

*How to Write a Research Paper*

SECOND EDITION

by

RALPH BERRY

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## *Introduction*

This guide is intended as an introduction to the research paper. It is designed to be relevant to students at all levels of higher education. The techniques discussed are such as must be employed in even the simplest research assignment, and in the more demanding tasks that students may have to face later in their careers.

The terms of reference of this assignment may vary widely. It may be called a research paper, a thesis or even a dissertation. Its objective may be a neutral compilation of fact, or the achievement of original conclusions. Its length may range from two to upwards of ten thousand words. But the central situation remains unchanged; the writer will be expected to demonstrate a mastery of the scholarly disciplines. These may be defined as the ability to draw on a reasonably wide range of recognized authorities; to learn something of the techniques of getting the most out of a library system; to sustain the labour of taking accurate notes over a long period; to digest them into a shapely and lucid whole; and to present them with due respect for the acknowledged conventions of documentation. At all levels these remain the major concerns of the researcher.

The acquisition of these scholarly skills is, for American first-year college students, the subject of a specific course, usually lasting half a session. The course is a formal requirement and is backed by a wide selection of excellent manuals. British students, by contrast, are most unlikely to receive more than a little token instruction, but rather are expected to pick it up as they go along. The American manuals, some of which may be available to them, are not always relevant to the British educational system, or to the resources available to British students. Yet the preparation of a research paper (let us say, in practice, a paper that goes distinctly beyond the limits of a normal essay) is increasingly a feature of the student scene here, as it has long been in the United States. My aim in writing this guide is to provide the necessary guidance in a straightforward and readable form.

In writing it, I have made certain assumptions that I should now make clear.

1. I am not concerned with basic composition, and have no intention of telling my readers how to write sentences. The development of a coherent

argument, however, is, I feel, so much a part of the research paper that I discuss it in Chapters 4 and 5. But otherwise I assume that my readers will turn to manuals of English composition for any guidance that they may need in that field.

2. I assume that the researcher needs, not simply a series of imperatives and recommendations, but the reasons for the recommendations. Working by rote can never lead to first-class research. Accordingly, I have tried, as far as seemed feasible, to justify the advice I give; and to consider the perfectly reasonable objections that a student might well make, if present to discuss the point with me.

3. Next, I am not concerned with purely scientific and technical areas of research. These require a specialized and formal type of report, which is outside the scope of this manual.

