

# *The Bliss Classification Bulletin*

950 University Ave.

The H. W. Wilson Company

New York 52, N. Y.

Vol. II, No. 1, March 1957

## F O R E W O R D

This Bulletin will be the first to appear since the death of Mr. Bliss, and eighteen months have passed since the last appeared. This is not the place to evaluate that remarkable man and his work; that has already been done in obituary notices, and men will go on doing it as long as they grapple with the problems of classification. Our concern now is with the future, and the future of the Bibliographic Classification is in the hands of its users.

Briefly to summarise what has elapsed in these eighteen months, the British Committee for the Bliss Classification met on September 29th 1955 to consider the situation created by Mr. Bliss's death. The first need was someone to edit the Bulletin and collect material, as hardly any was available. The position was difficult. Two members could not take on any more responsibilities; the third had accepted a post in the U.S.A.; and the Secretary had taken a new post where he was not using B.C.

It was decided to have another meeting of interested persons. To get people from all over Britain this had to be part of a national conference, and for this reason it was not held until January 7th 1956. Twenty-one people were present. The meeting decided to go on with work on the classification, and elected the following committee:

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Mr. C.C. Barnard (London School of Hygiene and Tropical Medicine)  
Dr. D.J. Campbell (Aslib)  
Miss K. Matheson (Reading Institute of Education)  
Mr. J. Mills (Lecturer, School of Librarianship, North-  
West Polytechnic, London)  
Mr. C.A. Stott (Hon. Secretary, School Library Association)  
Mr. K.D.C. Vernon (Royal Institution)

which co-opted:

Miss Anne Petrides (National Book League) as Hon. Secretary  
and Mr. C.B. Freeman (Institute of Education, University of Hull)

The new British Committee decided to ask for the help of librarians who were not using B.C. in their libraries, but who knew the literature of their subjects, and who might be willing to help maintain the scheme. It made certain decisions about the classification which are set out on a later page.

Dr. D.J. Campbell agreed to act as Hon. Editor for two years, as no one using the scheme was willing to fill this post. He has been able to persuade some well-known librarians to assist, by taking responsibility for particular schedules, and suggesting modifications; many more will however be needed. Anyone who reads this Foreword, has a reasonable grasp of the literature and the "shape" of a subject, however small, and is willing to help, should write to the Hon. Editor at 15 Ashbourne Road, London, W.5. His offer will be heartily welcomed and this is true also of any detailed suggestions sent in for improving B.C.

The changes in the schedules and index in this Bulletin have been prepared by Mr. C.C. Barnard, who has published his own "Classification for medical and veterinary libraries" (London, H.K. Lewis, 1955) and the Hon. Editor.

In this and future Bulletins, schedule changes will not be "official B.C." on publication, but will be comparable to the PE Notes or "proposed

extensions" of U.D.C., which only become official if no objection to them is received within nine months after publication. The British Committee has not yet decided on a period for B.C.

The Hon. Editor has a set of the classification, kindly provided by the H. W. Wilson Company, in which schedule changes are being entered as quickly as possible, and this can be seen, by appointment, by anyone interested in the scheme.

The Committee is now recognised by the Wilson Company as the primary authority on the classification, and the Company has already accepted the Committee's advice on the printing of a special abridgement of the scheme for schools.

Changes in the schedules will not be made irresponsibly or without good reason, but we should not hesitate to change where necessary. Mr. Bliss would hate us to treat his work with sterile reverence.

D.J. Campbell

## SOME CHANGES IN THE NOTATION

The choice and apportionment of the notation of the Bibliographic Classification are virtually the work of one man. All men, even remarkable ones, have their blind spots, and H.E.B.'s covered such matters as filing orders of notations and the convenience to classifiers and library-users of consistency in the use of notational elements. Filing orders are dealt with in the following article by Mr. J. Mills, a member of the Classification Research Group.

When the new British Committee was considering the classification as a whole, with a view to deciding on any necessary changes, a remarkable unanimity showed itself in dislike of certain uses of notation. The chief dislike was for the use, in many classes, of A, X, and Z as form-divisions for treatises, pamphlets, and "miscellaneous materials" respectively. Schedule 1 is available for form division, using Arabic numerals, and the Committee agreed that the use of letters was objectionable and unnecessary. Schedule 1 is being slightly modified.

Lower-case letters are used here and there (notably in class C) for general subdivision by subject. The Committee agreed to keep them for geographical division (Schedule 2).

