

Appendix 1

MARC field selection criteria

A summary of the MARC fields selected for Okapi appears in Section 4.2. These particular fields were chosen for the following reasons.

The author (100, 110 or 111) and title (245 or 240) are necessary because the record would be virtually meaningless without them. They provide a basic description of the item, but some of their subfields are not essential. It was decided to exclude the statements of responsibility from the title fields (see Section 4.3.1), and to use only the initials rather than the whole forenames from personal name fields.

The Dewey number (082) and local spine label and site code fields are essential in order to locate the item on the shelf.

The control number (001) is probably essential because it uniquely identifies the record for maintenance purposes. It is not displayed to the general user.

Several fields are particularly useful in creating an online catalogue because of the contribution they can make to enriching the subject access. Subject headings (083, 600, 610, 611, 650, 651), part titles (248) and series titles (440, 490) are all included in the Okapi record mainly for this purpose. They contribute whole phrases as well as separate words to the index.

The added names (700, 710, 711) are important in searches for “known items” as well as subject searches. Users frequently associate an item with a name other than the author. They also seldom know, or care, what a main entry is, and may not even know what an author is. Words and phrases from corporate names can often enrich subject access as well. For example: Festival of Britain.

Some subfields from publication (260) and edition (250) are included because they can help users to make a selection when several similar records are displayed.

The contents note (505) is only used for records with analytical entries, see Section 4.3.3.

It was decided to include a simplified language code (from 008) to indicate whether an item was in English or not. This has not been used yet but it would be to enable lists of stop words and/or articles to be language dependent, and allow searches to be limited by language.

An abbreviated version of the DC edition note (509) was included at the request of PCL Library's Technical Services Unit. It has not been used yet.

The local accession numbers field indicates how many copies of a title are held in each site library. The actual accession numbers are not currently displayed to the general user, but would be used if Okapi was linked to a circulation system.

Appendix 2

Subfields used from selected MARC fields

This appendix describes which subfields are used from the selected MARC fields. The subfield codes are converted into appropriate punctuation marks (see also Section 4.5.1). The transfer of catalogue maintenance from LOCAS to SWALCAP will involve some minor changes. These changes will cater for the SWALCAP format of local fields, and the use of SWALCAP control numbers for PCL records.

001 Control number

The control number is unique and identifies the record for maintenance purposes. It is not displayed to the general user.

Examples: b7611264 (a BNB number)
 lc78015124 (a LC number)
 pc20041560 (a PCL number, other prefixes also in use)
 0900948647 (an ISBN)

008 Information codes

The 36-38th characters of the information codes field hold a language code. This is simplified in the Okapi record to indicate merely if the item is in English or not.

082 Dewey Decimal Classification numbers

Okapi uses \$a (base number) and \$b (segmentation points) separated by "\$" so that the segmentation information is retained. The \$c (Dewey edition) is discarded since 509 is used instead.

Example: "\$a309.2\$b62\$b09816\$c18"
 becomes: "309.2\$62\$09816"

083 Verbal feature headings

Where this field is present, \$a is used to enrich subject access.

Example: "\$aEuropean arts. Surrealism, to 1966\$bEssays"
 becomes: "European arts. Surrealism, to 1966."

100, 110, 111 Name main entry heading (i.e. author)

For 100, i.e. personal names, where the first indicator is 1,2 or 3 to indicate that the person has a surname, \$a (surname) is used together with the initials only of the other names (\$h).

Example: “100.1\$aLambert\$hJean Clarence”
becomes: “Lambert J C”

For 100 with first indicator 0 (for Kings and Popes) \$a, \$e and \$f are used.

Example: “100.0\$aJohn Paul\$eII\$fPope”
becomes: “John Paul II, Pope”

For 110 and 111, i.e. corporate and conference names, \$a, \$c and \$e are used.

Example: “110\$aLibrary Association\$cLondon and Home Counties Branch\$cArchitect-Librarian Working Party”
becomes: “Library Association. London and Home Counties Branch. Architect-Librarian Working Party”

240, 245 Title

Okapi uses a 240 field only if the 245 has first indicator 0 indicating no title access required. In this case the 245 field is ignored and 240 \$a (uniform title) is used instead.

If 245 has first indicator 0 then 245 \$a only is used only if there is no 240.

If 245 has first indicator 1 or 3 Okapi uses the following 245 subfields:

\$a title proper

\$b other title information

\$i 2nd or subsequent title by the same author

\$j 2nd or subsequent title by a different author

\$k parallel title

\$l enumeration, alphabetical designation and/or title of section or supplement of serial

Example: “240\$aNotes sur le cinematographe\$rEnglish
245\$aNotes on cinematography\$dRobert Bresson
\$etranslated [from the French] by Jonathon Griffin”
becomes: “Notes on cinematography”

The exclusion of statements of responsibility is discussed in Section 4.3.1.

248 Part titles

The following subfields are taken from 248:

- \$g number or designation of volume or part
- \$h title of volume or part
- \$i 2nd or subsequent title by the same author
- \$j 2nd or subsequent title by a different author

250 Edition statement

Okapi uses 250 \$a, edition statement, and \$e, subsequent edition statement, related to the appropriate title (245 or 248).

