Simple Method for Cross-indexing a Reference File

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In attempting to keep a reference file of current research one soons finds oneself in the perplexing situation of having several hundred cards on hand without an adequate cross-indexing system in operation. If, during the early stages of collecting reference material, one utilizes a multiple-card system, *i.e.* a separate card for each subject under which one particular reference can be filed, the number of cards needed soon makes space a limiting factor.

The ideal system, of course, is that in which only one card per reference is employed and which permits that reference to be selected from the file under any of several different subject headings. This ideal has been achieved in the punch-card system. However, to the average scientific worker this system presents two serious disadvantages: (1) Since special cards are used, the initial cost is fairly high; (2) having obtained these cards, transfer of the references from the original cards to the new ones necessitates an enormous amount of secretarial work.

The present communication describes a method for cross-indexing a file which is already in existence. The chief aims have been to obviate extra secretarial work and to achieve some advantages of the punch-card system.

In essence, the operation for cross-indexing involves notching the reference card along its top or side edges at positions corresponding to each of several different subject headings indicated on a master card.

Compilation of the master card is the most important task, since its design determines the ultimate efficiency of the system. Several features of the design deserve consideration: (1) One must decide at the outset which subject headings are likely to be most useful; the indexing system will do anything required of it, provided the subject headings are properly chosen. (2) The various headings are then divided into two classes, the *general* and the *specific*; *i.e.* for the general heading *Metabolism* there may be the specific headings *carbohydrate, fat, nitrogen, phosphate*, etc. (3) The importance of arranging these headings along the edges of the master card becomes apparent when one realizes that only the top edges of the cards are immediately visible in the file drawer. Since a reference is more commonly sought under a specific rather than a general subject heading, the former are made more readily available by arranging them along the top edge of the master card.

The master card itself is made from an ordinary blank card of the size used in the file, holes 2 mm. in diameter and about 2 mm. apart being punched along each of its top and two side edges. Subject headings are then listed opposite the holes.

In the author's file, general headings such as *Biochemistry, Metabolism, Enzymology, Pharmacodynamics*, are listed along the left-hand margin and specific headings along the top edge. Since it is also useful to know the tissue or organism used in a physiological study, the right-hand margin contains such specific headings as *amphibia, yeast, liver, brain*, etc.

To index a reference, the master card is superimposed over the card containing the reference, pencil marks being made on the latter through the holes in the master card opposite the appropriate headings. The reference card is then notched by punching semicircles opposite the marks. If the master card has been properly designed, each card should have at least one notch on each of its two side edges. (There may not be a notch along the top edge if the subject is of a general nature.)

The notched cards are finally filed alphabetically, by authors, under sections corresponding to the general headings listed on the left-hand margin of the master card.

The availability of data under this system is readily apparent. General information is obtainable at once, since the file is arranged in general sections. As each card in the general section has been punched in the same position along its left-hand margin, the section as a whole now exhibits a groove, along its side. Any card out of place shows up as a break in the groove.

To find a specific reference in a general section, the cards are first brought into alignment by moving them against one side of the drawer. The master card is then held in position in front of the section, or moved horizontally over the section if it is a long one, and the desired cards selected. Subjects listed along the right-hand margin are discovered by removing the section in whole or in part and bringing the cards into alignment both side and bottom; the master card is then used in the same manner to find a specific reference.

By this method it is possible to select one or two specific references out of several hundred cards in a matter of seconds. Furthermore, within a given section (e.g. *Metabolism*) all the references relating to one specific heading (e.g. *phosphate*) may be selected, or within the same section all the references pertaining to a specific tissue may be found with equal ease.

A Culture Medium for the Primary Isolation of Fungi

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Although Sabouraud's dextrose agar is widely employed for the cultivation of fungi, it has many shortcomings, particularly when used for the primary isolation of pathogenic fungi from material containing a mixed flora including bacteria, yeasts, actinomycetes, or saprophytic fungi. Gram-positive and gram-negative bacteria grow luxuriantly and rapidly on the medium, making it difficult to isolate pathogenic fungi from specimens such as feces, sputum, or exudates. Many clinical specimens must be treated with 70 per cent alcohol or other agents to destroy surface bacteria if dermatophytes are to be successfully isolated on Sabouraud agar. The acid reaction of the medium may prevent or retard the development of those pathogenic fungi for which the optimum pH is in the neutral or alkaline range. Furthermore, the utility of Sabouraud agar is seriously hindered by the rapid spreading growth of saprophytic fungi, which are invariably present in pathological specimens and in laboratory air. Since most pathogenic fungi grow more slowly than saprophytic species, they are isolated with difficulty in many cases or not at all in others. A new medium for the primary isolation of fungi was therefore thought to be very much needed. Studies were commenced along three separate lines of endeavor with that specific aim in mind.