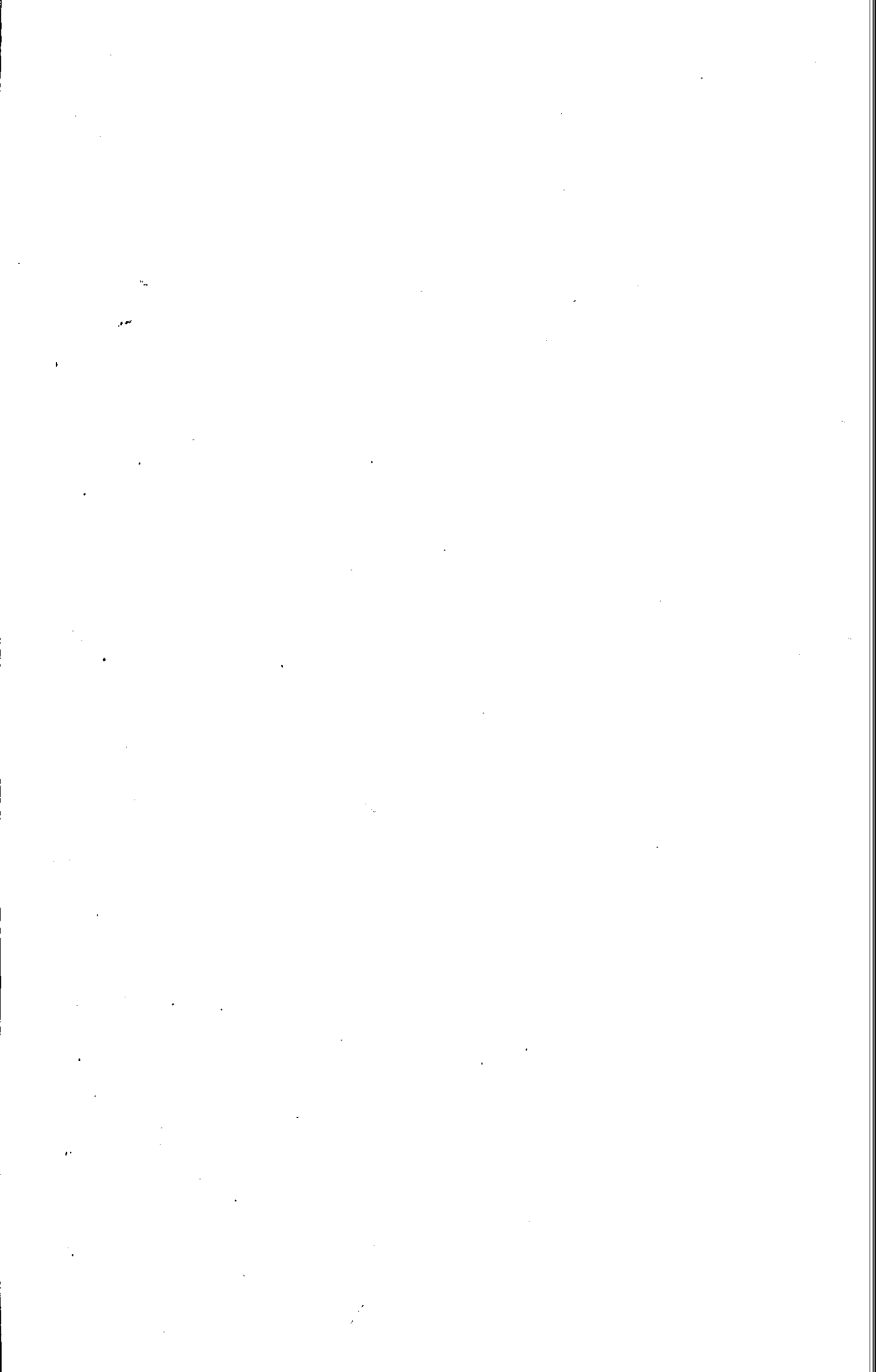
4. This guide was conceived as an introduction to the research paper; and I have sometimes been in some doubt as to what should be left to common sense. At the risk of rightly offending some of my readers, I have on occasion included material that might well have been left unwritten. For example, it sounds banal to advise readers to make a carbon copy, or photocopy, of their work. I know and I apologize. But I have known students to whom the advice would have been useful.\* I do not see why experience has to be, as Bismarck termed it, 'the name we give to our mistakes'. It can be passed on. I have applied one simple test on issues of superfluous advice. I have asked myself: 'Would it have been useful to me, as a student?' If the answer is yes, in it goes.

5. Finally, I assume that all papers will be presented in typescript. This is now widely recognized as the only acceptable medium for presenting a paper, but I wish to draw attention to its symbolic importance. Handwriting belongs to the sphere of personal communication. To the argument that handwriting 'shows character', the short answer is that character should be revealed, if at all, by the choice of words, not the style of handwriting. Absence of handwriting implies the acceptance of an impersonal code of conventions. The conventions and techniques embodied in a research paper will be of general and enduring value, beyond the college level. The sort of person to whom all reports are submitted — research supervisor, chief executive, editor — is interested primarily in the content, presented in a frictionless medium. Typescript admits implicitly this situation.

The matter of typing reveals in part the whole philosophy for the

\*We all need to learn at some point. The distinguished historian, A. J. P. Taylor, writes of himself: 'I received no instruction how to conduct research. I was not even warned to put down the number of the document I was copying, which caused me a great deal of unnecessary work later.' A. J. P. Taylor, 'Accident Prone or What Happened Next', *Encounter*, Vol. 49 (October 1977), pp. 53-61 (p. 54).

