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A PERSONAL RESEARCH SYSTEM

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FOR lawyers who are dissatisfied with the traditional methods of storage and retrieval, particularly those used in individual legal research, here are some suggested alternatives that may be both helpful and not unduly complicated. The very simplicity of these methods may reassure those who have a mortal terror of electronic computers or even of elaborate mechanical equipment. Although the specific meth-

ods that will be described may not
fit your particular needs, they may
open up new avenues of thinking
in an area of legal operations that
is becoming increasingly onerous
and troublesome.

INADEQUACIES OF TRADITIONAL METHODS

Take as an example the handling
of an abstract of a case or a law re-
view article. One way to store it is
simply to file it away in a folder
marked by a heading such as "as-
sumption of risk," "substantive due
process," or "parol evidence rule."
This will probably serve, unless the
case or article involves all three of
these matters, each of which may
be a basis for future search. If it
does and if you don't have an ex-
ceptional memory, you may be
tempted to do one of two things.
One is to make carbon copies that
can be filed, one under "assumption
of risk," another under "substantive
due process," and a third under
"parol evidence rule." This has
the unfortunate disadvantage of
multiplying the total bulk of what
is being stored by the number of
classification terms that have been
selected.

The normal alternative to this is
to fragment the brief or abstract so
that each subject that might need
to be separately searched appears on
its own card or sheet of paper.
Thus, all of the case or article that
relates to "assumption of risk" is
put on one card or sheet; all that

relates to "substantive due process"
on another; and so on. Having done
this, you would put your materials
in some kind of logical arrange-
ment. If you were working on a
particular research project you
would probaby group the materials
according to subject matter and
then arrange the whole to parallel
the structure of the project, that is,
in the same order in which you an-
ticipate your final treatment will be
arranged. This is the way many a
Ph.D. dissertation has been pre-
pared.

Those who have engaged in such
an exercise need not be reminded
that this kind of approach is bur-
densome, tedious, and often deaden-
ing. Where the system of arrange-
ment used is hierarchical, as it
usually is, the user is in danger of
becoming the prisoner of his first
scheme of arrangement, simply be-
cause the physical inertia inherent
in the system makes it increasingly
burdensome to change the plan as
work progresses. Fragmentation al-
so increases the dangers of mis-
filing and makes it impossible to
recapture the sweep of a particular
case or article without going back
to the original.

NEW METHODS

Fortunately, there are other meth-
ods of handling the kind of mate-
rials that a lawyer is likely to be
dealing with if he is involved in a
fairly complicated piece of research.
Perhaps he is writing a book or

preparing a long law review article or brief. What is the best way to record case law or law review articles so as to make them readily accessible at a later time? If possible, that method should avoid duplication of the material and should avoid its fragmentation. Of course, it may be found that what works best for cases does not work best for articles.

Forms 1 and 2—The "Happy Hour Helpmate" System

The first device is one that I have been using for more than 20 years in the field of food products liability. It has proved very successful in this limited field. Whether it is useable or is the best system in other specialized fields is open to further investigation.

The idea for this system goes back to a kind of humorous postcard that you used to be able to buy in some of the souvenir shops. They are difficult to find nowadays, but a cooperative computer expert, who prefers to remain anonymous lest he impair his employer's public image, was able to provide a copy of the Happy Hour Helpmate, reproduced in Form 1. For present purposes, this form will serve very nicely.

An examination of this form suggests that it may be the answer to the problem of the heavy party-giver who would otherwise have trouble keeping tabs on the needs of his many guests. Among other things, it would help him in deploying his financial resources at the local liquor store. When planning for a party, he would presumably draw from his permanent guest card file the respective alcoholic profiles of those guests who were expected to attend and thereby reduce the chances that he might over-buy in scotch and under-buy in vodka.

Form 2 illustrates how this idea can serve more sober purposes. In general, it is a combination storage-and-retrieval system because it is designed, first, to store all the significant legal information about a case that you would need to keep and, second, to store that legal information in what can be called a "self-indexing" form. In other words, it substitutes, for most purposes, for the case itself, and it has a format that makes it easily accessible without further processing.