The use of symbols other than letters, figures, punctuation marks and the ampersand will be gradually dropped. The ampersand will be freed from most of its present uses and reserved as a special indicator digit. Ranganathan introduced the "octave-device" to get over the impossibility, with decimal notation, of having more than nine divisions of any subject. He never used the digit 9 for the ninth division of a subject, but as an indicator digit, so that when eight divisions of a subject had been isolated, and given the notations --1 to --8, the next eight could be

assigned to notations --91 to --98, then --991 to --998, and if necessary --9991 to --9998, or even --99991 to --99998. Thus with the ingenious "octave device" Ranganathan solved a real difficulty.

In many parts of B.C. the whole alphabet has already been used. The release of A, X and Z will help, but B.C. needs its own octave device, and the fact that the main notation is alphabetical need not stand in the way. In future, therefore, the ampersand (&) will be the indicator digit to indicate a fresh series of divisions. For example, in UAN The Protection of Vegetation and Structures against Detriment, the whole alphabet has been used for subject divisions, and following UANZ we have:

UAN&	Sun, Hot Sunshine ...
UAN%	Hail.
UAN/	Lightning, Damage to Structures ...
UAN\$	Insurance against Damage and Loss ...

These four notations will in future be UAN&A, UAN&B, UAN&C, and UAN&D, and new subjects arising in this field can easily be given notations without drawing on further bizarre symbols. The ampersand becomes, in effect, a twenty-seventh letter, following Z in arrangement, by having this special function.

D.J.C.

## COMPOSITE SPECIFICATION IN THE B.C.

Composite specification (i.e., synthesis, or 'number-building') raises two problems in the practical application of the B.C. (1) How can class numbers be constructed - i.e., what schedules can be used with what subjects and what other methods of linking topics or aspects are available? (2) If it involves the use of 'indicator digits' (e.g., the comma or hyphen) to introduce a synthetic element or distinctive symbols (e.g., lower case letters and numerals) what filing order do these different symbols follow? A filing order must be decided, either individually by each classifier, or preferably by a ruling in the scheme itself (as in U.D.C.).

On the first problem, Bliss provides numerous scattered discussions and remarks, notably in Vol. I-II, p.43-47, 56-57, and 71-72. On the second he appears to have said nothing explicitly, although certain preferences seem to be implicit. The following notes attempt to summarise and sum up all these scattered references and to state the possibilities clearly.

I. Constructing numbers by applying systematic schedules, etc.

(1) Schedules 1-4 are general - i.e., applicable anywhere in the classification at the user's discretion. Bliss sometimes suggests that Schedule 3 (Languages) is of limited application; but although it is mainly used in literature, etc., it is in fact applicable anywhere (see Vol. III, p.7).

(2) Schedules 5-22 are special - i.e., applicable only to those subjects for which they are designed.

(3) Applying several schedules to the same class number. Since four schedules are applicable anywhere, and many subjects have also a special schedule applicable to them, it is possible for one class number to have divisions from up to five different schedules added to it at the same time. Also, more than one division from the same schedule may be applied simultaneously to the same class number (see for example the specimens of this given with Schedule 20a for insurance). The order in which these divisions are added depends essentially on the relative importance attached by the classifier to the aspects represented by each schedule. Bliss often stresses this as part of his provision for alternative treatments (e.g., see Vol. I-II, p.46-47 and 56-57). In history, for example, if all French economic history is to be kept together, Schedule 4a ('Types' of history) is applied before Schedule 4 (Periods). French economic history of the 19th century would be MRE,Q (19th century in Schedule 4 is N; it is altered to ,Q here for reasons explained in (7) below). If the period were deemed more important (i.e., to the users of the library) Schedule 4 would be applied before Schedule 4a, giving MSQ,E.

But in the great majority of cases the order of application ~~will~~ be:

- (a) The special systematic schedule applicable (if any).
- (b) Schedule 2 (for place).
- (c) Schedule 4 (for period).
- (d) Schedule 1 (for form of presentation).
- (e) Schedule 3 (for the language of the document - but most libraries will usually omit this).

This order reflects the generally accepted principle that subject factors should precede form factors in the construction of class numbers, and that place and period are more restrictive of a subject than forms of presentation such as dictionary, essay, or the language in which written.

(4) Avoiding ambiguity when applying schedules. It is sometimes asked how one can tell from which schedule a letter comes when divisions from several schedules appear in the same class number. For example, using Schedules 18 (problems of government) and 4 (periods) the class number RDe,P,K might be Government - Great Britain - police services - 18th century (applying Schedule 18 first) or Government - Great Britain - Victorian period - cases in constitutional law (applying Schedule 4 first).

