Online Serials Control at the ETH Library

Rudolph Nöethiger

ETH Library


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ONLINE SERIALS CONTROL AT THE ETH LIBRARY

Rudolph Noethiger

ETH Library, Zurich, Switzerland

1.0 INTRODUCTION

1.1 THE LIBRARY OF THE ETH IN ZURICH

The Library of the ETH in Zurich is the main library of the Swiss Federal Institute of Technology. This library also serves as the Swiss national library for science and technology, a double function similar to that of the UB/TIB in Hannover. In addition, the Institute maintains nine faculty libraries and a number of smaller specialized libraries affiliated to institutes and seminars.

The annual budget amounts to 3 million Swiss francs. We have holdings of two million books and one million microfiches. Of a total of 50'000 periodicals, 9'000 are current journals. 350'000 documents are lent annually (half of which are sent by mail to external users). The majority of these external users are industrial companies of various sizes, engineering firms and individuals. The library staff of 145 has been kept at a constant level for the past 10 years and presumably will remain so for some time to come.

1.2 A SURVEY OF DP APPLICATIONS AT THE LIBRARY

Dramatic increases in holdings and loans forced the library to automate a number of its operations at a rather early date.

To-day we offer patrons an online loans control system which can also be accessed by external users via the telephone network. The system checks all entered orders for availability of the document. If it is not out on loan, a message is transmitted to the book stacks; otherwise, the patron is prompted to make a reservation if he or she so wishes. Loan expiry dates are checked daily and recalls are printed where necessary.

Catalogue-entries are made online and processed monthly. All catalogues are produced on microfiches and cumulated from 1976 onwards. Older catalogue-entries are not stored in the system. The card file containing these entries was micro-filmed and is also available on microfiches.

The development of a new system called ETHICS (ETH Library Information Control System) was started at the beginning of 1983. Whereas all current packages were developed and installed using Control Data equipment at the central computing centre of the In-
stitute, ETHICS will run on our own machine (IBM 4341) which is 
operated and used exclusively by library staff. With an 
estimated effort of 40 man years, we are developing one system 
containing all previously available functions. Patrons will 
search for their literature directly at visual display units 
terminals) and will be able to put through their order at the 
pressing of a button. The system will be connected to the closed 
loop network of the ETH (called KOMETH). Eventually it will also 
be accessible by the Swiss PTT's network TELEPAC through KOMETH. 
Searching and ordering of documents will be possible at any type 
of terminal and external patrons will have their order mailed to 
them within 24 hours.

All functions of the automated journals checking system, that are 
in use to-day, will eventually be incorporated in the ETHICS sy­
stem. Important parts of these are already implemented in a way 
which allows for a virtually unaltered transfer to ETHICS.

The ETH at Lausanne, in the French speaking part of the country, 
is planning to take the ETHICS package and the participation of 
other libraries is anticipated.

All development of automated systems was carried out by the 
library's own DP department. This department comprises 13 
people, who besides doing analysis and programming are also 
responsible for the running of the system (operation and systems 
programming).

1.3 DEFINING 'PERIODICALS', 'JOURNALS' AND 'SERIALS'

At the ETH Library we define a periodical as a continuing 
publishation the termination of which cannot be foreseen at its 
announcement.

A journal is defined as a periodical with the following 
characteristics:

1. Single issues carry some type of designation (e.g. issue 
number) which makes that copy unique

2. it is published regularly

3. it is published at least once a year

Periodicals that do not meet these requirements are defined as 
serials.

This differentiation is not always easy to apply. 
Serials and journals are at present checked and registered by two 
different sections. In future these may be merged, but one 
important distinction remains: whether or not reminders for 
missing issues can be sent.
1.4 THE PERIODICALS SECTION

The periodicals section handles the control and registration of current journals. Ordering of new subscriptions is done by the acquisitions department. New journals and title changes are catalogued by another office: the cataloging section.

The journals section is staffed by four persons. Of these, three handle checking and registration. The head of the section also does invoice checking and correspondence. 70'000 issues are processed annually and 15'000 volumes are dispatched for binding. Every year about 300 new subscriptions are ordered and some 100 titles either cease publication or their subscriptions are cancelled. Altogether we have 9'000 current journals, budgeted annually at 1.5 Million Swiss francs.