The concept of dedicated spaces. The great value of this system is that it provides accessibility without involving either the multiplication or the fragmentation of the stored material. The feature of the form that makes this possible is the use of what are called "dedicated spaces," a term that is important to many modern methods of retrieval. For instance, near the lower right-hand corner are the words "Contributory negligence." The space is thus reserved for indicating cases that involve that problem. This is done in each case by making a check mark

FORM 1

HAPPY HOUR HELPMATE

Guest's Name _____

SEX   ☐ Male   ☐ Female   ☐ Other

NEED ASSISTANCE HOME?
☐ Definitely
☐ Probably
☐ Check me later

HOW DID YOU LEARN OF PARTY?
☐ Invitation
☐ Came with friend
☐ Walked in off the street

COCKTAILS
☐ Extra dry martini 10/1
☐ Dry martini 5/1
☐ Manhattan ☐ Dry
☐ Vodka martini
☐ Daiquiri
☐ Old fashioned
☐ Whiskey sour

CORDIALS
☐ Drambuie
☐ Creme/Menthe
☐ Brandy

HIGHBALLS
☐ Rum
☐ Scotch
☐ Bourbon
☐ Gin and Tonic
☐ Rye

MIX
☐ Water
☐ Soda
☐ Coca Cola
☐ Ginger ale
☐ Beer

☐ On rocks

TALLY
☐ Cheers
☐ Tasty
☐ Oh boy!
☐ Sing
☐ Tilt
☐ Wow!
☐ Hic!
☐ Pow
☐ The end!

FORM 2

SWIFT & CO. v. WELLS, 201 Va. 213, 110 S. E. 2d 203 (1959)

Name of Case   Citation   Date

Plaintiff: *Wife (H bought as agent)*   Defendant: Retailer

Defect: *Staphylococci in smoked pork shoulder*   Wholesaler

                                                    Manufacturer √

     Latent √   Ascertainable foreign substance   Restaurateur

                                                    Sale

Injuries incurred: No sale

     Indiv. wkness   *Gastroenteritis*   Amount recovered:

                                                  $4000

Injuries compensated: Trial judgmt. to: *P*

                                                   Non-suit

Other data: Sealed container √   *cellophane*   Appl. judgmt. to: *P*

                 Buyer's selection   *Remanded*

      D advertised its products heavily

      Va. has pure food law

Theory of suit: Warranty √   Negligence   Deceit

    Warranty   Contract   Tort   At Common Law √

    Privity involved √   Under Sales Act

                                                    Commercial

       Fatal   Code

       Not fatal √   Impleader used

       Ignored

       Public policy √

       Warranty "runs"

       Warranty "inures"   Warranty express

       3rd party beneficiary   (see above)

Plaintiff proved: Defendant proved:

    Causation √   No causation

       Injury by D's food √   *Only those who*   No injury by D's food

         Circumstantial facts: *ate pork got sick*   Food not defective

       Food defective √   No defect when left D

         C. facts: *D/H analysis*   Gen'l care precluded

       Defective when left D √   it

         C. facts: *P carefully refrigerated*   Mental link

                     and cooked pork   D careful generally √

    Negligence

         C. facts: Causation   Breach of stat.   Section 15(3)

On basis of this, P established:

    Nothing   Contributory negligence

    Prima facie case √   Inference   C facts:

    Res ipsa loquitur   Presumption

    Absolute liability

                                                     12/14/62

just to the right of the words "Contributory negligence." This done, it is a relatively easy matter to find the cases dealing with that subject. You simply fix your eye at that point and flip the pages. Every time you see a check mark, you have a case that is potentially interesting, and you either remove it or note the citation and any other items that you wish to post to your working manuscript. It is convenient to keep the posted forms in notebooks by state and, for each state, by date. Thus, the order in which you find them is the order in which they should be cited.

This is essentially the same operation as that involved in the use of edge-notched cards, except that with such cards your eye is replaced by a steel rod that you pass through the hole corresponding to the particular search term you are using. The cards you are looking for, being notched at that hole position, drop out when you lift the rod. Mechanical and electronic card sorters work on the same general principle.