One answer to this is that it does not matter; (a) that notation merely maintains a preferred order (e.g., keeping together all literature on British police services rather than all literature on British government of the 18th century); (b) that the precise significance or derivation of each digit in a class number is no concern of the library user; and (c) that so long as a classifier is consistent in the order in which he applies schedules, no harm is done.

Whilst (a) and (b) are true, (c) ignores the confusion that can arise from ambiguity as to the origin of letters taken from schedules.

(5) Several points may be observed here:

(a) Ambiguity only arises between Schedules 3 and 4 (Languages and Period) and the special systematic schedules, since all of these use the same symbols, A/Z, introduced by a comma. Both Schedules 1 and 2 are distinctively symbolised (by numerals and lower case letters respectively) and cannot be confused.

(b) Assuming that in the above example Schedule 18 is the one to be applied first, confusion arises if a division from Schedule 4 were applied without one from Schedule 18 - i.e., applied to the general



class RDe, Government of G.B. For example, the Government of G.B. in the 18th century, RDe,K would be indistinguishable from RDe,K Cases in British constitutional law.

(c) There are 3 ways of overcoming this;

(i) A comma can be left in to show the absence of any letter from the primary Schedule; e.g., RDe,,K Government of G.B. in 18th century. This is the solution which used to be, but is no longer followed in the Colon Classification, when several colons might follow each other.

(ii) Schedules 3 and 4 could be made to follow a distinctive symbol. This seems to be the method favoured by Bliss who provides a note in Schedule 1 indicating that Schedule 4 (Periods) might follow the number 3 (or its alternative 8) and that Schedule 3 (Languages) might follow the number 4.

(iii) In the case of Schedule 4 another possibility is that it could be distinctively introduced not by a comma but by a lower case letter for place from Schedule 2 (just as, in the Decimal Classification, a period always follows 09 or its divisions - i.e., the symbol for place). This is also more economic in notation. But at the moment there is no symbol in Schedule 2 for place in general - i.e., the world, so that a general period would still need to follow the 3 from Schedule 1.  $\surd$ A further problem is involved here - that of the separation of the general history of a subject (at 3, from Schedule 1) from its history in particular countries, represented by lower case letters and filing separately - see example of filing below,  
II (1).7

(6) Expanding systematic schedules by details from main tables. Systematic schedules may provide insufficient detail, since they usually afford only a selection of the divisions possible in a given subject. For example, in medicine, Schedule 13 (for subdividing any disease) provides only ,N for therapeutics; it does not specify particular types of therapy. This further detail could be specified by simple linking with the general class therapeutics (HN) and its divisions (see (9) below):

e.g., HPUW      Chorea  
      HPUW,N    Therapy of chorea  
      HPUW,N-HNV    Physiotherapy of chorea  
      HPUW,N-HNVD    Phototherapy of chorea

But in such cases it is more economical of notation to omit that part of the general class number which merely duplicates a common concept (here, the HN of HNV simply repeats "Medicine - Therapeutics") and to add the balance direct to the systematic schedule number - e.g., HPUW,NV Physiotherapy of chorea; HPUW,NVD Phototherapy of chorea.

This is evidently what Bliss has in mind when he gives the note to be found, for example, at ,G Administration in Schedule 18 (for subdividing the government of a country): "Details may be derived from RG", where RG is the general class Administration.

If this may be taken as a general rule, consistent with Bliss's stress on adaptability and economy in notation, it implies that the expanded numeral divisions (1/9) which appear at the beginning of each main class or subclass may be applied to any division of that class. For example, in Schedule 21e (for subdividing any branch of engineering) a note at ,7 Miscellaneous states: "Other details may be derived from UE7", where UE is the general class Engineering with expanded numeral subdivisions.

(7) Modification of systematic schedules by enumeration in main classes.

A disadvantage of synthesis is that it may restrict division of classes to a standard set of subdivisions which may not be as appropriate to some classes as to others. To minimise this, Bliss sometimes applied part of a systematic schedule to particular classes in the main tables, at the same time adjusting those parts to the needs of the class. For example, the periods given for literary history in Schedule 5 (and their expansion in Schedule 5b) are given only in very general terms ("Early", "Middle Period", etc.). Since the significance of these will vary from literature to literature, Bliss has enumerated (in Vol. III - but not in the 1936 "System") period divisions under the major literatures in order to give greater precision. Thus, ,M in Schedule 5b is simply "Middle, Transition, or Main Period". Applied to Spanish it becomes XPM, 17th century Spanish literature.

