10000..
```

TABLE 4 cont'd.

```
N = CBHC.
FMT = CBHC.
RSC = $Y$ + $N$ + $/$.
D = CODEBOOK HARD COPY IN ARCHIVE
/YES
/NO
/NO ENTRY.
E = 3,1,1..

N = CBPAG.
FMT = CBPAG.
D = CODEBOOK PAGINATION.
E = N,1000..

N = SAMPLE.
FMT = SAMPLE.
D = SAMPLE SIZE.
E = N,1000000..

N = CARDS.
FMT = CARDS.
D = CARDS PER ITEM.
E = N,100.
ATTR = (/DTFILE/ - /DTFILB/) E (VI - 1)..

N = QUESTN.
FMT = QUESTN.
D = NUMBER OF QUESTIONS IN CODEBOOK.
E = N,1000..

N = FORMAT.
FMT = FORMAT.
D = FORMAT OF DATA.
E = A,6..

N = DATA.
FMT = DATA.
RSC = $Y$ + $N$ + $/$.
D = DATA IN ARCHIVE
/YES
/NO
/NO ENTRY.
E = 3,1,1.

N = DTREEL.
FMT = DTREEL.
D = DATA TAPE REEL NUMBER.
E = N,1000..
```
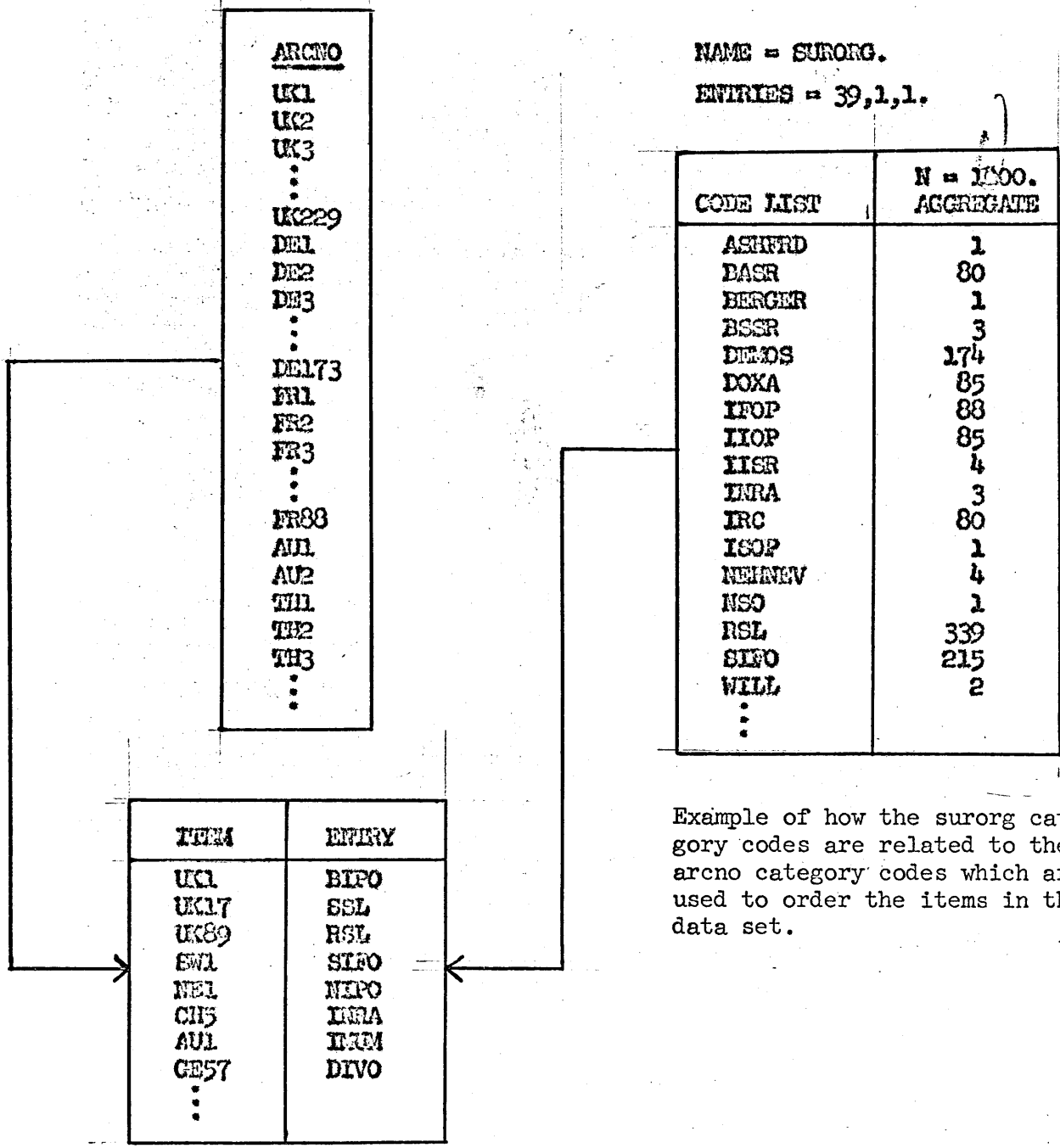
TABLE 4 cont'd.

N = DTFILB.
FMT = DTFILB.
D = DATA TAPE FILE BEGINNING NUMBER.
E = N,1000..

N = DTFILE.
FMT = DTFILE.
D = DATA TAPE FILE ENDING NUMBER.
E = N,1000..

N = STRICT.
FMT = STRICT.
RSC = R + U + $/$.
D = RESTRICTIONS ON DISSEMINATION
/RESTRICTED
/UNRESTRICTED
/NO ENTRY.
E = 3,1,1...

TABLE 5

Sketch of a Category Record in Inventory Catalogue

ARCNO
UK1
UK2
UK3
.
.
.
UK229
DE1
DE2
DE3
.
.
DE173
FR1
FR2
FR3
.
.
FR88
AU1
AU2
TH1
TH2
TH3
.
.
.

ITEM	ENTRY
UK1	BIPO
UK17	SSL
UK89	RSL
SW1	SIPO
NE1	NIPO
CH5	INRA
AU1	ITEM
GE57	DIVO
.	
.	

NAME = SURORG.

ENTRIES = 39,1,1.

CODE LIST	N = 1700. AGGREGATE
ASHFRD	1
BASR	80
BERGER	1
BSSR	3
DEMOS	174
DOXA	85
IFOP	88
IIOP	85
IISR	4
INRA	3
IRC	80
ISOP	1
NEINEV	4
NSO	1
RSL	339
SIFO	215
WILL	2
.	

Example of how the surorg category codes are related to the arcno category codes which are used to order the items in the data set.

TABLE 6

Search of Inventory Catalogue

Find these four categories of information for all data
sets in the collection where the survey organization is RA.

34   displa questn cards sample format for ra .

ITREC	QUESTN	CARDS	SAMPLE	FORMAT
INVTRY RA		5	23	
225	275	5	313	BCD
226	184	2	100	COLBIN
227	97	1	129	COLBIN
228	168	1	318	COLBIN
229	94	1	104	COLBIN

Find all the data sets in the collection for survey organ-
ization SSL for surveys between 1962 - 1965 inclusive, and
display these four categories of information.

35   ix surdat g 6200 = 62

INVTRY   229 RESULT=   29 (12)   62

36   ix surdat l 6501 = 65

INVTRY   229 RESULT=   229 (100)   65

37   i 65 62 = 62-65

INVTRY   229 RESULT=   29 (12) SIG=0.   62-65

39   i 62-65 ssl = ssl.62-65

INVTRY   229 RESULT=   29 (12) SIG= .98 SSL.62-65

40   displa questn sample cards format for ssl.62-65

ITREC	QUESTN	SAMPLE	CARDS	FORMAT
INVTRY		28	39	SSL.2-5
53	75	614	1	R-1401
54	75	647	1	R-1401
199	67	1080	1	R-1401
200	56	1080	1	R-1401
201	73	1020	1	R-1401
202	85	1080	1	R-1401

There are 29 altogether, only 6 of which are displayed
here.

One builds indexes to the data items which exhibit certain combin-
ations of characteristics. The names assigned to these indexes are used
to describe the pertinent data items and then used to display the location
characteristics of the data items so that the codebooks may be accessed.
As previously indicated the referent of each data item is a 'handbook'.

SUBJECT CATALOGUE

Each codebook contains many questions. An inventory of these ques-
tions classified under categories of a subject heading scheme is a subject
catalogue.

The meta data item is the semantically distinct variety of question
with several actual existences. The meta data set i.e. the subject cata-
logue, is the file of these meta data items.

We prepare each meta data item by assigning a main subject heading
and sub heading i.e. a particular subject heading to a particular question.
Each particular subject heading represents a concept, under which there
can be several varieties of semantically dissimilar question. For each
semantic question unit there can be several actual questions existent in
different 'handbooks'. TABLE 7.

TABLE 7

Some Subject Categories

Main Subject Heading Codes	6	1	3	9
Subject Sub Heading Codes	7	1	2	15
Semantic Variety Number	5	3	6	2
Codebook Archive Number	B56	F65	F61	G56
	F56	B65	F65	
	G56	E65Q		
	B55	C65		
Codebook Question Number	30E	5-15	4A1	62
	15	39	3A1	
	20D	4		
	7	4		

In TABLE 8 we see the 'Adform' which controls the specifications of the
data codes for all of the subject categories in the data set which is the
subject catalogue.

TABLE 8

Adform Categories of Adform SUBCAT