260 Publisher

Okapi uses 260 \$b, publisher's name(s), and \$c, date of publication, related to the appropriate title (245 or 248).

440, 490 Series titles

Okapi uses 440 \$a and 490 \$a related to the appropriate title (245 or 248).

505 Contents note

The 505 \$a contents note is only used for records with analytical entries. As explained in Section 4.3.3, this is a compromise between dealing with such records properly or not at all.

509 DC edition note

If this field is present its contents are held in coded form.

600, 610, 611 Name subject headings

Subfields corresponding to those described for 100, 110, 111 are extracted from the name subject headings fields.

650, 651 LC topical and geographical subject headings

Where present these fields (\$a only) are used to enrich subject access.

Example: "650 \$aCrime and criminals\$zKent\$yHistory
\$xCollections"

becomes: "Crime and criminals."

700, 710, 711 Added names

Subfields corresponding to those described for 100, 110, 111 are extracted from the added names fields.

Local fields

The spine label is extracted from 990 \$a.

The site code(s) are extracted from 999 \$a and held in coded form.

The accession numbers are extracted from 998 \$a's. Level 1 takes precedence over level 0 which holds old style numbers.

Example: "998:0 \$aA6821526 Y7417536

998:1 \$a21.0006364X 22.00037868"

becomes: "21.0006364X 22.00037868"

Appendix 3

Okapi record format

Field directory

The field directory contains the lengths of the nine variable length fields. Each length is held in two bytes giving a fixed length directory of 18 bytes. Neither the total record length nor the positions of the fields relative to the start of the record are held since these can all be found by simple calculations. For example, the total record length is the sum of the lengths of all nine fields, plus 18 (the length of the field directory), plus two (for the CRLF), rounded up to a multiple of four.

Field one: Author

The author field contains the subfields extracted from the MARC 100, 110 or 111 field, if any. It may be empty if there was no name main entry heading. Personal names are distinguished from corporate/conference names by preceding them with the “|” and “\$” respectively (see Appendix 4).

Field two: Main title

The main title field contains the subfields extracted from the MARC 240 or 245 field. Non-filing characters at the start, given by MARC second indicator, are marked by “_” (see Appendix 4).

Field three: Edition and publisher

The edition and publisher field consists of any 250 (edition) and 260 (publisher) relating to the main title. If there is more than one publisher they are separated by “/”.

Field four: Series and part titles

The series and part title field can contain data from several different MARC tags in the following sequence:

440, 490, 248, 250, 260, 440, 490, 248, 505

The first 440, 490 will be series titles relating to the main title. They will

be followed by any part titles (248), each followed by any 250, 260, 440, 490 that relate to it. Non-filing characters at the start of fields are marked. For records with analytical entries only, any contents note (505) will also form part of this field, see also 4.3.3.

Field five: Added names

The added names field contains any names from MARC 700, 710 or 711 fields. Personal names are distinguished from corporate/conference names.

Field six: Class marks

The class marks field contains the Dewey numbers from MARC 082 separated by spaces. Segmentation points are marked with a “\$”. The first Dewey number is followed by the spine letters from the local 990 field.

Field seven: Accession numbers

The accession numbers field contains the accession numbers, from the local 998 field, separated by a single blank.

Field eight: Codes and control number

The codes and control number field contains the control number (from 001) preceded by three fixed bytes of coded information.

The first byte is the site indicator byte which is derived from the local 999 field. A bit is set for each site which has at least one copy of the item.

The second byte holds the publication date minus 1750 (to enable it to fit into one byte). The date also appears in field three or four, in its original form from MARC 260 \$c. Section 4.7 explains the reason for holding one easily accessible date for each record.

The value of the third byte depends on the DC edition (from 509) and whether the item is in English or not (from 008).

Field nine: Subject headings

The subject headings field contains subject headings extracted from MARC 083, 600, 610, 611, 650, 651. Name subject headings are marked as personal or corporate/conference.

Appendix 4

Special characters used in the Okapi record

The Okapi record employs seven special characters which are described below.

Five special characters (`|` `$` `_` `^` `@`) are used to prefix data of five different types in fields where the data type is not implicit. These prefixes are used both by the indexing programs and by the online search program. The indexing programs use the prefixes to generate appropriate index entries depending on the data type. The online search program uses the prefixes in order to display the data in an appropriate manner (see Chapter 7).

The two remaining special characters are a non-ASCII indicator (`\`) which is used to indicate accents, diacritics, etc., and a field terminator (`#`).

`|` (vertical bar) Personal name indicator

Personal names, whether authors, added names or subject headings, are preceded by a `|` to indicate that they are names in the form of a surname with initials.

`$` (dollar sign) Corporate/conference name indicator

Corporate or conference names, whether authors, added names or subject headings, are preceded by a `$` to indicate that they are names of corporate bodies.

`_` (underline) “Don’t index” indicator

Leading articles of titles, other non-filing characters denoted by MARC, and volume or part numbers are preceded by a `_` and followed by a `^` (see below).