1.5 HISTORY OF PEKOS

The development of a system for the checking and registration of journals was started as early as 1974. The first version called PEKOS-1 was implemented at the beginning of 1975. PEKOS, spelled out, means 'Periodica-Kontroll-System'. In PEKOS-1 title-changes still had to be punched onto cards. With its successor, PEKOS-2 (fall of 1975) this activity could be performed online. PEKOS-2 was operational for seven years (1975-82). It handled the recording of incoming journal-issues, the querying of holdings and the sending of reminders for missing issues. Data for invoice checking were recorded by hand in a card file. This second version of PEKOS was demonstrated at a meeting here three years ago (Essen Symposium 'Current trends in Serial Automation' 1980). Over the years several unsatisfactory aspects became apparent. The following defects led to the development of a completely rewritten version:

1. invoice control was not an integrated part of the system
2. there were very limited possibilities for the designation of single issues. Until then, only numerals and single characters could be used and only three levels for type of designation were allowed.
3. Multiple types of designation could not be stored.
4. Data needed for circulation control had to be entered using a different independent program.
2.1 DESIGN OBJECTIVES

We formulated the following objectives for the design of PEKOS-3:

- Elimination of the card file, in which all incoming journal issues were also recorded.
- Decentralized retrieval of data on issues received (this feature was already incorporated in PEKOS-2).
- Automatic printing of reminders, with the possibility of marking special cases (e.g., delayed claiming of a journal or of all journals from the same supplier).
- The possibility of using stored information as a database for loans.
- Coding the issue designation(s) of a journal in the 'natural' form, as they appear on the journal.
- Serials titles should also be recorded.
- Storing of multiple types of designation.
- The system should have the ability to predict designations of journal issues yet to be published in order to minimize the need to enter data by hand.
- The design should allow for the system's possible later incorporation into ETHICS.
2.2 TYPE OF DESIGNATION

The term 'numbering' is often used in the literature instead of 'designation'. This expression tends to give the impression that one is only dealing with numerals. This of course is not always true. We now show some examples of different types of designation:

3
Januar
Sommer
5. Dezember 1978
Kumulierter Index zu den Baenden 1-10
3/1
1978/Heft 5
3/A
Heft 5/Teil 2
Abt.Physik/1978/Heft 5
8-9
Juli-August
Januar-Maerz/Part 1

Designations may be multilevel. Up to six levels, each having the same format, are allowed by the PEKOS-3 system. Each level can contain name, value, or form descriptions.
The following is a list of designations used.

- **ABT** (section)
- **ART** (article number)
- **AUFL** (edition)
- **BAND** (volume)
- **FOLGE** (continuation)
- **HEFT** (issue)
- **IND** (index)
- **JAHR** (year)
- **JG** (year number)
- **LIEF** (part)
- **SEITE** (page number)
- **SEKT** (section)
- **SERIE** (series)
- **SUPPL** (supplement)
- **TEIL** (part)
- **TITEL** (title instead of designation)
- **WOCHEN** (week number)

* = not yet implemented
Format of a level notation:

- numeric (1 - 999 999)
- single alphabetic character (A - Z)
- text string (containing up to 16 characters)
- month (JAN, FEB, ..., DEZ)
- season (FRU, SOM, HER, WIN)
- date (yyymmdd)
- year (iiii)
- year number (1-999)
- artificial number (<1> bis <9999>)
- week number

At any level a designation may be extended, e.g. 'JG=53-54'. In some cases a name may exist without an assigned value (e.g. unnumbered supplement). Numeric values may continue in one sequence, even where a higher level designation changes. Only one instance of continuous numbering is allowed for each designation.
2.2.1 THE ENTRY AND STORAGE OF DESIGNATIONS

Entry format of a designation:
A designation is entered as a continuous text string. Different levels are delimited by strokes (/). A dash (-) marks an extension. Designations at each level must start with the format. Some examples of designations are:

<table>
<thead>
<tr>
<th>complete form</th>
<th>abbreviated form</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND=15/HEFT=MON:JAN</td>
<td>15/JAN</td>
</tr>
<tr>
<td>ABT=TEXT:PHYSIK/TEIL=5/HEFT=A</td>
<td>PHYSIK/5/A</td>
</tr>
<tr>
<td>JAHR=1981/BAND=13/SUPPL</td>
<td>1981/13/SUPPL</td>
</tr>
</tbody>
</table>

The abbreviated form can be applied, when the designation pattern is known to the system and if the current notation matches this pattern.