```
N = SUBJHD.
FMT = 1,2,I3.
RSC = 1-10.
D = MAIN SUBJECT HEADING
/1 - EUROPE
/2 - COMMUNIST WORLD
/3 - EAST-WEST RELATIONS
/4 - WESTERN WORLD
/5 - SPECIAL RELATIONSHIPS AND PROBLEMS
/6 - SECURITY AND DEFENSE
/7 - INTERNATIONAL CO-OPERATION (NON-MILITARY)
/8 - TIERS MONDE
/9 - BIOGRAPHIC DATA
/10 - COMMUNICATIONS.
E = 10,1,1.
F = IF B1 GO TO EUROPE IF B2 GO TO CWORLD IF B3 GO TO EWRELN
IF B4 GO TO WEST IF B5 GO TO SPRELN IF B6 GO TO SECDEF
IF B7 GO TO ILCOOP IF B8 GO TO 3WORLD IF B9 GO TO BIOG
IF B10 GO TO COMM..

N = EUROPE.
FMT = 1,6,I3.
RSC = 1-6.
D = SUBJECT SUB HEADING - EUROPE
/11 - EUROPEAN INTEGRATION - ECONOMIC
/12 - EUROPEAN INTEGRATION - POLITICAL
/13 - EUROPEAN INTEGRATION - EXPANSION OF
/14 - EUROPEAN COMMUNITY - BRITISH RELATIONS
/15 - EUROPEAN COMMUNITY - UNITED STATES RELATIONS
/16 - EVALUATION OF EXISTING EUROPEAN INSTITUTIONS.
E = 6,1,1.
F = IF B1 O N B1 GO TO VARIET..

N = CWORLD.
FMT = /EUROPE.
RSC = 1.
D = SUBJECT SUB HEADING - COMMUNIST WORLD
/21 - SINO SOVIET RELATIONS AND THE STRUGGLE FOR BLOC LEADERSHIP.
E = 1,1,1.
F = IF B1 O N B1 GO TO VARIET..
```

TABLE 8 cont'd.

```
N = EWRELN.
FMT = /EUROPE.
RSC = 1-9.
D = SUBJECT SUB HEADING - EAST-WEST RELATIONS
/31 - GERMANYS INTERNATIONAL POSITION VIS-A-VIS THE EAST AND-OR WEST
/32 - FRANCES INTERNATIONAL POSITION VIS-A-VIS THE EAST AND-OR WEST
/33 - BRITAINS INTERNATIONAL POSITION VIS-A-VIS THE EAST AND-OR WEST
/34 - WAR - HOT (3D WORLD WAR) AND-OR COLD
/35 - BALANCE OF POWER
/36 - RANKING OF NATIONS AS TO POWER POSITIONS
/37 - UNITED STATES - SOVIET UNION, CHINESE RELATIONS
/38 - INFLUENCE OF WESTERN EUROPE ON THE BALANCE OF POWER
/39 - IMPACT OF THE SOVIET UNION ON INTERNATIONAL AFFAIRS.
E = 9,1,1.
F = IF B1 O N B1 GO TO VARIET..

N = WEST.
FMT = /EUROPE.
RSC = 1-5.
D = SUBJECT SUB HEADING - WESTERN WORLD
/41 - ASSESSMENT OF THE GENERAL WORLD SITUATION
/42 - GERMANYS INTERNAL AFFAIRS
/43 - BRITAINS INTERNAL AFFAIRS
/44 - UNITED STATES INTERNAL AFFAIRS
/45 - WESTERN BLOC STABILITY AND COHESIVENESS.
E = 5,1,1.
F = IF B1 O N B1 GO TO VARIET..

N = SPRELN.
FMT = /EUROPE.
RSC = 1-7.
D = SUBJECT SUB HEADING - SPECIAL RELATIONS AND PROBLEMS
/51 - BRITAIN - COMMONWEALTH
/52 - FRANCE - FRENCH COMMUNITY
/53 - DE GAULLE
/54 - GERMAN REUNIFICATION
/55 - SUEZ
/56 - ALGERIA
/57 - FRANCE - GERMANY.
E = 7,1,1.
F = IF B1 O N B1 GOTTO VARIET..
```

cont'd.

N = SECDEF.
FMT = /EUROPE.
RSC = 1-9+11.
D = SUBJECT SUB HEADINGS - SECURITY AND DEFENSE
/61 - EUROPEAN MILITARY FORCE (INCLUDING EDC QUESTIONS)
/62 - NATIONAL DEFENSE (INDEPENDENT DETERRENTS)
/63 - COLLECTIVE DEFENSE VS NATIONAL DEFENSE
/64 - DISARMAMENT AND ARMS CONTROL
/65 - IDENTIFICATION AND EVALUATION OF NUCLEAR WEAPONS SYSTEMS
/66 - NUCLEAR SHARING AND PROLIFERATION
/67 - NATO
/68 - INTER AND MULTI-NATIONAL DEFENSE
/69 - ATLANTIC DEFENSE
/611 - SUPRANATIONAL DEFENSE.
E = 10,1,1.
F = IF B1 O N B1 GO TO VARIET..

N = ILCOOP.
FMT = /EUROPE.
RSC = 1-3+5.
D = SUBJECT SUB HEADING - INTERNATIONAL CO-OPERATION (NON-MILITARY)
/71 - PEACEFUL USE OF ATOMIC ENERGY
/72 - THE UNITED NATIONS
/73 - POSITION ON LIMITATION OF NATIONAL SOVEREIGNTY
/75 - POLARIS.
E = 4,1,1.
F = IF B1 O N B1 GO TO VARIET..

N = 3WORLD
FMT = /EUROPE.
RSC = 1+3.
D = SUBJECT SUB HEADINGS - TIERS MONDE (UNDERDEVELOPED WORLD)
/81 - AID TO
/83 - BEST INTERNATIONAL COMMUNITY.
E = 2,1,1.
F = IF B1 O N B1 GO TO VARIET..

N = BIOG.
FMT = /EUROPE.
RSC = 1-22.
D = SUBJECT SUB HEADING - BIOGRAPHIC DATA
/91 - GENERAL SOURCES OF INFORMATION (MAGAZINES, NEWSPAPERS, ETC)
/92 - PERSONAL CONTACTS WITHIN HIS OWN COUNTRY
/93 - PERSONAL CONTACTS WITH FOREIGNERS
/94 - TRAVEL IN FOREIGN COUNTRIES
/95 - KNOWLEDGE OF FOREIGN LANGUAGES
/96 - DATA ON WIFE AND CHILDREN
/97 - DATA ON PARENTS, FATHER-IN-LAW, GRANDFATHERS
/98 - EDUCATION
/99 - MILITARY SERVICE
/911 - OCCUPATION
/912 - DATA ON BIRTH, YOUTH AND CLASS

TABLE 8 cont'd.

/913 - POLITICAL VIEWS, ACTIVITY, PARTY
/914 - RELIGION
/915 - COUNTRIES RANKED AS TO DESIRABILITY
/916 - MEMBERSHIP IN ORGANIZATIONS
/917 - VIEWS ON NATIONAL CHARACTER
/918 - VIEWS ON A FOREIGN EDUCATION
/919 - VIEWS ON THE MALLEABILITY OF HUMAN NATURE
/920 - RESIDENCE
/921 - GENERAL OUTLOOK ON LIFE (IDEALIST)
/922 - DIFFERENCE BETWEEN VIEWS AND PAST VIEWS AND PRESENT VIEWS AND
VIEWS OF OTHERS (PARENTS, YOUTH)
/923 - POTPOURRI (VIEWS ON ART, ETC).
E = 22,1,1.
F = IF B1 O N B1 GO TO VARIET..

N = COMM.
FMT = /EUROPE.
RSC = 1.
D = SUBJECT SUB HEADING - COMMUNICATIONS
/101 - COMM.
E = 1,1,1.
F = IF B1 O N B1 GO TO VARIET..

N = VARIET.
FMT = 1,10,I2.
D = VARIETY NUMBER (OF SEMANTICALLY EQUIVALENT QUESTIONS).
E = N,100..

N = CODEBK.
FMT = 1,13,17 I1.
RSP = 1-17.
D = ARCHIVE NAME OF CODEBOOK
/BR65 /BR61 /BR59
/BR56 /BR55 /FR65
/FR61 /FR59 /FR56
/FR55 /GR65 /GR61
/GR59 /GR56 /GR55
/E65Q /C65.
E = 17,1,1..

N = BR65.
FMT = 1,31,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..

TABLE 8 cont'd.