`^` (up arrow) Title-like indicator

Titles and subject headings that are not names are preceded by a `^` to indicate that they are to be indexed as text. This means that each

individual word and the whole phrase will be entered in the index. (See also Section 5.4.3.)

“@” (at sign) Edition/publisher indicator

Each element of edition or publisher data is preceded by a “@”. This is to distinguish such data from other non-indexed elements such as leading articles and volume numbers, which enables Okapi to display it with an appropriate label.

“\” (backslash) Non-ASCII indicator

MARC uses non-ASCII characters for accents, diacritics, digraphs and other letters not in our alphabet. For Okapi each non-ASCII character is preceded by a “\” to indicate that it should be ignored if it cannot be displayed properly. Where there are appropriate alternatives available in our alphabet these are held after the non-ASCII character and will be displayed instead:

i.e. so-called Turkish i -> i
 Polish L, l ----- > L, l
 Scandinavian O, o - > O, o
 Serbo-croat D, d -- > D, d
 Thorn ----- > TH, th
 Digraphs ----- > AE, ae, OE, oe
 Eth ----- > th

“#” (hash sign) Field terminator

Each of the nine fields in the Okapi record, including empty fields, is terminated by a “#”.

Appendix 5

General comments received about Okapi

The following comments are from two students in a radio interview by LBC (London Broadcasting Company), broadcast on 9 December 1984 at 2.30pm :

“Much quicker and much easier. It’s much more useful because you can ask it to search for a particular subject, which you can’t do on microfiche, you have to look through the names and then through the titles. So that if you wanted a book on, say, Northern Ireland you can put that into the computer and it looked. And if you wanted a list of books by a particular author it could give you those as well. So it’s much more useful than the microfiche.”

“I find it easy to use, quicker to use than the microfiche, and the advantage is that you don’t actually need to know the exact book you are looking for, you can search for a subject. I hope it becomes a permanent feature of the polytechnic.”

The following comments are a selection of those received from most of the 70 students interviewed in Riding House Street Library, mainly in response to the questions:

“Can you think of any additional features you would like?”

“Have you any comments?”

Regarding additional features, they often said it was too early to have much idea, and they needed to use Okapi more to see possible improvements. The answers are listed for each individual one after the other, because it is difficult to group them without losing some interesting points. The students’ verbatim comments are in quotes. Observations and clarification by the interviewer are in square brackets.

1. "Straightforward, physically less tiring." [But she wanted some help such as: the more specific you are the better the results. She thought her topic was not specific enough ("social mobility Open University Sets") and that this was why the computer offered her many books — in fact the opposite was true: her search was so specific that there was no match, and Okapi did a "Hyper-OR" (Section 6.5) and displayed records containing only some of her terms. She also wanted a bigger keyboard.]
2. "More fun. Black key not obvious." [This student was looking for a "sub-topic" and thought that the subjects were very librarian-oriented, so tried to find a subject which fitted with this idea.]
3. "Would need to type faster to be able to use it. Didn't dare press the keys, didn't know what might happen. Might like it in the end, but need time to learn it."
4. "Only quicker once you know how to operate it."
5. [Puzzled by several editions of same book:] "they are all under the same class number." [Didn't like Blue key, which redisplay previous input.] "Microfiche gives too many book details [numbers — presumably accession and control numbers, which Okapi does not display] but allows you to scan, unlike the computer. Ought to tell you if the book has been taken out or not, and also say on which floor it is. With 'LAW' [many postings] it ought to give all the class numbers it covers; I want it to be oriented towards the library shelves when nothing is found as well as when too many things are found. Ought to include the indexes at the back of the books." [He wondered about people with no experience with computers — he had a lot.] "If there is only one author, there is no point going through author index. How can you search for two authors at once?"
6. "The microfiche is ordered. If you get the right fiche microfiche is easier. Takes time to get used to computer. In the list of authors I didn't understand which number was meant, tried the one on the left and it worked!"
7. "Getting the right fiche is a physical effort; but with the computer you have to type instead. I feel it is more useful for subjects than authors/titles. I was a bit taken aback by Green key for RETURN."

8. "Liked coloured keys. More fun."
10. "More efficient. Why does it do words one by one? I put 'non verbal' and I had to go through all 'non'... It could ask which word is the most important."
11. [Started off rather suspiciously:] "It won't bite? Card physically laborious. Fiche needs mental concentration and painful for the eyes. I would like bookshelf browsing [on the computer]. Abstracts should be added, to say under which angle the topic is treated. Also if there is a stupid title with no subject, how do you find it? I would like to search external databases with it — when are you going to put the whole world in it? In this computer world, not done yet!" [Asked why irrelevant things came up. With only the word "strike":] "there are probably millions of books about strikes in the library!"
12. "Much easier than I expected although I realised I made a mistake [wrong author from reading list] because the computer didn't find it. Are you going to keep it in here?"
13. "Convenient" [said that he did the same search three times] "to make sure that the computer gave the same result."
14. "I like the coloured keys but would like them labelled as well. Too much trouble looking at screen and keyboard at the same time. If you know computers it might be easier and quicker. The things I didn't find I assumed they were not in the library" [He thought that if the author is common, the computer didn't ask for its initials. He put in something like "Smith and Green". The interviewer explained (and showed) that the computer was expecting only one author.]
16. "I wanted to see how it works and played with it and felt confident." [Only tried author/title.] "I hadn't seen the backspace."
19. "Neat. I had problems with the coloured keys but because I didn't read it!"
20. "It gives more alternatives than the microfiche especially if you have only a few words of the title."