research paper. The key words in this philosophy are organization, discipline, and convention. These words may not be wholly welcome to all my readers, and I should perhaps offer a gloss on them. For most students, the English essay will have been strongly associated in the past with imagination, creativity, self-expression, and a somewhat loose approach to form. These are perfectly proper concepts, which have an excellent educational justification. I merely point out that they are irrelevant here. Yet, in my experience, students tend to carry over into the realm of the research paper attitudes and aims, formed in the field of creative writing, that have no place in research. The kind of writing for which this guide is designed, on the contrary, is concerned with the critical assessment of existing authorities. The philosophy, then, can be defended thus. Organization is necessary for the efficient allocation of one's time and effort, and for the presentation of a paper whose internal structure is balanced and sound, and whose argument proceeds along logical lines. Discipline is central to the long labour of sifting authorities, and adding one's own critical comments only when these authorities have been fully assimilated. Conventions are vital in a context where one writes not for oneself, but for a critical public — a public whose face may change (professor, departmental head, director) but whose standards remain approximately the same. The student will address the paper to such people, and ultimately may join them. And this is the true justification of conventions, that they offer freedom of movement within a larger group. Students need not fear that these tedious conventions are cramping: ultimately they will serve to free the power of expression.





## CHAPTER 1

# *The Choice of Subject: Using the Library*

In this and the following chapters I intend to consider the problems of the research paper in the order in which they present themselves to the student. The first — and, to my mind, by far the greatest — problem is the choice of subject and, more particularly, of title. The general area of study is hardly a problem. A field of study, such as the 1914–18 poets, or automation, or the psychology of aesthetics, is selected or assigned. Three thousand words, say, have to be written on a topic in which the student is presumably interested. But at this stage the student is nowhere near fixing a *title* for the paper. It is clear that ‘Automation’, for example, is unacceptable as a title. It is far too broad. The topic will have to be defined and limited after some preliminary reading, preferably in consultation with the student’s supervisor. Even then the title may well have to remain provisional. Suppose one originally started with the vague idea of ‘Automation’, and, after some preliminary reading, reduced it by stages to ‘Automation in Britain’, to ‘The Impact of Automation on British Industry in the 1970s’. Even this might, on further reading, prove to be too broad a topic to handle adequately within the limits of the paper. One might well finish up with ‘The Impact of Automation on Office Industry in Britain in the 1970s’. The title, true, is getting longer and clumsier. But it does promise to deliver certain quite specific goods.

Here, then, is perhaps the first lesson of research; it can, in a very general way, be planned, but not blueprinted. One simply does not know what one is going to discover. These discoveries may lead to a complete change of direction. So be it: but at least this possibility should be taken into account in the planning stage. It is, then, desirable to limit one’s topic *as soon as possible* to eliminate wasteful and unproductive reading; but one has to keep the title provisional as long as possible. The sheer pressure of notes and ideas has a way of imposing its own limitations, or even indicating its own path. The student’s own developing interest in one area of the subject may also be a vital factor.

Then again, the formal objective of the paper has to be clarified at once. There is, strictly, a distinction between a *report*, which simply relates facts

in neutral fashion, and a *thesis*, which definitely seeks to draw conclusions and assert an evaluation of the material. In practice this distinction tends to be blurred. Unless otherwise stated in the terms of reference, there is no reason why the student should not draw conclusions from the material studied. The whole matter of purpose, however, is one to be taken up with the supervisor at the beginning of the assignment. Since this purpose will inform and limit the labour of several weeks or months, its importance needs no emphasizing. I recommend a thorough discussion of the purpose with the student's supervisor, at the very beginning of the assignment.

The process, then, is one of restriction. A field is narrowed down to a title, which itself states or implies the objective of the research. One further factor has to be considered before the final decision on the title has hardened. It is useless to embark on a project before satisfying oneself that an adequate range of sources is at hand. The value of any work of research depends almost entirely on the sources used, a thought one might well bear in mind before starting on a fascinating but, as yet, little documented field like, say, 'The effect of surrogate parenthood on marriage and the family', or 'The long-term effects of the miners' strike of 1984-5 on mining communities'. Even with less immediately contemporary topics, one has to ask a few brutally realistic questions. Have the books (or papers) actually been written on the subject? If so, are they available in the college library? Will it be necessary to travel to another, better-equipped, library? Can one take a book out there, or is it necessary to take notes on the spot?

Clearly, the whole issue of choosing a subject makes little sense until it is related to the available sources. The chief source-gathering area is normally the college library. So far, I have treated the issue on the theoretical plane, but in fact it will be determined by the practical situation. It is high time to consider the practice of the matter.

### **Using the Library**

The students' first task will be to acquaint themselves fully with the resources of their own college or university library. The logical place to start is with the library staff and the information they can provide.