Retrieval. The retrieval aspects of the form, that is, the features that help you locate a particular case abstract, consist principally of the pre-printed words after which a check mark can be made. Although some of the written-in materials also have search value, they are principally valuable as information after you have retrieved the particular abstract. This storage value makes it unnecessary to go back to the original case in most instances.

Versatility. Another feature of the form is that if you leave enough space it remains open-ended. Spaces have been left on the front of the form in which additional facts can be posted, and the back of the form is available for anything in the case that is not covered by the fixed elements on the front. This includes any quotations from the case that you consider desirable to preserve.

Scope of usefulness. Having used the system for many years, I am convinced that it also has potential usefulness in many specific areas of the law other than products liability. Not only does it serve as a combined storage-and-retrieval system, but it provides a useful check list when you are reading the cases. You are less likely to overlook significant points of law or fact.

Problem areas. What are the limitations, if any, in the system? There are at least several.

¶ The first difficulty is that of building an analysis that is adequately tailored to your general problem. A system of this kind is only as good as the legal analysis that you put into it. To build a form like this takes time and patience, and some trial and error. Form 2 underwent three or four revisions at the outset, and it has been revised in minor respects at least twice since. It may not be worth your while to make this kind

of effort unless you are sure that you are going to have a sizeable number of cases to classify, probably somewhere in the hundreds.

¶ The field of interest must be restricted in the number of relevant legal issues or significant fact-types, dictated largely by the number that can be represented on one sheet of 8½ x 11 paper, preferably on one side.

¶ It is necessary to have a good idea of most if not all of the significant items, especially the recurring ones, that you will want to record for search, as distinct from storage, purposes. If you radically change the form after using it extensively, you will either have to backtrack or to put up with the difficulties of non-uniformity. I ran into that problem a year ago, while preparing a somewhat similar form for the abstracting of cases dealing with problems of statutory interpretation. Because such a form constitutes a conceptual grid through which to read the cases, any exhaustive analysis of the cases has to be postponed until there is a reasonable expectation that the new form is not going to require material revision after it is adopted.

A practical answer. How can you prepare an adequate form when, on the one hand, you are dealing with a field where you do not yet have all the answers and when, on the other hand, you have to know most of them to prepare the form? The answer is simple. You try to collect a representative sample of the cases and from it to anticipate and reflect the great bulk of the recurring legal issues and significant fact-types that you expect to use for later search purposes. Then you hope for the best. Form 2 is an example. It would take little study to uncover inadequacies in it. The point is that it does not have to be perfect. It works well enough if its search elements can lead to the most significant batches of materials. You rely on it, not for final answers, but for faster and generally reliable leads to materials that you will want to examine carefully after they have been brought to the surface. This is sufficient to ·justify a retrieval system.

Form 3—A System for Heterogeneous Materials

What about research projects or materials that do not meet the conditions just described? The problem is well illustrated by law review articles, that are likely to be heterogeneous in the specific topics covered and, thus, to include many topics that it would be impossible to anticipate.

Storage. Form 3, which is designed for such materials, has a m o r e conventional appearance. Here, the dedicated spaces relate only to matters that serve to identify the document to which the

FORM 3

DOCUMENT STORAGE UNIT

(Secondary materials)

AUTHOR: *Frankfurter, Felix*   DOCUMENT No. 10

TITLE: *Foreword (A Symposium on Statutory Construction)*

BOOK   PAMPHLET   ARTICLE✓   MONOGRAPH   UNPUBLISHED MATERIAL

APPEARING IN: *Vanderbilt Law Rev.*   BEGINNING PAGE: *365*

VOLUME: *3*   EDITION: PLACE OF PUBLICATION: DATE: *1950*

Search terms	Page	Abstract — Quotations
statutory inter- pretation	*365*	¶ *"The interpretation of statutes is merely one aspect of the interpretation of writings generally."*
ascertainment of meaning	*366*	*"The central problem of statutory construction is to ascertain meaning."*
draftsman legislative intent	*366*	*"... 'the worst person to construe it is the person who is responsible for its drafting. He is very much disposed to confuse what he intended to do with the effect of the language which in fact has been employed.'"* [Quoted from Lord Halsbury in Hilder v. Dexter, [1902] A.C. 474, 477.]
	367	¶ *"The task of judicial interpretation derives from the fact that mere reading does not yield meaning."*
legislative purpose drafting	*367*	*"For judicial construction to stick close to what the legislation says and not draw prodigally upon unformulated purposes or directions makes for careful draftsmanship and for legislative responsibility."*