But only part of the schedule is thus 'interpreted'. In the main tables XPM is followed by XPP - the intervening XPN and XPO are to be taken from Schedule 5b; for example, XPO is Individual writers of the 17th century.

Similar modification must be watched for in the history class. For example, the 19th century in Schedule 4 is N. But it is enumerated under British history as MVS and under French history as MSQ.

(8) Omission of the comma. Bliss occasionally suggests that the comma may or may not be added when applying Systematic Schedules. The primary function of the comma is to mark off the auxiliary (schedule) number from the basic class number so that the latter is still left open for expansion by enumeration. For example, the addition of ,C Chemistry (from Schedule 21)

to UVP Paper Technology to specify Chemistry of Paper UVP,C does not seal off UVP from further expansion by the characteristic "Type of paper" (e.g., UVPC Wood pulp papers). In this sense the comma is an 'indicator digit' marking off the facet(s) represented by the systematic schedule, just as - and .0 mark off the special auxiliaries in the UDC, or the ; marks off the 'Energy' facet in the Colon Classification.

This is a valuable addition to the flexibility of the notation and should be sacrificed (i.e., the comma should be omitted) only when there is virtually no possibility of another characteristic of division ever being applied. For example, in philology there is little point in retaining the comma when applying Schedule 5, since it is virtually certain that no new characteristic will arise in this class; so Portuguese pronunciation will be XRB and Portuguese poetry XRP - not XR,B and XR,P. Similarly, in history, once it is decided, say, to subordinate period to "Type of history" the comma may be dropped when applying Schedule 4a (e.g., MUE British economic history, not MU,E) since history is unlikely to be divided by any principle other than the "type", place, and period already provided for.

(9) Linking main class numbers.

A subject may require specification not by a systematic schedule, but by another class altogether. For example, The influence of the Bible on English literature, or Psychology for nurses. Such subjects are said to display a "phase relation" and in the B.C. they were originally specified by using the comma as a linking device.

But there are advantages in distinguishing such subjects, since they represent a relationship quite distinct from those specified by systematic

schedules and should file separately. Therefore it seems desirable to use the hyphen as a link rather than the comma, as Bliss suggests on several occasions (e.g., Vol. I-II p.72; Vol. III, p.8). For example, the two titles cited above will be respectively YB-PM and I-HOR.

Bliss has also advocated (e.g., Vol. I-II, p.24) using the letter Y for the same purpose. This has the serious disadvantage of misplacing the subject; phase relations invariably refer to the whole subject (e.g., English literature of all periods and forms, or psychology in general in the titles above) and should file after the general subject but before any of its subdivisions (see note 5 under Filing, below). Also, Y is already used as a normal subdivision in many classes, which would make for inconsistency. Anyone who wishes to use a linking device for phase relations should remember that Bliss has already given many simple notations to bi-phasic subjects, e.g., PAD, Relation of religion to anthropology.

## II. Filing order.

(1) Although more than five different symbols are used in the BC (capital letters, lower case letters, numerals, comma, hyphen and some odd symbols like the ampersand, etc., in Vol. III) no filing order for these has been given by Bliss. A few hints as to what it might be are implicit in the list given in Vol. I-II, p.48, but this is inadequate. If the ampersand, etc. are ignored, being given a filing position in the few places where they occur, the order of the 5 main symbols are evidently: 1/9; a/z; -; ,; A/Z

e.g., UVP	Paper industry
UVP2	Bibliography of the paper industry
UVP3	History of the paper industry
UVP3E	Paper industry in the 16th century
UVP4F	Paper industry (written in French)
UVP6	Periodical on the paper industry
UVPe	Paper industry in Great Britain

UVP-ZC	Paper industry and the development of publishing
UVP,C	Chemistry of paper
UVP,C,B	Research in chemistry of paper
UVP,U	Deterioration of paper
UVPA	Rag papers
UVPH	Book papers
UVPH,C	Chemistry of book papers

(2) 1/9 not merely precedes the others but is worth less than nothing if Bliss's preference for the anterior position (e.g., Vol. I-II, p.47-49) is followed. So UVP2 would precede UVP alone.

(3) Schedules 4 (Period) and 3 (Language) have been applied following the numeral subdivisions 3 and 4 respectively as suggested in I (5) iii.