21. "Logical, straightforward, modern. If I was good at typing I would use it all the time. So for the moment microfiche is quicker although I will use the computer again."
23. "Needs getting used to because of typing but I liked the coloured keys (except for Black key where you have to look at the keyboard). I didn't give enough parameters so the computer couldn't find anything."
24. "Fiche makes me dizzy. Didn't like coloured keys because I am already familiar with keyboard, but it is a good idea. Better than Surrey system [in-house system] — gives more information, goes back and forth more easily. But I would like more detailed subjects. Catalogues don't tell you if the book criticises the subject or reviews it or what."
25. "More fun. Coloured keys OK." [Found out about derived title/author key (see Fig. 7.21).]
26. "More efficient. Fiche painful. But the Aston system [Geac] had larger VDUs and keyboards so was easier to manipulate, and the instructions on the wall were useful."
28. "Fiche quicker than computer. I can't be bothered typing in and would rather use the fiche."
29. "I prefer the computer. What about articles?" [Journals.]
30. "Precise, more efficient. Coloured keys easy. Subject search gives very good results."
31. "Instructions easy to use, but if I could type I would like it better."
32. "Instructions and coloured keys clear, it tells you what to do."
33. "Less fiddly than microfiche. The more used the faster. It also tells you about the books in other libraries. The librarian says 'try another library'. I didn't understand why I got six titles with only two relevant ones."
35. "Excellent, more efficient than microfiche, saves time and less laborious. What would take 3 hours with the microfiche takes 20

minutes with the computer. It also helps when you have a rubbishy reading list where everything is mixed up.”

36. “Dead easy, thorough, titles and subjects are in it. It’s possible to do a subject search easily, in case the book is out.”
39. “Thorough, saves time, friendly.”
40. “Gave me more information, faster. Instructions need getting used to.”
41. “I was intimidated [by technology] but felt I mastered it. I’ll never use the microfiche again. It’s great. Suggestion: add essays and magazines to the file.”
42. “Great, clear, quicker. I felt quite at ease. I use the microfiche as little as possible. I hope it stays.”
43. “Keyboard needs getting used to, and finding the right instruction. But I would use it rather than microfiche.”
44. “Better than microfiche. Microfiche scattered about and difficult to read. Also I couldn’t remember the author or title of a particular book and could do a subject search and found my book!”
46. “Instructions easy to follow, good results (even if not useful for me right now, useful in the future). Better results than expected because gave other related books. I looked in printed subject index there was nothing under my heading (for both computers and music, only under each word). I might find out the limitations of the computer later.” [Understood number of postings for each word (see Fig. 7.18).]
47. “I used it because the microfiche was busy. Daunting technology. Would use it again now that I’ve done it... Clear instructions.” [Obviously not thrilled.]
48. “Find microfiche quicker to use, but computer gives more useful related information, unlike microfiche. Gives you other items outside the reading list which is useful. [Unintended: author/title key gave some false drops.] I would use whichever is available, pretty equal, I am not fussy.”

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50. "Better, straightforward."
53. "Better than SWALCAP, which seems older design. Better keyboard, better display. Microfiche awful. Only one machine?"
54. "Necessity of reading instructions, takes time, have to know. Advantage of knowing how to type." [Although she said she liked it and would use it again.]
55. "Less fiddly than microfiche. Very simple, good idea. Slow compared with Wordstar where you can type ahead."
57. "Practical, saves time. Fiche always in the wrong place. Didn't get anything, but assume it was because reading list is very bad. Typing skill a problem and also psychological attitude to computers. I have to get used to them and I am just beginning."
58. "More information on subject than microfiche which gives titles only. Subject searching is better on the computer, it is like scanning bookshelves. Difficult to know if I made a mistake or if it is because there are no books in the library. It would be better if there were more books in the library. It is a bit like fishing in the dark the first time. It needs a bit of learning and concentrating. Opinion depends on success." [His search was not terribly successful, he thought it was incredible, and significant, that there was so little on "neurotics and society". Pointed out space bar not the same type of key as the coloured keys. He didn't use the space bar for some time and typed things like "neuroticismsociety".]
59. "No need to flick through. All the books are together. Simply laid out. Can be used by people who don't know about computers."
60. [Keyboard problems:] "getting your fingers together."
61. "More efficient. Microfiches never in order or missing. I couldn't find my book on the fiche, did on the computer. The instructions are straightforward, no need to press RETURN." [Computing student.]