form relates. In this respect, the form has wide potential utility because it covers the information that almost every researcher will need to have if he ever wishes to cite the document. For the same reason, it serves also as a valuable check list. Beyond this minimum it is up to the researcher as to how fully he wishes to elaborate. It is primarily a storage system in which an article or even a book can be summarized in as much detail as the researcher wishes, because he is not confined to one sheet of paper. (Successive sheets, incidentally, should be given successive document numbers and indexed separately.) The abstract of the article, including quotations, goes into the wide column at the right. The middle column reminds him to note the specific pages on which the particular quotations or summarized parts respectively appear.

Retrieval by memory. Granting that this form may be a good storage device, how adequate is it for the purposes of retrieval? The answer is that "it depends." If the number of articles abstracted is small, the researcher may be able to depend on his memory to tell him in what article a particular item appears, and for this purpose all he needs to do is to arrange the sheets according to author or on any other basis that convenience suggests. The form would seem to be valuable, therefore, even though the researcher's needs are very limited.

Happily, it encumbers him with no excess baggage.

Retrieval by key word index. If the number of articles becomes too large to handle in this way, the researcher can index them by posting appropriate key or search words in the left-hand column. These should be posted first in pencil because, if it later becomes desirable to assemble these terms in a master index, the researcher will want to be sure that he has first standardized them. If he decides that he needs to make such an index, the researcher will also have to decide whether a master index of the traditional kind will be adequate for his peculiar purposes. If it seems likely that he will be using only one search term at a time, such an index may well be adequate.

If storage is no problem, the researcher can use Form 3 solely as an indexing device by using only the first two columns.

Combination of Forms 2 and 3

It is even possible to incorporate some of the features of Form 2 into Form 3. For example, if we anticipate some but not all of the significant points that are likely to recur, we might be unable to make a full-blown form like Form 2, but we could use the approach taken in that form for the items we are reasonably sure of. This might be done by dedicating appropriate spaces in the upper part of the right-hand column in Form 3 similarly to

Form 2 and by leaving the other points to be handled as described earlier for Form 3. Should the material become sufficiently voluminous, it can be indexed by posting appropriate search terms in the left-hand column and handled as already described. This gives the researcher great flexibility in storing and indexing materials.

A form comparable to Form 3 can be prepared for cases and still another for statutes. In each case, the problems are much the same, and the researcher can tailor the system to fit his particular needs.

Form 4—
The Peek-a-Boo System

Suppose that the researcher is likely to be searching in combinations of terms. Suppose, for example, that he is interested in searching for all the articles that deal with damages in the field of defamation. Here, he has at least two search terms to deal with, "damages" and "defamation." Under traditional methods of search, he might start with the search word "damages" and under that term look for the sub-topic "defamation" or for "libel" and "slander." Or, he might do it the other way around: start with "defamation" and look under it for the sub-topic "damages." This assumes, of course, that he has built a hierarchical index of the usual kind. Such a search is difficult and time consuming, especially if it involves a combination

of more than two search terms and he has indexed the material thoroughly. Deep indexing is very hard to do if you stick to traditional methods.

The solution. There is a system of indexing that is very easy to set up, that can be done as deeply as you wish, and that makes, not merely quickly but instantaneously, the comparisons involved in searching in combinations of search terms. This system was developed some years ago in England. It is called the "peek-a-boo" system. Fortunately, you can adopt it, adopt the conventional index, or switch from one to the other, without making any change in Form 3.

The particular version that will be discussed here is completely manual. It is called the "Port-A-Punch" system and it uses IBM cards. In this form, it can handle only 480 documents or other storage units; in this case law review articles. Other available versions will handle many more items. The system that is now being used by Project Lawsearch to index about 2,600 motor vehicle cases has a capacity of 10,000 items, and one used by the Bureau of Standards has a capacity of 40,000 items. Even the latter two use only the most modest physical equipment.