The designations are internally encoded by program. In view of their use in our future loans system they are checked for syntax after entering. Patrons must therefore enter their orders applying the same syntax rules and these, of course, are likewise encoded to match any stored data.

For example: recording a designation in the form:

Vol. I, Issue 259

will be encoded internally as:

```
+---+---+---+---+---+
| 1 | 0001 | 2 | 0259 |
+---+---+---+---+
```

(where '1' stands for 'volume', '2' for 'issue'. These codes are exclusively reserved for internal use, and are never seen by the librarian.)

When ordering this issue, the user may type:

Band 1, Heft 259

This information is encoded to the same standardized form and then compared. Clearly both designations mean the same thing. In comparing the original forms, a human reader would recognize them as being identical, a computer program, however, would not. Encoding requires a syntactic analysis of the designations entered, and the program will only accept what can be encoded. Although these data are essential for the effectiveness of any loans system, many existing systems accept them in the form of free text strings. As these unstructured strings by their nature
cannot be checked for correctness, errors are bound to go unnoticed.

2.2.2 THE SEQUENCE OF DESIGNATIONS

Journal issues held should of course be displayed in logical sequence. If a designation merely consists of numerals, the correct sequence mostly follows automatically.

When dealing with journals, however, this publication sequence, which is, for instance, very important for the mailing of reminders, is in many cases not identical with the sorting sequence of the designations.

e.g.:

52/1
52/2
52/Sonderheft '10 Jahre Zeitschrift fuer....'
52/3

Therefore, the possibility of establishing a given sequence at will should be provided. When volume and year do not run synchronously, rather peculiar situations can occur, e.g. issues of a journal are published in this order:

1981  Vol. 21  Nr. 3
1982  Vol. 21  Nr. 4
1982  Vol. 22  Nr. 1

In this example year and volume number run parallel. When separating these two types of designation one gets:

1981/3  21/3
1982/4  21/4
1982/1  22/1

In 1982, therefore, the first issue of this journal carries number 4, the second one is number 1, etc. A system which would sort issue number 1 automatically before number 4 would be unable to handle a situation like this correctly.

2.3 TITLE ABBREVIATIONS

Title abbreviations are used to quickly identify an incoming journal issue. Rules for constructing these abbreviations have to satisfy the following conditions:

They must be very simple, so as to be easily memorized.

The number of characters to be typed in should be kept to a minimum.
It should be possible to assign several abbreviations to a journal, if necessary.

Abbreviations do not on the other hand, have to be unique. The system simply displays all titles that correspond to the entered abbreviation.

Title abbreviations are the crucial access points for the retrieval of holdings data for journals. They are constructed using the following rules:

1. Count the number of words in the title. All words are counted except for the article at the beginning (this rule applies to German, French and English titles only).

2. If the title consists of one word only, then the abbreviation contains the first six letters of this word.

3. If it consists of two words, then the abbreviation is formed from the first three letters of each word put together.

4. If it consists of three words, then the first two letters of each word yield the abbreviation.

5. The first letter of each word is taken when a title consists of more than three words (with a maximum of six letters)

For example:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACUSTI</td>
<td>Acustica</td>
</tr>
<tr>
<td>ACTAGR</td>
<td>Acta Agrobotanica</td>
</tr>
<tr>
<td>ELPOST</td>
<td>Electric Power Statistics</td>
</tr>
<tr>
<td>AAATA</td>
<td>Art and Archeology, Technical Abstracts</td>
</tr>
</tbody>
</table>

2.4 COMMENTS

The system, of course, cannot deal with all exceptional situations correctly. In these instances one can enter and store any string of free text as comments. PEKOS distinguishes between various types of comments, for example:

- those which refer to a journal as a whole
- those which are related to the type of designation
- those referring to a specific issue
2.5 PEKOS FUNCTIONS

PEKOS comprises about 30 functions. They are briefly presented here, summarized in groups according to their fields of activity.