63. "It asks what you want in a friendly manner; I would use it rather than microfiche. Wonderful. Suggestion: label the coloured keys so that you don't have to read the screen."
64. "Much prefer it to microfiche. [First-time user.] Clearer, gets answer even if rough area. Please keep it." [Said difference between Black/Red keys not obvious.]
65. "Better than microfiche, easy to read. Lists all books for one author. Only problem is typing."
66. "Quite good, provides information, gives different choices if cannot find it [author/title search tree — see Fig. 7.21]. Tried subject as well, it's fine."
67. "More efficient, but I didn't have any problems, it went OK so I may be biased. Instructions clear."
68. [Subject searching:] "More specific than microfiche [which is too general]. More machines!"
69. "Straight to the point, very easy to use. Even if you have just ideas in your head it gets something. Does everything for you except getting the book."
70. "Easy to start. Don't have to bother anybody. It's great."
71. "Microfiche more effort, instructions very explicit."
72. "Less chance of missing something, more thorough. Need one on each floor, in as many libraries as possible." [Only complaint:] "Black Key not obvious."
74. "Clearer, shows many books. Can I take it home? Ought to give books outside as well."
75. "Very, very good and simple. Gives other things. Made me think. It gave me subjects I never thought about. I am confident the machine tells me what is there. Never liked subject searching in microfiche. Microfiche seems dead. Very helpful for subject." [Liked coloured keys and hyper-OR, although didn't know why rubbish came at the end of it and asked why, and also complained

- that] “it doesn’t tell you when the search is over. Need more machines on each floor.”
76. “Better, more efficient, any more machines?”
77. “Simple, straightforward.”
78. “Tells you what you want to know quickly.”
79. “Really good, no hassling librarians, no hanging about, efficient.”
81. “More flexible, more pleasant.” [General complaint about catalogues:] “need more keywords per book, subject headings more extensive” [Also wanted a printer:] “spend most of the time writing down.”
82. “More modern.” [Computer science student.] “More interesting than microfiche.” [Doesn’t use libraries much, since they haven’t got what he needs.]
83. “OK for some things. When you know your book the microfiche is faster. Typing is a problem. Light-pen quicker than having to wait for sequence of screens. Microfiche easier to scan and swing around. Did a subject search, rather disappointing but mainly because there isn’t much in the library.”
84. “Physically easier, just pressing a button, thing comes up. It is NOT a computer, you don’t have to learn it!” [But he liked the Sussex system better, he had used it for two years, especially the browsing back and forth, and the fact that you have to specify what you are looking for (e.g. author or title or subject — see Section 7.4.2) at the beginning. He found Okapi’s author/title search misleading, and the coloured key descriptions not obvious at the first go.]
85. “It gives more results, more information, even if the query is vague, it gave me 10 or 15 books for my title search.”
86. [This person suggested that rather than providing a printer, something could be provided, like that available on cash machines, which would print very little (just class numbers, for example).]
87. “Brilliant, magic. I’ll use it rather than microfiche. It tells you what to do. I have problems with the alphabet so don’t like the microfiche.

As long as you can read, the computer can be used. With the microfiche you also have to get the other fiche, physical manipulation. With the computer everything is there, no need to fiddle around. I first used the author/title search, then the subject search which brought much more information.”

88. “Microfiche makes me dizzy. But I would rather use the microfiche for author/title searches. Computer easier for subject.” [Had trouble with “Karl Popper” in subject search. Asked why she couldn’t get more records. Interviewer explained about “Karl” AND “Popper”, and did “Popper”.] “It ought to cope with that.”

Appendix 6

Results of 70 interviews

1 Students' background and experience

| Age | | Sex | |
|------------------|----|------|----|
| 19-25 | 50 | M | 41 |
| 26-30 | 10 | F | 29 |
| 31-35 | 8 | | — |
| 36-50 | 2 | | 70 |
| | — | | |
| | 70 | | |
| Course | | Year | |
| Social Sciences | 39 | 1st | 21 |
| Business Studies | 11 | 2nd | 21 |
| Media Studies | 7 | 3rd | 26 |
| Psychology | 3 | PhD | 2 |
| Accountancy | 3 | | — |
| Social Work | 3 | | 70 |
| Computing | 2 | | |
| Women's Studies | 1 | | |
| Urban Planning | 1 | | |
| | — | | |
| | 70 | | |

| Keyboard experience | | Computer experience | |
|----------------------------|----|----------------------------|-------------------|
| Frequent | 25 | Regular computer user | 20 |
| Moderate | 28 | Course-related only | 39 ⁽¹⁾ |
| None | 17 | None | 11 |
| | — | | — |
| | 70 | | 70 |
| Previous OPAC use | | COM catalogue use | |
| None | 47 | Frequent | 49 |
| Okapi | 15 | Moderate | 19 |
| SWALCAP | 4 | None | 2 |
| Other | 4 | | — |
| | — | | 70 |
| | 70 | | |

[Other OPACs used were: Sussex University Library (modified Geac), Camden Public Library (Geac), Aston University Library (Geac), Surrey University Library (in-house system), Adelaide University Library, Australia (in-house system).]

- (1) Course-related computer experience seemed fairly minimal in most cases, 10 students made unprompted derogatory comments: "I feel an idiot with computers", "I am not good at it", "men use it!", "I hardly learnt anything", "it was very short", "very vaguely", etc.