```
N = BR61.
FMT = 1,37,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = BR59.
FMT = 1,43,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = BR56
FMT = 1,49,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = BR55
FMT = 1,55,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = FR65.
FMT = 1,61,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = FR61.
FMT = 2,1,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = FR59.
FMT = 2,7,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = FR56.
FMT = 2,13,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = FR55
FMT = 2,19,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..


N = GR65.
FMT = 2,25,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..
```

TABLE 8 cont'd.

N = GR61.
FMT = 2,31,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..

N = GR59.
FMT = 2,37,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..

N = GR56.
FMT = 2,43,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..

N = GR55.
FMT = 2,49,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..

N = E65Q.
FMT = 2,55,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6..

N = C65.
FMT = 2,61,A6.
D = CODEBOOK QUESTION NUMBERS.
E = A,6...

There are actually different subject catalogues for different collections e.g. UK, US, special collections, etc.

The structure of the meta data item (the question) is controlled by Adform Subcat. TABLE 8.

Here, as well, we can also re-structure so that we obtain for each category of information in the subject catalogue, a category record containing the characteristics of each meta data item for this category. Also, the subject description of each characteristic, the aggregate of the characteristics for all the meta data items, and control information which enables a category record to be self documenting of subsequent transformations. TABLE 9.

The subject catalogue contains basic bibliographic data about the questions. In order to find the questions pertinent to a particular topic one has to search the subject catalogue. TABLE 10.1, TABLE 10.2, TABLE 10.3.

One builds indexes to the meta data items i.e. the basic semantic question by combining the characteristics of major and minor subject headings. The names assigned to these indexes may be the same as in the subject headings of new names may be assigned under some reclassification of the questions according to some purpose different to that under which the collection of questions was originally classified by the major and minor sub heading scheme.

The text of the actual question may be a category of information in the subject catalogue, or the codebook may be accessed by the inventory catalogue, then via the archive name of the codebook and the question number in the codebook, the actual question in the context of the surrounding questions will be retrieved. TABLE 11.

TABLE 9 p 12

12
21

TABLE 9

Sketch of a Category Record in the Subject Catalogue

NAME -SUBJCD

```
00100101
00100102
00100301
00200101
   .
   .
0060310
   .
   .
0090715
   .
   .
01000102
01000103
01000104
```

NAME- codebk
  entried -17,17,0.

CODE LIST	N- 750 AGGREGATE
1 BR65	211
2 BR61	156
3 BR59	72
4 BR56	42
5 BR55	60
6 FR65	192
.	
11 GR65	165
.	
16 E65Q	231
17 C65	208

ITEM	ENTRY
00100201	F65 B65 G65 E65Q
00500704	F65
00700310	F56
00800106	B65 F65 G65
00900410	B56 F56
01000104	G65 B65 E65Q
	F65 G56 B56
	E61 G61 G55
	F61 B59 F59
	G59 B55 F55

Example of how the codebk cata-
gory codes are related to the
subjcd category codes.

TABLE 10.1

Search of Subject Catalogue

Find the codebooks which have been classified under 6.3 and 6.4.
The description of these codes is to be found in Adform Subcat.