2.5.1 BASIC ENTRIES

These functions provide for the initial entering of titles and abbreviations and their updating and changing.

NEU
Initial entry of a periodical. Title, call number, place of publication and title abbreviation must be entered. All other data are optional.

BEST
Placing an order with the supplier (for new journals or additional copies). If the first issue is not received on time, a reminder is printed and mailed.

LAUF
Entry of information as to whether a journal is current or not, the type of acquisition (purchase/exchange/gift) and whether or not single issues are to be recorded (Back-issues of non-current journals are not recorded).

TIT
Change of title, abbreviation, short title, publisher or place of publication. Important changes are notified to the cataloguing section by means of a printed message.

TA
Entry of additional title abbreviations and display of all abbreviations recorded for this title.

2.5.2 CHECKING IN

FREQ
Entry of publication frequency; this is used to determine time intervals for reminders.

BW
Definition of the designation-type by entering a specimen description (i.e. the expected designation of the next issue).

ZIRK
Location of the journal within the library; notes on internal circulation.

MAHN
Entry of reminder codes. As mentioned previously the code may denote the claiming of a single journal or claiming all journals from the same supplier with or without a delay.
IND Entry of a code to indicate where a journal's index covers more than one year.

2.5.3 RECORDING OF INCOMING ISSUES

ZUG Entry of a new issue. This is a crucial function of the system. Besides recording issues received, missing issues and their designations (call 'gaps') can also be entered. These gaps may just be unused designations (sequence gap, as created by the absence of issue nr. 3 in the series 1, 2, 4, 5, ...), but their notification to the system is important when claiming missing issues. Moreover, issues announced in advance can be recorded together with their expected designations ('forecasting').

ABF Retrieval of issue and volume information.

AEND Changing of an issue entry and insertion of an entry outside its normal sorting sequence.

2.5.4 BINDING

BIND Storage of information on a completed volume.

2.5.5 CALL NUMBERS

SIGN Retrieval of call number and full title using the title abbreviation as a search argument.

SIGA Change a call number.

PARA Entry of parallel call numbers (where multiple copies of a journal are held under various call numbers).

2.5.6 SUPPLIERS

LIEF Entry or updating of the supplier's address.

LIFA Linking a supplier to a specific journal.

LANZ Display a list of all journals shipped by one supplier.
2.5.7 ACCOUNTING

RNEU  Entry information on invoices/credit-notes.
RKOR  Update information on invoices/credit-notes.
RMOD  Entry of type of invoicing by a supplier: single or combined invoice, membership.
RLAN  Display of all current invoices of one supplier.
RSAN  Display of all invoices concerning one call number.

2.5.8 MISCELLANEOUS FUNCTIONS

AKT  Entry of a reminder text for action to be taken: for a given journal a message and a next activity date can be entered. When this date is reached, a message is printed.
HILF  Display of instructions for use of the system (HELP function)
DOK  Update of HELP function

2.6 OFF-LINE PROGRAMS

The mailing of reminders: missing issues are claimed once a week. Claims addressed to the same supplier are printed in one batch, and can be printed in English, French or German. These notices can simply be mailed without any further checking or other procedures. If necessary, a specific journal or all journals of one supplier can be given a 'delay code'. Any journal having this code activated will then be claimed with a delay of two to seven months. Without this code, the reminder for a missing issue is mailed after a period which equals twice the publication frequency. For example, a missing monthly is claimed after two months. If the issue is still not received, further reminders are printed later.

Microfiches: All relevant stored information is regularly reproduced in the form of microfiches.
2.7 EXAMPLES

In this paragraph several screen layouts with their contents are discussed.

In order to improve on clarity, some minor abridgements have been applied to them.