#### ***The Library Staff***

Making the acquaintance of the library staff is a high priority for any researcher. They know all about the facilities of the library and it is folly to neglect the personal channels to the sources. They can usually supply printed or duplicated handout material, offering a useful guide to the library's layout and particular features. This will include important information on special collections, which may be separately housed and catalogued. It will also give information on the particular methods used for

cataloguing in the library, and on such matters as microform materials, thesis abstracts, photocopying facilities, availability of computers and computer data bases, etc. The library may have specialist librarians who can offer assistance with bibliographic work and information services. Increasingly libraries are becoming much more than collections of books and, to obtain the fullest benefit from them, the student should not hesitate to consult the library staff. I have invariably found librarians to be courteous and helpful, indeed most anxious that their library should be efficiently used. The librarian is the expert and the expert should be consulted.

### *The Open Shelves*

Contact having been made with the librarian, students may feel that the obvious place to begin research is the open shelves. Certainly a familiarity with their layout is essential. There are two principal classifications: the Dewey Decimal System and the Library of Congress Classification.

(a) *The Dewey Decimal System* classifies books according to the following broad scheme:

- 000-099 General Works
- 100-199 Philosophy and Psychology
- 200-299 Religion
- 300-399 Social Sciences
- 400-499 Languages
- 500-599 Pure Sciences
- 600-699 Technology : Applied Sciences
- 700-799 Fine Arts and Recreation
- 800-899 Literature
- 900-999 General Geography, History and Travel
- F Fiction in English

These broad categories are further subdivided. For example Literature is divided thus:

- 800 Literature
- 810 American Literature
- 820 English Literature
- 830 German Literature
- 840 French Literature
- 850 Italian Literature
- 860 Spanish Literature
- 870 Latin Literature
- 880 Greek Literature
- 890 Minor Literatures

These categories are then further broken down. English Literature, for example, is redivided thus:

- 821 Poetry
- 822 Drama
- 823 Fiction
- 824 Essays
- 825 Oratory
- 826 Letters
- 827 Satire and Humour
- 828 Miscellany
- 829 Anglo-Saxon Literature

Each of these broad groups is then further divided by the use of three decimal places, to give ever more gradations of subject matter. To find the exact placement of a book on the shelves quickly, students may also find it helpful to know the practice of many large libraries of assigning a book an additional author classification. The book *Graven Images* by Allen I. Ludwig, for example, has the Dewey Decimal number 718 and the additional author number L966g. Fairly obviously, this is derived from the first letter of the author's surname, plus various numbers standing for other letters of the alphabet.

(b) *The Library of Congress Classification* has the large groupings of subjects lettered as follows:

- A General Works – Polygraphy
- B Philosophy – Religion
- C History – Auxiliary Sciences
- D History and Topography (except America)
- E–F America
- G Geography – Anthropology
- H Social Sciences – Sociology
- J Political Sciences
- K Law
- L Education
- M Music
- N Fine Arts
- P Language and Literature
- Q Science
- R Medicine
- S Agriculture – Plant and Animal Industry
- T Technology
- U Military Science
- V Naval Science
- Z Bibliography and Library Science

Within these large groupings, further letters and numbers give the subdivisions. I select one group to show how this is done.

- N Fine Arts
- N General
  - 8700-9084
- NA Architecture
  - 4600-6113 Religious architecture
  - 7100-7625 Domestic architecture.
- NB Sculpture and related arts
- NC Graphic Arts in general. Drawing and design. Illustration.
  - 1300-1765 Caricature. Pictorial humour and satire.
- ND Painting
  - 1700-2399 Water-colour painting.
  - 2890-3416 Illuminating of manuscripts and books.
- NE Engraving. Prints
  - 1000-1325 Wood engraving. Xylography. Japanese prints.
  - 1400-1775 Metal engraving. Colour prints.
  - 1940-2225 Etching. Dry point.
  - 2250-2539 Lithography
- NK Art applied to industry. Decoration and ornament.
  - 1700-3505 Interior decoration. Home decoration.
  - 3700-4695 Ceramics. Pottery.
  - 5000-6050 Enamel. Glass. Stained glass. Glyptic arts.

This is one example. Further information for other groups and for further subdivisions within this group may be found in *Outline of the Library of Congress Classification*.