```
r cross guess guess
35      w subj , cols 6.3 6.4 , rows codebk , table
    2 COLUMNS ACCEPTED.
    1 ROWS ACCEPTED.
NO STATS, OK... yes
```

			6.3	6.4
SUBJ			8	11

CODEBK

SUBJ
ARCHIVE NAME OF CODEBOOK
P= 753 M= 753

			6.3	6.4
1	BR65	211	1	4
2	BR61	156	1	9
3	BR59	72	0	2
4	BR56	42	0	0
5	BR55	60	0	0
6	FR65	192	2	5
7	FR61	158	1	9
8	FR59	62	0	2
9	FR56	60	1	0
10	FR55	3	0	0
11	GR65	165	1	3
12	GR61	145	1	9
13	GR59	59	0	2
14	GR56	85	0	0
15	GR55	59	0	0
16	E65Q	231	2	4
17	C65	208	2	3

TABLE 10.2

Search of Subject Catalogue

Find the question numbers for codebook BR65, then for codebook BR61, under 6.3 and 6.4 classification codes.

36   values br65 under 6.3 6.4

		6.3	6.4
SUBJ		8	11
SUBJ			
BR61	204		
0	541	6	7
12	1	0	1
13	1	0	1
15	1	0	1
17	1	0	1
50A	2	2	0

37   values br61 under 6.3 6.4

		6.3	6.4
SUBJ		8	11
SUBJ			
BR61	156		
0	597	7	2
35	1	0	1
24D	1	1	0
31C	1	0	1
39A	1	0	1
39B	1	0	1
40A	1	0	1
40B	1	0	1
41A	1	0	1
41B	1	0	1
42A	1	0	1

TABLE 10.3

Search of Subject Catalogue

Find the description of 6.4, and how many times it is used as a classification code.

```
38      sj secdef 4

  SUBJ    753
          11      .01      .09  6.4 - DISARMAMENT AND ARMS CONTROL
```

Find the questions that have been classified under 6.4 for codebook BR65 and BR61.