(4) Lower case letters in the BC are used exclusively to represent place, with one exception. This is in Chemistry (CI/CR) where Bliss suggests repetition in lower case of a capital letter division to indicate the technology (CI-CR normally means the pure chemistry of the substances enumerated). For example, CIG, CIG, CMN, CMn; this collocates the pure and applied chemistry of each substance. Here, the lower case letter files after the capital. But since Bliss provides alternative notation for place in numerals, it is clear that he considers the ordinal value of the class numbers for place to be similar to those for form. This order is also implicit in the list already cited (Vol. I-II, p.48). Also, since Schedule 8 already provides a division for the technology of a special substance (,T) there seems little point in allowing this inconsistent use of lower case letters.

(5) The hyphen is equated by Bliss with the comma as a general linking device. But if the hyphen is consistently used as a phase link (see I (9) above) it should precede the comma, which introduces special subdivisions of a subject.

(6) The example 'Research in the chemistry of paper' demonstrates the only circumstance under which 2 commas need appear if the policy suggested in I (5) iii is followed - i.e., two letters taken from the same systematic schedule (here, Schedule 21).

(7) As to the filing value of the comma, Bliss states (Vol. I-II, p.56) that "In arrangement ... such composite extensions i.e., involving elements from systematic schedules would be antecedent to the special subsections or subdivisions". This implies a filing order for the systematic schedule numbers which is the same as that of their equivalents, the special auxiliary numbers, in the U.D.C.

J. Mills

## A D D I T I O N S   A N D   C O R R E C T I O N S

## Schedules and Index

AHE    The reference should be to BCL

AKF    Change to AKEP

Index: Scientific Instruments, apparatus, change AKF to: AKEP

Before AKG insert:

AKF    Dissemination, Publication of Scientific Results, in general Communication between Scientists, Congresses, meetings of scientists

Index: Science, Results, dissemination of, AKF

AKI    Delete "Imagination in"

Add: Mental Qualities needed by the Scientist

Index: Scientists, mental qualities needed by, AKI

AYW    Change "Questionnaire method" to: Collection and Recording of Statistics

Index: Statistics, Collecting, AYW

Statistics, Recording, AYW

Insert, indented like "nomenclature":

BAK    Symbols in Physics

Index: Physics, symbols in, BAK

Symbols in physics, BAK

BE    Delete "(Micro-physics)"

Add: Atomic and Molecular Physics

Index: Physics, atomic and molecular, BE

BEO    Add as second line:

Production of new Elements and Isotopes

Index: Radioactive Isotopes, production of new, BEO

BER    After "Polarity in Molecular Structure" add: Dipole Moments

BFE    Delete "Medium, Aether" and the following reference

BFF    Delete the whole rubric and replace by: Ether theory of transmission

Index: Delete: Aether (Physics), BFE

Insert: Ether, radiant, BFF

BFX    Alternative for Infra-red radiation, Radiant Heat, preferred in BHW

BFZ    After "Recording Radiation" add: Determining, detecting radiation

Index: Radiation, detecting, BFZ

Radiation, determining, BFZ



- BHW Before "Radiant Heat" insert: Infra-red Radiation  
After "Emission of" add: Alternative is BFX  
Index: Infra-red radiation, BHW; BFX  
Alter Infra-red radiation, spectra to: - - - spectra
- BIC Delete "Luminescence"  
Index: Delete: Luminescence of light, BIC
- BID Change "Phosphorescence" to: Luminescence  
After "Fluorescence" add: Phosphorescence  
Under "Raman effect" add: Cerenkov effect  
Index: Luminescence, BID; BIR  
Cerenkov effect, BID; BIR
- BIP Delete: "Chromatography"
- BIR Change "Fluorescence" to: Luminescence
- BKI Insert: Voltage, Electromotive Force before "Electric Cells"  
Index: Electromotive force, BKI  
Voltage, BKI
- BNI After "Current" add: and Voltage  
Index: Voltage control, BNI
- BNJ Add: Voltage stabilisers  
Index: Voltage stabilisers, BNJ
- BQF Change "Bouyancy" to: Buoyancy
- CB8 Alter "CAM and CAR" in the reference to CAI
- CDM Above "Polar Compounds" insert: The Chemical Bond  
Index: Bonds (Chemical), CDM  
Chemical bonds, CDM
- CEY Below "Electrochemistry" add: Ion-exchange, Ion-exchange materials
- CFG Add as third line: The use of Radio-isotopes in Chemical Work  
Index: Radioactive Isotopes in chemistry, CFG
- CGG Change "Microscopic Analysis, Microchemical" to: Microanalysis,  
Microchemical Analysis  
Index: Microanalysis, CGG  
Microscopical Analysis, change CGG to: CAV
- CGJ Add: See also Schedule 8, ,G
- CGU Insert under "Colorimetric Analysis": Fluorimetric Analysis  
Index: Fluorimetric Analysis, CGU
- CGY Below "Special Subjects" add: Chromatography