Familiarity with these methods of placing books will enable students to go straight to what seems the most relevant section for their purpose. But to begin a research project here, at the open shelves, is inadequate and may prove misleading. Certain books may be out on loan; others may be held in stock in the basement. Then again, the physical grouping of books on a shelf may not correspond to the complexities of the subject. Even a simple case will demonstrate the point. Suppose one were writing a paper on the Greek civilization of the Classical era. One might start looking at the Ancient History shelves, and discover certain relevant volumes there. But an important work like Ehrenberg's *The Greek State* might be shelved under Political Science; Richter's *Greek Sculptors and Sculpture* under

Fine Arts; and Kitto's *Greek Tragedy* under Literature. It is clearly impossible to take in all the books relevant to a theme, scattered as they are around the library, merely by looking at the open shelves. The only way to make sense of the situation is by going back to the catalogue.

### *The Catalogue*

The catalogue is the logical place to begin one's research. It is a register of all the books in the library. There are different methods of cataloguing the books and students will need to spend a little time familiarizing themselves with the one used by their own library.

A common method is to classify each book by author, title and subject. There are, however, several cards in the index for each book: those which identify a book by the author's name; those which list it under its title; and those which list it under one or more subject headings (such as Italian Renaissance or Shakespeare). In each case the information is entered on a 5 × 3 in. card (see Fig. 1).

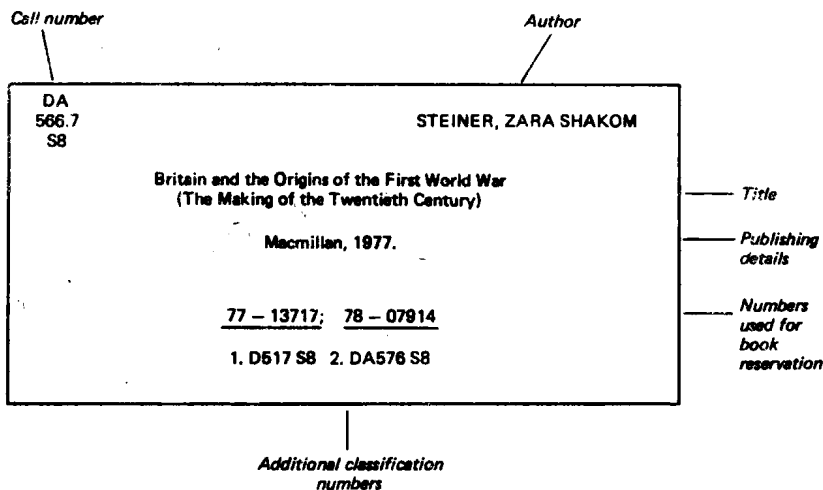


FIG. 1. Card index card.

From the researcher's point of view, there are three items of primary importance on this card: the author, title, and call number. To these may be added the date of publication, an important factor in assessing the worth of the book. The cards for each entry of the book are identical, except that those which list it under its title or subject have this additional heading typed above the author's name.

The subject cards are of obvious value to the researcher. If one is beginning an investigation from the start — that is, with little to go on but the subject approach — one has to use a little ingenuity, and not be put off by drawing a few blanks. Thus Socialist Party may yield nothing, but Political Parties will. It is as well to remember that the cross-referencing in the library may not be perfect, and it is always worthwhile to try under several subject headings. Thus I would investigate Machiavelli under Machiavelli; Italian Literature; Italian Renaissance; Italian History; Political Science. One might turn up several cards not duplicated under other subject headings. The more complex a subject, the more likely one is to need various and ingenious assaults upon the card index. One may obtain some idea of how various book titles may be listed under subjects, by taking a few examples where one knows the author and title, and looking up the card index to see what alternative listings they appear under.