```
39      displa br65 br61 for 6.4

  ITREC    BR65    BR61

  SUBJ     6.4     11      2

   477     0       35

   478     0       31C

   479     17      39A

   480     15      39B

   481     0       0

   482     0       41A

   483     12      40B

   484     0       0

   485     13      42A

   486     0       40A

   487     0       41B

40      close , depage guess
```

Now look at BR65 question 12 and BR61 question 40B.

TABLE 11

Actual Questi~Actual Questions with Marginal~ of Actual Data)

BR65   313 RESULT=   313 (100)   12

6   sj 12

	BR65	313			
12		313	1.00	1.09	WHICH METHOD OF CONDUCTING NEGOTIATIONS ON ARMS-CONTROL IS MOST LIKELY TO PRODUCE USEFUL RESULTS
1		105	.34	.37	BILATERAL NEGOTIATIONS BETWEEN AMERICA AND RUSSIA - 1
2		102	.33	.36	MULTILATERAL NEGOTIATIONS AMONG THE NUCLEAR NATIONS - 2
3		27	.09	.09	GENERALIZED NEGOTIATIONS WITHIN THE UN - 3
4		11	.04	.04	OTHER (STATE) - 4
5		5	.02	.02	NONE - 5
6		13	.04	.05	BILATERAL AND MULTILATERAL - 6
7		3	.01	.01	BILATERAL AND GENERALIZED - 7
8		21	.07	.07	ALL THREE - 8
9		26	.08	.09	DONT KNOW - 0
10		0	0.	0.	NO ENTRY - BLANK

7   w br61 , ix 40b = 40b

BR61   100 RESULT=   100 (100)   40B

8   sj 40b

	BR61	100			
40B		100	1.00	1.03	WHICH METHOD OF CONDUCTING NEGOTIATIONS ON ARMS-CONTROL IS MORE LIKELY TO PRODUCE USEFUL RESULTS - BILATERAL NEGOTIATIONS BETWEEN AMERICA AND RUSSIA, MULTILATERAL NEGOTIATIONS BETWEEN THE TWO BLOCS OUTSIDE THE UNITED NATIONS, OR GENERALIZED NEGOTIATIONS WITHIN THE UNITED NATIONS
1		43	.43	.44	BILATERAL - 1
2		30	.30	.31	MULTILATERAL OUTSIDE UN - 2
3		22	.22	.23	GENERALIZED WITHIN UN - 3
4		2	.02	.02	OTHER (STATE) - 0
5		3	.03	.03	DONT KNOW - 11
6		0	0.	0.	NO ANSWER - 12
7		0	0.	0.	NO ENTRY - 13

PROCESS CATALOGUE

Analysis of the subject catalogue is in effect a method of searching for questions coded according to certain classification concepts. The result of the search is the relevant question in a particular codebook(s), i.e. category of information in a particular 'handbook'. Analysis of the inventory catalogue yields the relevant codebook(s) and the data set(s), i.e. 'handbooks'.

The reason for accessing these 'handbooks' is to analyze them, either within one handbook or across several handbooks. The result of analysis by a user is a new data set i.e. a 'derived handbook'. The function of a user process catalogue is to keep track of these user analysis activities. The user process catalogue contains an index to the category records stored on the disk, as well as a tree structure relating the operations performed on the categories to each other and to the data.

The function of the system process catalogue is to keep track of all user process catalogues and their relation to the inventory catalogue.

A process catalogue can be perceived as an inventory of process operations where the categories of information are dates of process, who is processing, states of process of the categories of information from the various source 'handbooks'.

A user can relate one data set 'handbook' to another and/or relate the parts of a data set to the whole. The process catalogue must keep track of these 'kinship' relations. The same data set may have been subsetted differently by two different users, the process catalogue has to be able to keep track of these different activities. Derived 'handbooks' in different 'editions' may be disseminated to other people, the process catalogue must keep track of these different 'editions'.