2 Questions about Okapi

Question: "When will you feel confident about using Okapi?"

[Since no prompting was done, some people gave a length of time, some estimated the number of times Okapi would have to be used in order to feel confident, and others replied "now".]

| | | | | |
|----------------------|----|-----|---|----------------------|
| Now | 13 | (1) |) | |
| | | |) | |
| 1 minute | 2 | |) | 62% within 5 minutes |
| 2 minutes | 8 | |) | |
| 5 minutes | 16 | |) | |
| 10 minutes | 2 | | | |
| 15 minutes | 3 | (2) | | |
| 30 minutes | 5 | | | |
| 2-3 times | 5 | | | |
| 4-5 times | 1 | | | |
| 10 times | 1 | | | |
| 2 hours | 2 | | | |
| 2 days | 1 | | | |
| 2 weeks | 2 | | | |
| 1 month | 1 | | | |
| several months . . | 1 | | | |
| | — | | | |
| | 63 | (3) | | |

Question: "Did you like this computer catalogue or not?"

| | |
|------|----|
| Yes: | 63 |
| No: | 7 |
| | — |
| | 70 |

Question: "Why/why not?"

| | | | |
|--------------------------|----|------------------------------|---|
| Easier than microfiche: | 25 | Not easier than microfiche: | 3 |
| Quicker than microfiche: | 26 | Not quicker than microfiche: | 5 |

Question: "Would you use it again?"

| | |
|------|----|
| Yes: | 67 |
| No: | 3 |
| | — |

(1) Five of these people qualified their answer thus:

"Now, BUT for learning to type properly." 70

(2) One person answered: "15 minutes to understand the keys,
45 minutes to understand HOW it works."

(3) The first 7 students were not asked this question.

3 Questions about their search

Question: “What did you come with/were looking for?”

| Author(s) | Title(s) | Subject(s) | |
|-----------|----------|------------|------------------|
| X | X | . | 41 |
| . | . | X | 12 |
| X | . | X | 4 |
| X | . | . | 4 |
| X | X | X | 3 |
| . | X | . | 3 |
| . | . | . | 3 ⁽¹⁾ |
| | | | — |
| (52) | (47) | (19) | 70 |

Question: “Did you find what you wanted?”

| | | |
|------------|----|-----|
| Yes: | 40 | |
| Partially: | 17 | |
| No: | 13 | (2) |
| | — | |
| | 70 | |

Question: “What did you write down/keep?”

| Class | Author | Title | Publisher | |
|-------|--------|-------|-----------|-------------------|
| X | . | . | . | 42 |
| . | . | . | . | 19 ⁽²⁾ |
| X | X | X | . | 4 |
| X | . | X | . | 3 |
| X | X | . | X | 1 |
| X | X | . | . | 1 |
| | | | | — |
| (51) | (6) | (7) | (1) | 70 |

- (1) Three students just wanted to “see how it works”
- (2) Only 13 people said they didn’t find what they wanted, but 19 people didn’t write down/keep anything. One explanation is that the students know the class number(s) (probably only one or a few) where their usual books are. Several students said they just memorised the class number to go to the right shelf. Even when they did write down the class number, very often it was an incomplete one (without the spine letters, or only the part after the decimal point).

4 Some cross-tabulation

| | | Did you like Okapi? | | |
|--------------------------------------|------------|--------------------------------|----|-------|
| | | Yes | No | Total |
| Would you use it again? | Yes | 63 | 4 | 67 |
| | No | 0 | 3 | 3 |
| Previous OPAC use | None | 44 | 3 | 47 |
| | Okapi | 12 | 1 | 13 |
| | SWALCAP | 3 | 1 | 4 |
| | Other | 4 | 2 | 6 |
| Computer experience | None | 9 | 2 | 11 |
| | Course-rel | 34 | 5 | 39 |
| | Regular | 20 | 0 | 20 |
| Keyboard experience | None | 14 | 3 | 17 |
| | Moderate | 25 | 3 | 28 |
| | Frequent | 24 | 1 | 25 |
| COM catalogue use | None | 2 | 0 | 2 |
| | Moderate | 16 | 3 | 19 |
| | Frequent | 45 | 4 | 49 |
| Sex | M | 35 | 6 | 41 |
| | F | 28 | 1 | 29 |
| Age | 19-25 | 47 | 3 | 50 |
| | 26-30 | 8 | 2 | 10 |
| | 31-35 | 7 | 1 | 8 |
| | 36-50 | 1 | 1 | 2 |
| Did you find what you wanted? | Yes | 37 | 3 | 40 |
| | Partially | 16 | 1 | 17 |
| | No | 10 | 3 | 13 |
| | Total | 63 | 7 | 70 |
| | | Would you use it again? | | |
| | | Yes | No | Total |
| Did you find what you wanted? | Yes | 39 | 1 | 40 |
| | Partially | 17 | 0 | 17 |
| | No | 11 | 2 | 13 |
| | Total | 67 | 3 | 70 |