In all examples the screen is symbolized by a box. Line identifications may appear on the left of these boxes. The screen may be followed by an explanatory text where these line numbers may be referenced. Text strings entered by the operator are underlined (input). All other texts are generated by the system (output).

Example no. 1: Contents of VDU-screen after entering three journal issues using the function ZUG.

This journal has three equivalent designation types. The designations of the first two issues match the system predictions, the third, however is an abnormal designation.

<table>
<thead>
<tr>
<th>1</th>
<th>PEKOS ZUG 4A P 916 808 0667 FE ZL SURVEY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>SURVEY. &lt;A&gt; JOURNAL &lt;OF&gt; EAST AND WEST STUDIES</td>
</tr>
<tr>
<td>3</td>
<td>BW-MUSTER: BW1 BW2</td>
</tr>
<tr>
<td>4</td>
<td>BAND/HEFT JAHR/HEFT=SAISON HEFT</td>
</tr>
<tr>
<td>5</td>
<td>ERSCHIEINT 3-MONATLICH</td>
</tr>
<tr>
<td>6</td>
<td>FOLGT HEFT 27/3 1982/HER 121</td>
</tr>
<tr>
<td>7</td>
<td>-(J/N): J</td>
</tr>
<tr>
<td>8</td>
<td>FOLGT HEFT 27/4 1983/FRU 122</td>
</tr>
<tr>
<td>9</td>
<td>-(J/N): J</td>
</tr>
<tr>
<td>10</td>
<td>FOLGT HEFT 28/1 1983/HER 123</td>
</tr>
<tr>
<td>11</td>
<td>-(J/N): N</td>
</tr>
<tr>
<td>12</td>
<td>-BW1: INO=26-27</td>
</tr>
<tr>
<td>13</td>
<td>BEZEICHNUNG AUFSTEIGEND (J/N): J NEW YORK</td>
</tr>
<tr>
<td>14</td>
<td>-BW2: =LOESCHEN</td>
</tr>
<tr>
<td>15</td>
<td>-BW3: =LOESCHEN</td>
</tr>
</tbody>
</table>

Explanations:

- Line 1: System, function, screen lay-out number ('4A'), call number, supplier number, assistant's initials option ('ZL' means: current journals are displayed only) and abbreviation as entered
- Line 2: Titles (text strings enclosed by <......> will be ignored by the sort program)
- Lines 3+4: Display of designation pattern, the issues in this example are known by three designations: volume/issue, year/season and a consecutive number id
- Line 5: publication frequency (every three months)
- Line 6: prediction of issue designation
- Line 7: Confirmation
- Lines 8+9: the same for the second issue
- Lines 10+11: the same for the third issue, but this time the designation differs from the one predicted by the system
- Lines 12-15: Entry of the special designation (index to volumes 26 and 27)
Example no. 2: Contents of VDU-screen after entering the title abbreviation 'COMPUT' using the query function:

```
+-----------------------------------------------------------+ 1: PEKOS ABF 3 FE ZL COMPUT
2: 1: COMPUTE P 715 396 ZL GREENSBORO
3: 2: COMPUTER P 713 068 ZL ENCINO
4: 3: COMPUTERWOCHE P 714 678 ZL MUNICHEN
5: 4: COMPUTERWORLD P 715 067 ZL CHICAGO
6: 5: <DIE> COMPUTERZEITUNG P 713 778 ZL LEINFELDEN
7: 6: COMPUTING P 713 676 ZL LONDON
8: 7: COMPUTING P 712 012 A ZL WIEN
9: SUPPLEMENT AN SER-KAT (P 712 012 B)
10: -TITELNR: 3
```

Seven current journals are displayed, which have been assigned the abbreviation 'COMPUT'. To every journal a current id-number, its title, its call number, its type ('ZL' meaning 'Journal, current') and its place of publication are displayed. The appropriate title number can now be typed in, and the desired entry is displayed. Note that comments in line 16 indicate that this journal's supplement is held as a serial under a separate call number.