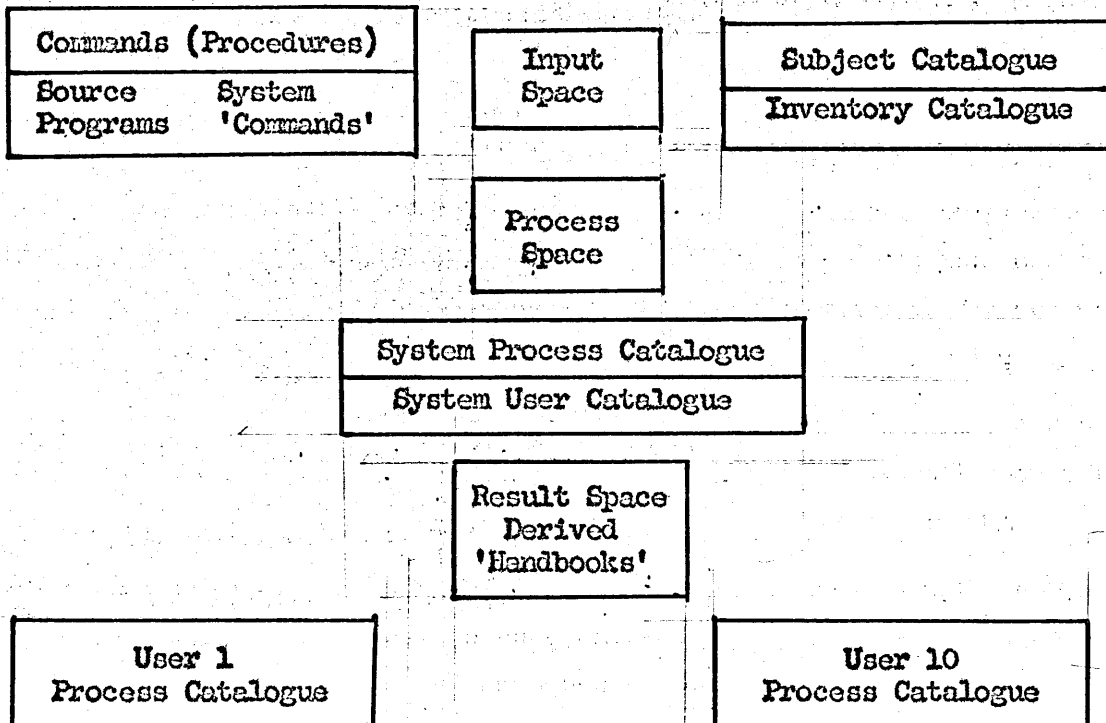
The process catalogue can be analyzed like any other inventory. The result from analysis are simply the finding of the required process states of the data.

USER CATALOGUE

The system user catalogue is a data set which is a record of the use of the system. TABLE 12.

TABLE 12

System Administration

Commands (Procedures)		Input Space	Subject Catalogue	
Source Programs	System 'Commands'		Inventory Catalogue	

Process Space

System Process Catalogue

System User Catalogue

Result Space
Derived
'Handbooks'

User 1 Process Catalogue	User 10 Process Catalogue

Each user has his own personal space, as well as access to input space, process space, result space, and command space. These facilities are used in a variety of ways dependent upon whether the user is looking for 'handbooks' or deriving 'handbooks' from one or more original 'handbook(s)'.

The user catalogue incorporates an accounting of computer time usage supplied by the Computation Center. The detailed accounting of the use of common space is kept by the ADMINS system. Histograms are generated from these accounts which provide some intelligence on the optimal division of our total space allotment.

By far the most interesting of the user catalogue functions is the data on procedure (command) usage. Each time a major procedure (command) is invoked it appends the following information to a disk file: command name, user identification, time, date, console number, procedure name (e.g. name of instruction file, name of input data file) as well as information particular to a procedure, (e.g. name and size of report generated e.g. name of subfile created e.g. number of data items processed and errors incurred).

We can perceive each 'command use' as an item in this file containing the categories of information just described. We write an adform for this administrative 'data set' TABLE 13.1 and then we can analyze system usage. TABLE 13.2, TABLE 13.3, TABLE 13.4, TABLE 13.5.

TABLE 13.1

Example of Administrative Data Set

```
PERMITGANIZE  M5778  45641946.007/28  20000.HOORAY000003
       GANIZE  M5778  49781725.707/28  20000.HOORAY000003
       ROCESS  M5778  45641950.107/28  20000.HOORAY
CLOSED M5778     4564HOORAY00002U000000
       INVERT  M5778  45641951.907/28  20000.HOORAY     VEN
       GANIZE  M5778  45641958.507/28  20000.SHOWME000002
       ROCESS  M5778  45641959.307/28  20000.SHOWME
CLOSED M5778     4564SHOWME00002U00002I
       INVERT  M5778  45642117.007/28  20000. SLITE    VEN
       NALYZE  M5778  49781332.607/29  20000.MATRIX
       NALYZE  M5778  45641356.307/29  20000Z SLUMP
       NALYZE  M5778  45641404.907/29  20000Z SLUMP SLUMP
       PRTABL  M5778  42072336.608/01  20000.TABOR1000005
       PRTABL  M5778  32390117.307/24  600251BROW00000000
```

TABLE 13.2

Adform Categories of Adform USECAT

```
N = LTYPE.
FMT = (6)1(A6).
RSC = $$ + $CLOSED$ + $ERR001$ + $ERR002$.
D = TYPE OF LINE
/COMMAND REPORTING IN
/CLOSING OF PROCESSOR
/SAVED FILE RESUMED WITH IMPROPER NAME
/3239 NOT AUTHOR OF SAVED FILE.
E = 4,1,0.
F = IF B2 GO TO FPRCS IF B3 O B4 GO TO END
IF N SB CR(B1 - B4) GO TO END..