Appendix 7

Analysis of 96 user sessions

Length of sessions — average length: 10 minutes

| Length (in minutes) | 3 or less | 4-6 | 7-9 | 10-12 | 13-15 | 16-38 | |
|------------------------|--------------|-----|-----|-------|-------|-------|------|
| No of sessions | 13 | 23 | 21 | 19 | 7 | 13 | (96) |

Searches per session — average: 4 searches per session

| No of searches | 1 | 2 | 3 | 4 | 5 | 6 | 7-28 | |
|----------------|----|----|----|----|---|---|------|------|
| No of sessions | 27 | 11 | 21 | 12 | 6 | 5 | 14 | (96) |

Types of search input

| | | | | |
|----------------|---------------------|------------|-----|-------------|
| TI | Title only | 23 (6%) | 0.2 | per session |
| AU | Author only | 35 (9%) | 0.3 | |
| AT | Author/title | 190 (47%) | 2.0 | |
| <hr/> | | | | |
| SI | Total specific item | 248 (62%) | 2.5 | |
| SU | Subject | 155 (38%) | 1.6 | |
| <hr/> | | | | |
| Total searches | | 403 (100%) | | |

Sequence of searches per session

| | | | | | | |
|---|---|---|---|---|---|-------------|
| 62 sessions contained 1 search state(s)) | | | | | |) see below |
| 21 | " | " | 2 | " | " | |
| 6 | " | " | 3 | " | " | |
| 3 | " | " | 4 | " | " | |
| 3 | " | " | 5 | " | " | |
| 1 | " | " | 6 | " | " | |
| <hr/> | | | | | | |
| Total 96 sessions | | | | | | |

| One search state | | Two search states | | | Three search states | | |
|------------------|----|-------------------|----|--|---------------------|---|--|
| AT | 36 | AT, SU | 7 | | TI, SU, AU | 1 | |
| SU | 20 | AT, TI | 4 | | AT, SU, AT | 1 | |
| AU | 4 | AU, SU | 3 | | SU, AT, SU | 1 | |
| TI | 2 | SU, AT | 2 | | AT, AU, SU | 1 | |
| | — | AT, AU | 2 | | SU, AT, AU | 1 | |
| | 62 | TI, SU | 1 | | SU, AU, SU | 1 | |
| | | SU, TI | 1 | | | — | |
| | | TI, AT | 1 | | | 6 | |
| | | | — | | | | |
| | | | 21 | | | | |

Number and type of match by type of search processed

| | Specific item | | | Subject | | |
|---------------|-------------------|-----|-----|---------|---------|----------|
| | AT | TI | AU | 1 word | 2 words | 3+ words |
| match | | | | | | |
| 1 hit | 51 | | | | | |
| > 1 hit | 49 | | | | | |
| no match | 90 ⁽¹⁾ | 69 | 60 | 10 | 26 | 7 |
| | — | | | | | |
| | 190 | | | | | |
| match | | 28 | 34 | 27 | 29 | 0 |
| partial match | | 2 | 30 | — | — | — |
| hyper-OR | | 5 | — | — | — | 42 |
| | | — | — | — | — | — |
| | | 104 | 124 | 37 | 55 | 49 |

Use of HELP key and BLACK key (end of session)

The HELP key was used 27 times in the 96 sessions.

The BLACK key was used properly in 48 cases, wrongly in 77 cases. It was often used wrongly several times in the same session. Some users didn't use it at all.

(1) The title and author figures include title only and author only searches PLUS the author/title searches with no match. (The system then tries author only and title only, following the search decision trees, see Chapter 6.)

Spelling mistakes (in 96 sessions, 403 searches):

| | | | |
|---------|----|----------------------------|-------------------|
| Title | 21 | in 213 TI or AT searches = | 10% |
| Subject | 14 | in 155 subject searches = | 9% |
| Author | 12 | in 225 AU or AT searches = | 5% ⁽¹⁾ |

Author input mistakes (225 author searches)

| | |
|---|----------------|
| Two or more authors entered:– (e.g. “tagaki and platt”) | 21 cases |
| Forename(s) or initials entered with surname:– (e.g. “P.R. Wonnacott”, “Ralph Turner”) | 20 cases |
| | — |
| | 41 cases (18%) |

Title input mistakes (213 title searches)

| | |
|--|--------------|
| Journal title or conference name entered:– | 2 cases |
| User typed more than was allowed:– (without realising it) | 3 cases |
| | — |
| | 5 cases (2%) |

Author/title input mistakes (190 searches)

| | |
|--|--------------|
| Author and title mixed up in title “box”:– (e.g. “an introduction to law by p. harris”) | 3 cases |
| Author entered in both boxes:– (e.g. “Tricker”, GREEN key, “Tricker”) | 2 cases |
| Title in author box or vice versa or both:– | 3 cases |
| | — |
| | 8 cases (4%) |

(1) This does not mean that people had less trouble with spelling authors' names than titles or subjects, since the figures are for whole search statements. Titles and subject statements usually contain several words, whereas authors' names are usually only one word long. The percentage error rate would look very different expressed in terms of words. (See also below.)

| | |
|--|------------------------|
| No space between words:– (e.g. “nuclearenergy”) | 3 cases |
| Previous input not cancelled:– (e.g. “celibacysexual abstinence”) | 3 cases |
| Strange punctuation:– (e.g. “influence-of-neurotic-behaviour-on -social-skills”) | 6 cases ⁽¹⁾ |
| Problems with personal names as subjects:– (e.g. “Karl Popper” or “T.S. Kuhn”) | 5 cases ⁽¹⁾ |
| | — |
| | 17 cases (11%) |

(1) System fault rather than a user's mistake.