Selection of title number '3' results in the following display:

```
+-----------------------------------------------------------+ 1: PEKOS ABF 4 P 714 678 1919 FE ZL COMPUT
2: COMPUTERWOCHE
3: LAEUPT KAUP
4: ERSCHEINT 1-WOCHENTLICH
5: BW-MUSTER: BW1 BW2
6: HEFT HEFT=DATUM
7: LETZTE HEFTE
8: HEFT 16 15.04.83
9: 20.04.83 17 22.04.83
10: 25.04.83 18 29.04.83
11: 02.05.83
12: RUECKW, ANFANG (R/A), GESUCHTES HEFT ODER EXTRAS (X): /
13: WEITER (J/N) ODER FUNKTION:
```

Of each journal the most recently recorded issue is displayed. All issues in this example carry two designations: an issue number and a date. The continuation line holds the date of entry into PEKOS. The operator can now choose to proceed by typing in 'R' (in line no. 14) to browse backwards, or enter 'A' to request a display of the oldest recorded issues. It is also possible to select a specific issue designation. After typing 'X' one may wish to select special functions such as 'display all bound volumes', 'display all missing issues', etc.
Example no. 3: The function LANZ causes the system to display all journals shipped by a specific supplier.

For instance:

```
PEKOS  LANZ  3  0806  P  ASSOCIATION FOR
            COMPUTING MACHINERY
            11 WEST 42ND STREET
            NEW YORK, N.Y. 10036
            USA

TITEL (J/N): J
BS P 255  ACM TRANSACTIONS <ON> COMPUTER SYSTEMS  NEW YORK
P 714 193  ACM TRANSACTIONS <ON> DATABASE SYSTEMS  NEW YORK
P 712 253  COMMUNICATIONS ACM  BALTIMOR
P 714 159  COMPUTER ARCHITECTURE NEWS  NEW YORK
P 713 941  COMPUTER COMMUNICATION REVIEW  NEW YORK
P 713 944  COMPUTER GRAPHICS  NEW YORK
P 714 064  COMPUTER PERSONNEL  NEW YORK
P 713 942  COMPUTERS AND SOCIETY  NEW YORK
P 712 463  COMPUTING REVIEWS  NEW YORK
P 713 081  COMPUTER SURVEYS  BALTIMOR
P 714 160  DATA BASE  NEW YORK
P 713 952  FORUM  NEW YORK
P 712 450  JOURNAL <OF> <THE> ASSOCIATION <FOR> COMPUTING MAC

FORTSETZUNG (J/N): J
```

The top lines show the supplier's name and address. The following lines display all journals shipped by this body (call number/title/city of publication). As many titles as the screen can hold are displayed. After typing 'J' the continuation of the list is shown on the continuation screen.
Example no. 4: Function 'BW' allows for the changing of a type of designation.

<table>
<thead>
<tr>
<th>Line</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PEKOS BW 4 P 714 678 1919 FE ZL MUEENCHEN</td>
</tr>
<tr>
<td>2</td>
<td>COMPUTERWOEHE</td>
</tr>
<tr>
<td>3</td>
<td>BW-MUSTER: BW1 BW2</td>
</tr>
<tr>
<td>4</td>
<td>HEFT HEFT=DATUM</td>
</tr>
<tr>
<td>5</td>
<td>-BW-NR (1/2/3), ANZEIGE (A) ODER (HILFE): 1</td>
</tr>
<tr>
<td>6</td>
<td>BW: JAHR=1983?HEFT=19</td>
</tr>
<tr>
<td>7</td>
<td>EINGABEFehler: SYMBOL NICHT ERKANNT</td>
</tr>
<tr>
<td>8</td>
<td>JAHR=198?HEFT=19</td>
</tr>
<tr>
<td>9</td>
<td>..........</td>
</tr>
<tr>
<td>10</td>
<td>BW: JAHR=1983/HEFT=19</td>
</tr>
<tr>
<td>11</td>
<td>ANZAHL HEFTE PRO JAHR: 52</td>
</tr>
<tr>
<td>12</td>
<td>HEFTE DURCHLAUFEND NUMERIERT: N</td>
</tr>
<tr>
<td>13</td>
<td>BW-MUSTER: BW1 BW2</td>
</tr>
<tr>
<td>14</td>
<td>JAHR/HEFT HEFT=DATUM</td>
</tr>
<tr>
<td>15</td>
<td>52</td>
</tr>
<tr>
<td>16</td>
<td>-BW-NR (1/2/3), ANZEIGE (A) ODER (HILFE): /</td>
</tr>
</tbody>
</table>