N = PROGNO.
FMT = 21(I4).
RSC = 3239 + 4288 + 2815 + 4207 + 4978 + 3197 + 2714 + 2814 +
4564 + 5769.
D = PROGRAMMER NUMBER
/GRIFFEL
/MC INTOSH
/LERNER
/SILVA
/BONILLA
/BESHERS
/SOPHOMORE COURSE
/FREY
/RAUP
/GREENBERG.
E = 10,1,1..


N = TIME.
FMT = 25(I2).
D = TIME (1-24).
E = N,24


N = MONTH.
FMT = 31(I2).
RSC = 6-9.
D = MONTH/JUNE/JULY/AUGUST/SEPTEMBER.
E = 4,1,1..


N = DAY.
FMT = 34 (I2).
D = DAY.
E = N,31..
```

cont'd.

TABLE 13.2 cont'd.

```
N = CONSOL.
FMT = 37(A6).
D = CONSOLE ID.
E = A,6..

N = BLABEL.
FMT = 43(A6).
D = BASIC LABEL.
E = A,6..

N = COMAND.
FMT = 7(A6)
RSC = $GANIZE$ + $ROCESS$ + $INVERT$ + $NALYZE$ + $PRTABL$.
D = COMAND USED
/ORGANIZER'
/PROCESSOR
/INVERT
/ANALYZER
/PRTABL (REPORT GENERATION).
E = 5,1,1.
F = IF B1 GO TO ADSIZE IF B2 GO TO END IF B3 GO TO FILNAM
IF B4 GO TO PGNAME IF B5 GO TO NOTABS..

N = PGNAME.
FMT = 49(A6).
D = PAGES - NAME READ INTO ANALYZER.
E = A,6.
F = IF B1 0 N B1 GO TO END..

N = ADSIZE.
FMT = (12)27.
D = NUMBER OF CATEGORIES IN ADFORM.
E = N,100.
F = IF B1 0 N B1 GO TO END..

N = FILNAM.
FMT = (6)49(A6).
D = NAME OF INVERTED FILE.
E = A,6.
F = IF B1 0 N B1 GO TO END..