Appendix 8

Okapi logging results

The log contains 3912 searches which were carried out between 28 November 1984 and 22 January 1985, i.e. 28 working days.

Time during which Okapi was used/not used per day

Okapi was actually in use for 59% of the time it was made available. When in use, specific item searching occupied 56% of the time and subject searching occupied the remaining 44%.

Types of search

| | | | |
|---------------------|-------------|----------|--|
| Title only | 283 (7%) | (6%)) | } figures from 96 user sessions see Appendix 7 |
| Author only | 503 (13%) | (9%)) | |
| Author/title | 1458 (37%) | (47%)) | |
| Total specific item | 2244 (57%) | (62%)) | |
| Subject | 1668 (43%) | (38%)) | |
| Total | 3912 (100%) | (100%)) | |

Analysis of 1652 subject searches

Average number of terms per search expression: 2.2

| | | | | | | | | |
|------------------------------------|-----|------|-----|-----|-----|-----|-----|-----|
| No of terms: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| No of search statements: | 497 | 603 | 319 | 154 | 48 | 23 | 6 | 2 |
| % of total no of subject searches: | 30 | 36 | 19 | 9 | 3 | 1.6 | 0.4 | 0.1 |
| No of ANDs: | — | 502 | 267 | 152 | 48 | 23 | 6 | 2 |
| ANDs with no hits: | — | 105 | 157 | 114 | 41 | 23 | 6 | 2 |
| ANDs with some hits: | — | 395 | 109 | 36 | 6 | 0 | 0 | 0 |
| Average no of hits: | — | 30.5 | 8.1 | 7.5 | 1.2 | — | — | — |
| No of hyper-ORs: ⁽¹⁾ | — | — | 157 | 113 | 41 | 23 | 6 | 2 |

(1) An AND on three or more terms which fails is always followed by a hyper-OR (unless interrupted).

Appendix 9

Annotated and edited extract from the log of an Okapi station

| | |
|------------------------------|---|
| C ** Start | Date and time. |
| T 850110115132 | Screen 2: choice of search type (see Fig. 7.5) |
| S SCR2 | Option 1: "specific item" search, |
| U 1 | chosen after 14 seconds reading screen. |
| E +14 | Specific item input screen (see Fig. 7.8). |
| S SCR3 | |
| U AN ESSAY ON GOVERNMENT | TITLE, AUTHOR, INITIAL (GREEN key (" G") between |
| G MILL G J G | each). |
| E +22 | 22 seconds entering search keys. |
| O ESSAMILL [1] EssaMill (2) | Okapi tries 4/4 title/author key and finds two postings, |
| E +2 | taking 2 seconds for the search, |
| O (2) | and displays "2 books found". |
| U G G R | Two depressions of the GREEN key, then RED key (" R") - |
| | user displayed both the records. |
| C IXR: (0) BR: (0) FR: (2) | (No index recs, no brief recs, 2 full recs.) |
| E +36 | User spent 36 seconds looking at the records. |
| S SCR3 | RED key returns to Screen 3 |
| U AN ESSAY ON GOVERNMENT R | which still displays previous search. |
| T 850110115426 | User pressed RED to return to |
| S SCR2 | Screen 2, |
| U 2 | and this time chooses a subject search |
| E +7 | after 7 seconds. |
| S SCR7 | Subject search input screen (see Fig. 7.13). |
| U PENOLOGY G | |
| E +9 | |
| O penology [2] penombra (1) | Search fails, nearest match not displayed, |
| E +1 | |
| O (0) | "No books found". |
| U B | "BLUE key to enter another search". |
| E +5 | |
| S SCR7 | |
| U PENOLOGY B | Previous subject search deleted by BLUE key (" B"). |
| E +2 | |
| S SCR7 | |

| | |
|-----------------------------------|--|
| U PRISON SYSTEMS G[3 dels] | New subject search, user made 3 corrections, |
| E +14 | taking 14 seconds to enter the query. |
| O prison [1] prison (63) | |
| systems [1] systems (2368) | Okapi finds both words, |
| E +2 | (2 seconds), |
| P AND | performs an AND operation, |
| E +4 | which takes 4 seconds |
| O (1) | and finds one posting, |
| U G R | which the user displays. |
| C IXR: (0) BR: (0) FR: (1) | |
| | |
| S SCR3 | |
| U G HOWARD G [1 dels] J G | Author search for HOWARD J .. |
| | |
| (After several more searches) | |
| U X | BLACK key (" X") to finish |
| T 850110120320 | |
| C ** Finish - duration 708 sec(s) | |