But perhaps this method is not the one used. The card index may list only author and title and there may be additional methods to track down the books by subject. One such method, of great help to the researcher, is to have a separate small subject catalogue, which, instead of listing specific titles, gives the number classification under which to look in a separate classified catalogue. This classified catalogue lists all books in numerical/alphabetical order of their Dewey Decimal/Library of Congress classification. Having determined the relevant number of one's own subject interest, it is as easy to check the titles under that classification as to run one's eye along the shelves. The big difference is that in the classified catalogue they are all there, whereas on the shelves many are missing, because they have been borrowed or are shelved elsewhere. The classified catalogue has further advantages. One can see at a glance such important details as publication date without actually handling the volume. Moreover, the classified catalogue has a cross-referencing facility to books, which because their subject matter may have other relevancies, have been shelved under another classification. An example will make this clear. For the specimen paper on Nazi Propaganda, the student went first to the Subject Index for National Socialist Party: Germany: History, and was thus directed to the Classified Catalogue DD253.2-253.8. (This particular library used the Library of Congress Classification.) Under these numbers a variety of relevant titles emerged, but so did others; for example, *Film Propaganda* classified as DK226.3 and *Propaganda and the German Cinema*, classified as PN3266.5. Each of these works was listed under the original classification number in square brackets. The usefulness of this classified system for obtaining a clear view of all relevant books held by that particular library, wherever shelved, needs no labouring.

Students may also need to familiarize themselves with other means of

cataloguing beside the card index. As stocks of books increase and space becomes more limited, libraries increasingly turn to new forms of technology. One such method is the use of microforms. Some record all recent acquisitions on microfiches; others have transferred their whole catalogue to microfiches, or are in process of doing so. Since each microfiche can hold a very large number of titles, there is an obvious saving of space for the library. For the library users also, once they have mastered the techniques of scanning the microfiche, there is a great saving of effort.

The microfiches are contained in a binder, and each covers a portion of the alphabet, for the combined author and title catalogue, or a portion of the Numerical/Alphabetical classification, for the Classified Catalogue. The entry for each book contains essentially the same information as the card, but reduced to a very tiny form, which can be brought up to full size by the microfiche reader. To find the entry required it is necessary to place the microfiche on the plate of the microfiche reader in the correct position. The machine itself will have instructions for this placing, and for switching on and focusing. With a little practice, it is quick and easy to find the entry required. The machine is equipped with a grid (as in Fig. 2), each

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16	F17	F18
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15	G16	G17	G18
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	H16	H17	H18
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	I13	I14	I15	I16	I17	I18
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	K11	K12	K13	K14	K15	K16	K17	K18
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	L18
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12	N13	N14	N15	N16	N17	N18
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13	O14	O15	O16	O17	IND
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	IND

FIG. 2. Microfiche grid.



letter/number combination giving guidance as to where the particular information is located on the microfiche. By moving a pointer to the relevant square, the reader can quickly find the author or title required. The two squares on the bottom right of the grid, marked IND, should be located first, as they provide the index for location of information on that microfiche. Thus, if the author or title one wants is located at K8, one moves the pointer to that square. Once one becomes familiar with them, the microfiches will be found easier and quicker to read than a card index, especially as one can deal with a large bibliography from one location.

Another new form of technology which may be employed in cataloguing is the central computer database with a number of terminals. The student will find that the screen of the computer terminal gives clear instructions as to what needs to be typed in to secure the required information. One may search for a book by title; by author; by call number or by subject. By typing F, one can browse forward in the chosen category, and, by typing B, backward. Information in the entry is shorter than that on a catalogue card, but contains all that is essential to one's purpose.

#### *Sample Computer Entry*

GANNON, Franklin Reid: *British Press in Germany 1936-39*.  
Call number: DD256.5 G278 1971.

It will be noted that the publication date is included. In one North American library I have used, which has a computerized system, the card index was frozen at 1980. Thus the fuller information catalogue cards would not be available for a book acquired after that date.

As with the microfiche catalogue, the advantages of being able to carry out a rapid bibliography search from one location are obvious. The disadvantage of both systems is that at busy times there are often insufficient machines for the number of users, and each may be in use by one person for quite a long time.

The catalogue, then, whatever form it takes, offers the major access to the books in the library. The investigation cannot end there, however, for two reasons. First, the catalogue refers only to books stocked in that library. Second, it will give very limited guidance to the periodical section.

#### *The Periodical Section*

The periodical section is, in some ways, the researcher's happy hunting ground. It is authoritative because it contains the work of specialist writers in specialist fields. It is often easier to publish a book, than an article in major journals. Then, it offers information which may be simply unavailable in book form, anywhere. It is principally a matter of time lag. A book takes a long time to write and a longer time to publish. Once