N = NOTABS.
FMT = (12)27.
D = NUMBER OF TABLES GENERATED.
E = N,100.
F = IF B1 0 N B1 GO TO END..
```

TABLE 13.2 cont'd.

N = FPRCS.
FMT = (6)19(A6).
D = NAME OF ITEM FILE.
E = A,6..

N = NITEMS.
FMT = (18)10.
D = NUMBER OF ITEMS PROCESSED.
E = N,20000,.

N = NERRS.
FMT = (12)18.
D = NUMBER OF DATA ERRORS FOUND PROCESSING.
E = N,20000..

N = END.
FMT = (1)1.
D = DUMMY CATEGORY/1.
RC = IF B1 0 N B1.
E = 1,1,1...

TABLE 13.3

USECAT Marginals 'Aggregates'

LTYPE	1.00	1.00	293	TYPE OF LINE
1	.87	.88	257	COMMAND REPORTING IN
2	.12	.12	36	CLOSING OF PROCESSOR
3	0.	0.	0	SAVED FILE RESUMED WITH IMPROPER NAME
4	0.	0.	0	3239 NOT AUTHOR OF SAVED FILE
PROGNO	.87	1.00	257	PROGRAMMER NUMBER
1	.05	.06	16	GRIFFEL
2	0.	0.	0	MCINTOSH
3,	.12	.14	36	LERNER
4	.14	.16	41	SILVA
5	.12	.14	36	BONILLA
6	.14	.16	42	BESHERS
7	.06	.07	17	SOPHOMORE CLASS
8	0.	0.	0	FREY
9	.20	.23	60	RAUP
10	.03	.04	9	GREENBERG
TIME	.87	1.00	257	TIME (1-24)
		.185E	02	AVERAGE VALUE
MONTH	.87	1.00	257	MONTH
1	0.	0.	0	JUNE
2	.35	.40	102	JULY
3	.53	.60	155	AUGUST
4	0.	0.	0	SEPTEMBER
DAY	.87	1.00	257	DAY
		.141E	02	AVERAGE VALUE
CONSOL	.87	1.00	257	CONSOLE ID
BLABEL	.87	1.00	257	BASIC LABEL
COMAND	.87	1.00	257	COMAND USED
1	.22	.25	65	ORGANIZER
2	.17	.20	51	PROCESSOR
3	.08	.09	23	INVERT
4	.38	.44	112	ANALYZER
5	.02	.02	6	PRTABL (REPORT GENERATION)
PGNAME	.38	1.00	112	PAGES - NAME READ INTO ANALYZER
ADSIZE	.22	1.00	65	NUMBER OF CATEGORIES IN ADFORM
		.122E	02	AVERAGE VALUE

cont'd.

TABLE 13.3 cont'd.

FILNAM	.08	1.00	23	NAME OF INVERTED FILE
NOTABS	.02	1.00	6	NUMBER OF TABLES GENERATED
		.107E	02	AVERAGE VALUE
RPRCS	.12	1.00	36	NAME OF ITEM FILE
NITEMS	.12	1.00	36	NUMBER OF ITEMS PROCESSED
		.751E	03	AVERAGE VALUE
NERRS	.07	1.00	20	NUMBER OF DATA ERRORS FOUND PROCESSING
		.185E	03	AVERAGE VALUE
END	1.00	1.00	294	DUMMY CATEGORY
1	1.00	1.00	294	1

TABLE 13.4

Sketch of a Category Record in the USECAT Catalogue

NAME = SERIAL.

NAME = PROGNO.

ENTRIES = 10,1,1.

CODE LIST	N = 293. AGGREGATE
GRIFFEL	16
MCINTOSH	0
LERNER	36
SILVA	41
DONILLA	36
DESHERS	42
SOPHOMORE COURSE	17
FREY	0
RAUP	60
GREENBERG	9

ITEM	ENTRY
1	GRIFFEL
2	MCINTOSH
3	LERNER
96	DESHERS
97	GRIFFEL
98	FREY
200	LERNER

Example of how the progno category codes are related to serialization of the data items.

TABLE 13.5

Example of Usage Table

Find the ADMINS sub system usage by various users, provide a statistical test (Fischer Exact) on the frequency of these occurrences.

19   rows progno , table

1 ROWS ACCEPTED.

			ORG	PROC	INV	ANAL	PRTABL
USEC			78	71	31	154	7
PROGNO							
USEC PROGRAMMER NUMBER							
P= 386 M= 341							
1	GRIFFEL	30	12	11	5	1	1
	SIG		.99	.99	.92	0.	.67
2	LERNER	44	1	0	0	43	0
	SIG		0.	0.	0.	1.00	.00
3	SILVA	63	14	14	5	26	4
	SIG		.61	.76	.40	.54	.98
4	BONILLA	36	12	4	2	16	2
	SIG		.96	0.	0.	.66	.87
5	BESHERS	72	17	19	6	30	0
	SIG		.74	.96	.46	.58	0.
6	SOPHOMORE COURSE	17	1	2	2	12	0
	SIG		0.	0.	.60	.99	.00
7	FREY	5	1	1	1	2	0
	SIG		.32	.36	.66	.34	.00
8	RAUP	65	15	16	10	24	0
	SIG		.68	.89	.98	0.	0.
9	GREENBERG	9	5	4	0	0	0
	SIG		.98	.94	.00	0.	.00

As well as using the user catalogue for macro analysis e.g. when (what times) does the system get used, for what procedures, by whom, from where, etc. we can do a micro analysis tracing the states of a particular data set, by user.

TEXTUAL DATA

For each bibliographic data item (i.e. each handbook) in the inventory catalogue, there is an informative abstract of ca. 150 words of English text. TABLE 14.

TABLE 14

Abstract

UK225

This survey covers opinions on economics, politics, and international relations of various groups of Europeans. Topics include:

1 Relative strengths of major powers - East and West in Cold War, it's intensity.
2 Future relations between powers, Sino-Soviet rift.
3 Sources of major internation problems and role of countries in East-West conflict.
4 Disarmament, response to weapon proliferation, negotiation, control of nuclear weapons.
5 Roles of UN, USA, NATO in Europe.
6 Role of de Gaulle.
7 Evaluation of European Community, it's aims.
8 Evaluation of Common Market, OECD, EEC, EFTA, Commonwealth roles.
9 Evaluation of Defense Agencies, International Armed Forces, EDC, other defense plans.
10 Nature of Russian threat.
11 American balance of payments.
12 Foreign Aid Act.
13 Limitation of national sovereignty.
14 Opinion of other countries for residence, national characteristics.
15 Economic and political policy, inflation, living standards.
16 Communications, reading habits, foreign travel, access to and use of influence.
17 Profession, religion, education, political party, family background, personal history.

Interative computer programs will be used to isolate index terms in the empirical text. The growing vocabulary table of index terms is used to monitor processing of subsequent empirical text.

The index terms in any combination may be used in a search of pertinent data items, in this case assertions about topics within abstracts. When the location of the pertinent sentence(s) and abstract(s) have been found, the abstracts may then be referenced.

The same procedures can be used on the text of questions. TABLE 15.

Apart from algorithms to isolate pertinent word forms in the empirical text, all the other required features for categorizing text are for other purposes already part of the ADMINS system design. These features are, open ended alphanumeric code lists which allow multiple entries per data item; cross reference linking categories with multiple entries per data item; formation of a new data set from other data sets; statistical tests and table formation, scope displays of data item characteristics and data items per se, e.g. the informative abstract.

TABLE 15

BR65 Question Text

12　Which method of conducting negotiations on arms-control is most likely to produce useful results.

/Bilateral negotiations between America and Russia
/Generalized negotiations within the UN
/Other (State)
/None
/Bilateral and multilateral
/Bilateral and generalized
/All three
/Dont know
/No entry.

13　Negotiations for arms-control seek two different objectives, to reduce the probability that war will occur, to reduce destructiveness if war should break out while both are important, to which would you give priority in the years ahead.

/Reduce probability
/Reduce destructiveness
/Both essential (no priority possible)
/Other (state)
/Dont know
/No entry.

15　Do you think the government should take serious steps toward the adoption of unilateral disarmament as official policy.

/Yes
/No
/Dont know
/No entry.

17　Do you consider it likely that a general agreement on internationadisarmamentatcoveringgbbbhhconventionall and nuclear weapons, will be reached in the next five years.

/Yes
/No
/Dont know
/No entry.