- CHH After "X-Ray Investigations" add: or Electron Diffraction  
Index: Electron Diffraction in crystallography, CHH
- Schedule 8 ,D Delete "Adaptable" and replace by: Physical Properties
- Schedule 8 ,F Delete "Production, Synthesis"  
Index: Under Synthesis, Chemical, after Organic, in organic chemistry,  
and after Special products, alter ,F to: ,T
- Schedule 8 ,M Insert: The Element. Its isolation, purification,  
properties  
Index: Elements, individual, Sched. 8, M
- Schedule 8 ,T After "Chemical" add: Production, Synthesis
- CIU After "Phosphorus" add: See also EIN, Phosphorus Compounds in Bio-chemistry
- CJD After "(Sulphur)" add: See also EIM, Sulfur Compounds in Bio-chemistry
- COG After "Industrial" add: Identification of Organic Compounds  
Index: Carbon compounds, identification, COG  
Identification of carbon compounds, COG
- Insert:  
COWP Organic phosphorus compounds  
Index: Phosphorus compounds, organic, insert: COWP before CPV
- Insert:  
COX Organic compounds of halogens  
F of fluorine  
H of chlorine  
M of bromine  
R of iodine  
Index: Bromine, organic compounds of, COXM  
Chlorine, organic compounds of, COXH  
Fluorine, organic compounds of, COXF  
Halogens, organic compounds of, COX  
Iodine, organic compounds of, COXR
- CQI Insert: Compounds with linked, not Condensed Nuclei. Diphenyls, etc.  
Index: Diphenyl compounds, CQI
- CRJ Add: Purines, Pyrimidines, Pteridines  
Index: Pteridines (Chemistry), CRJ  
Purines (Chemistry), CRJ  
Pyrimidines (Chemistry, alter CRI to: CRJ
- CRN Delete "Sterols: Cholesterol, Ergosterol, and Phytosterols" and the  
following note. (The correct place for the sterols is CQM and  
they were transferred there by Mr. Bliss in Bulletin no. 1.)  
Index: Sterols, delete CRN

CRP After "Glycosides" add: Glucuronic acid

CUM The printed heading is "Plastics in general"; to this in Bulletin no. 1 Mr. Bliss added "Organic Plastics". As section CU deals with inorganic industries the latter was probably an oversight. The term "plastics" is now confined to organic polymers capable of being moulded, such as Bakelite. Bakelite, however, is placed at CWY, so it seems better to have all plastics at that place.  
Therefore:

CUM Delete "Plastics in general. Organic plastics"

CVN Add at end of line: Detergents  
Index: Detergents (Chemistry), CVN

CWY Before "Bakelite" insert: Plastics in general  
Alter "fabrics" to: mouldable organic polymers  
Index: Plastics (Chem. industries), alter CUM to: CWY  
Delete: "Organic, CUM"

CYC Add the following reference:  
For the Petrology, Petrography of Coal, see DNM

DDD Alter note "For Aether ... BFF" to: For Ether Theory of Transmission of Radiation, see BFF

Insert:

DWK Phase-contrast Microscopy  
Index: Microscopy, phase-contrast, DWK  
Phase-contrast microscopy, DWK

EBC Add: Freeze-Drying of Biological Material  
Index: Freeze-drying (Biological material), EBC

EHC Add: Reactions in Biochemistry  
Index: Biochemistry, Reactions, EHC  
Reactions (biochemical), EHC

EIP Add the following reference:  
See also EHC, Biocatalysis, Reactions in Biochemistry

Insert:

EITP Phosphatides  
Index: Phosphatides, EITP

Insert:

ENEP Cytoplasmic Basis of Heredity. Plasmogene theory  
Index: Cytoplasmic Basis of Heredity, ENEP

HFC After "Tongue" insert: Lips, Palate  
Index: Lips (Human body), HFC  
Palate (Human body), HFC

HFR Add reference: For Blood Transfusion, see HNUB