Explanations:

- Line 5: Enter the designation-id of the designation type to be changed (here: '1').
- Line 6: As an example, the designation of the next issue is entered. Instead of typing a stroke (/), a question mark is entered accidentally. This causes any previously typed character to be deleted ('backspacing').
- Lines 7-9: The system informs us that the entered data cannot be accepted. The unrecognized part of the data is signalled by displaying a number of dots (......) in the line following the one containing the error (A technical note: screens are operated in line mode, in contrast to screen mode).
- Line 10: This is the corrected entry
- Line 11: Enter the number of issues published yearly
- Line 12: Indicate that issue numbering isn't continuous (i.e. issue numbering starts at '1' every year)
- Lines 13+15: Display of the updated designation type
2.8 SOME STATISTICS

(Status of 31 December 1982)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of title abbreviations</td>
<td>42'050</td>
</tr>
<tr>
<td>Number of abbreviations entries</td>
<td>52'262</td>
</tr>
<tr>
<td>Abbreviations/call number (average)</td>
<td>1.24</td>
</tr>
<tr>
<td>Current journals</td>
<td>8'942</td>
</tr>
<tr>
<td>Irregularly published journals</td>
<td>7'772</td>
</tr>
<tr>
<td>Total number of journals</td>
<td>16'714</td>
</tr>
<tr>
<td>Number of serials</td>
<td>27'095</td>
</tr>
<tr>
<td>Total number of periodicals</td>
<td>43'809</td>
</tr>
<tr>
<td>Suppliers</td>
<td>5'425</td>
</tr>
<tr>
<td>Journals with one designation</td>
<td>25%</td>
</tr>
<tr>
<td>&quot; &quot; two designations</td>
<td>74%</td>
</tr>
<tr>
<td>&quot; &quot; three designations</td>
<td>1%</td>
</tr>
<tr>
<td>one-level TD</td>
<td>1%</td>
</tr>
<tr>
<td>two-level TD</td>
<td>96%</td>
</tr>
<tr>
<td>three-level TD</td>
<td>2%</td>
</tr>
<tr>
<td>4-6 level TD</td>
<td>1%</td>
</tr>
</tbody>
</table>

(TD = title designation)

The following format types are used:
- numeric                                                | 86%     |
- months                                                 | 13%     |
- seasons                                                 | 0.5%    |
- calendar date                                           | 0.5%    |

Publication frequencies:
- yearly                                                  | 5%      |
- half-yearly                                             | 9%      |
- 4-monthly                                               | 4%      |
- quarterly                                               | 31%     |
- 2-monthly                                               | 20%     |
- monthly                                                 | 27%     |
- fortnightly                                             | 2%      |
- weekly                                                  | 2%      |

Designation predictions were correct in 92% of all cases. The remaining 8% had to be changed by hand. 7'000 reminders were mailed and 65'000 journals were checked in.
2.9 SYSTEM ASSESSMENT

The total time invested in developing the PEKOS-3 system was ten 'man'-years. While it is difficult to express the advantages of the new system in numbers, we can state a number of positive aspects that come to mind when comparing it with the former manual procedures:

1. Speeding up of work: the automated checking per journal issue is faster than the manual updating of the hand-held card files.

2. Decentralized querying: other sections of the library may use their own terminals to retrieve data on journals held, without disturbing the people working in the journals control section.

3. Thanks to the regularly mailed reminders, missing issues may be purchased before they run out of print. Manual checking and registration procedures would have required a much greater personnel investment to guarantee a regular and effective mailing of reminders.

4. Stored designations can be used as a basis for the loans control systems. In this way, patrons can be offered an improved service when they want to retrieve specific literature, and time consuming calls for help from the information desk can be substantially reduced.

5. Statistics on the operation of the system can be produced easily.