Modus operandi. Here is a simple example of how the peek-a-boo system works. Suppose that three law review articles are to be indexed and that they have been assigned

Form 4(A)

Form 4(B)

IBM PORT-A-PUNCH CARD IBM INFORMATION RETRIEVAL

KEY TERM DRAFTSMAN

KIT FOR PERSONAL LIBRARIES

the accession numbers 8, 9, and 10. Suppose that document 8 deals with the subject of "legislative purpose." This article is indexed by taking an IBM Port-A-Punch card and doing two things: First, writing the search term "legislative purpose" on the face of the card at the top and, second, taking a pencil or other sharp instrument and punching out the little square hole that appears just above the printed figure "8." See Form 4(A).

Suppose, next, that document 9 deals with the subject "draftsmen." This article is indexed by taking another IBM card, writing "draftsman" at the top, and punching out the little square hole that appears just above the printed figure "9." See Form 4(B).

Finally, suppose that document 10 deals with both "legislative purpose" and "draftsmen." Incidentally, this is the document abstracted on Form 3. This is indexed by taking the two cards that have just been punched and punching each just above the place marked "10." See Forms 4(A) and (B). Because these articles also deal (as document 10, on Form 3, clearly shows) with other matters that might serve as a basis for searching, a new card is allotted to each such matter and a hole is punched at the places respectively representing the articles that deal with that particular topic.

Flexibility in depth. Although in such a system the number of docu-

ments that can be indexed in this way is limited to the number of available holes in each card, there is no limitation on the number of search terms. Indeed, if it is desirable to do so, a document can be indexed to a depth of several dozen search terms, or even many more. This opens up new possibilities of indexing, the importance of which becomes clearer when it is realized that conventional methods of indexing cases are limited to a depth of about eight search terms and those of indexing law review articles are limited to a depth of about two or three.

Sample search. Each significant idea of each article having been posted on its appropriate search card, the cards are arranged in alphabetical order. A sample search can now begin.

Suppose, for example, that it is desirable to find all the articles that deal with the propriety of using statements by the legislative draftsman to ascertain the legislative purpose of a statute. First, select the card marked "draftsman," Form 4(B), and the card marked "legislative purpose," Form 4(A). Next, stack the cards evenly and hold them up to the light. Light comes through only at locations where there is a hole in each card. In this case, light comes through for document 10, but it does not come through for document 8 or 9, because neither of these documents deals with both subjects.

The advantages of this kind of matching process become far greater and more dramatic when the search involves combinations of five or six terms. This is more likely to happen for cases than for law review articles. For example, under this system you can quickly find the tort cases involving a *head injury* resulting from a *suitcase* falling from the overhead *luggage rack* of a *public bus*. The beauty of this system is that the sources for each of such a combination of search terms are matched simultaneously, rather than successively.

System characteristics. Note that both the peek-a-boo system and Form 2 operate on the basis of dedicated spaces. However, they differ in that the peek-a-boo system uses the so-called "inverted" arrangement, in which each card represents a single topic and lists all the docu-

ments that deal with that topic, in contrast to the arrangement of the traditional document unit, such as library catalog cards and Forms 1, 2, and 3, in which each card represents a single document and lists all the topics that the document deals with.

CONCLUSION

One by-product of working with systems such as these is that they give some inkling of the capacity of more elaborate storage and retrieval devices, including electronic computers. Not only can these systems do faster and more accurately what lawyers now do inefficiently and with great tedium, but they open up avenues of research that are beyond the practical reach of the lawyer who confines himself to traditional methods of storage and retrieval.

Now that American case law is classified in the Century Digest, six series of Decennial Digests, and some nineteen volumes of the Third Series of the General Digest as well, obviously the computer method takes less time than the visual. . . .

Even so, quite apart from the volume of case law that turns some to seek help from the machine, it must always be firmly kept in mind— indeed, it needs to be emphasized and re-emphasized—that both the accuracy and the reliability of any computer answer still depend on the quality of the initial search that located the data fed into the machine.

FREDERICK BERNAYS WIENER, *Decision Prediction by Computers: Nonsense Cubed—and Worse,* 48 A.B.A.J. 1023, 1026 (1962).