ALPHABETICAL DEVICE AND MULTINOMIALS

(DEPTH CLASSIFICATION 49)   S R RANGANATHAN

Traces the history of (AD) from vague beginnings to a conscious use of the same. Shows the evolution of the definition of (AD) till 1960. Recognises the necessity for the use of binomial terms to denote certain entities. Having illustrated the advantages of the (AD) in the construction of (IN) in the work facet of a class in the (MC) '0' Literature, shows a method of (AD) for binomials. Next shows the need for the extensive use of (AD) for binomials in (IN) for virus. Suggests draft rules for the application of (AD) for binomials. Suggests the use of zone 2 of the work facet, thereby released, for representing sub-forms of literary forms such as lyrics, epics, comedies, and tragedies. Shows the possible application of the sub-forms of literature in Linguistics. Suggests the consideration of representing by (AD) the (IN) for the work facet, commentary facet etc in classics.

CONTRACTIONS USED

(ACI)	Anteriorising common Isolate
(AD)	Alphabetical Device
CC	Colon Classification
(CD)	Chronological Device
(IN)	Isolate Number
(MC)	Main Class
[P]	Personality Facet
(SD)	Subject Device
[T]	Time Facet

1 EARLY HISTORY

11 Pressure of Tradition

The designing of CC started in November 1924. At that time, the idea that only an Indo-Arabic numeral could be used as an ordinal number was strong in the sub-conscious level. This was due, no doubt, to age-long usage. But it got much reinforced by the first and the most influential scheme of library classification--the DC designed by Melvil Dewey in 1876. At that time CC could dare break this tradition only to a very limited extent. It introduced Roman caps as possible digits. There were two reasons for this. In the first place, the base of 10 of the Indo-Arabic numerals was felt to be all too short for the schedule of (MC). The bundling together of all the pure sciences and representing the bundle by the digit 5, a similar bundling together of all the applied sciences and representing the bundle by the digit 6, the bundling together of philosophy and psychology and representing the bundle by the digit 1, the bundling together of all the social sciences and representing the bundle by the digit 3, and finding no suitable place for the newly emerging (MC) Sociology, carried sufficient conviction in this respect. Therefore, Roman caps were chosen to represent (MC). Secondly, there was no regular schedule for [T] in DC. Freedom

was therefore taken to represent millennia and centuries by Roman caps. Inspite of having gone outside the Indo-Arabic numerals in this way, the CC did not have, at that time, the courage to exploit the freedom thus taken by it.

12 Alphabetical Device

One of the earliest uses of Roman caps outside (MC) and [T] was in the prescription of (AD) for the construction of a few (IN). This prescription occurred only in the following few places.

1 Crop numbers in agriculture for the crops which exceed the enumerated ones.

2 Bacterial diseases in medicine for the diseases which exceed the enumerated ones.

13 Chronological Device

The digits of the Roman alphabet crept into other places through the backdoor, as it were. For, even by 1926, when the books in the (MC) Literature were classified in the Madras University Library, the superior sharpness of the use of (CD) in the construction of author numbers was sensed and exploited. This naturally brought in the use of Roman caps in [P]. The following are the other few places where Roman caps entered the body of the schedule through (CD):

CHRONOLOGICAL DEVICE

	Host Class			
CC	Name	Isolate	CC	Example
B13, 3	Diophantine equation	Special equation	B13, 3K	Pell's equation (1657)
B13, 5	Forms including partition	Special form	B13, 5K	Fermet's last theorem (1657)
B13, 9	Associated arithemetic function	Special arithmetic function	B13, 9M	New function (1832)
B23	Theory of equation	Special equation	B23, 9M	Abelian equation (1829)
B24	Determinant	Special determinant	B24M12	Alternant (1812)
B25:8	Special Transformation	Special transformation	B25:8M	Cremona transformation (1863)
B36	Infinite series	Special series	B36M	Fourier's series (1822)
B37:1	Integral	Special theories	B37:1M	Cauchy integral (1823)
B392	Integral of algebraic function	Subdivision	B392M	Hyperelliptic function (1826)
B393	Function defined by contour integral	Subdivision	B393M	Lie function (1809)
B394	Function defined by differential and integral equation	Subdivision	B394L	Laplace function, Legendre function (spherical harmonic) (1785)
B396	Function defined by infinite series and product	Subdivision	B396M	Hypergeomotric series (Hermite's function) (1892)
C5:38	Effect, Radiation	Special effect	C5:38N28	Raman effect (1928)
C5:8	Nature of light	Special theories	C5:8K9	Wave theory (1890)
O	Literature	Author	O—, 2J64	Shakespeare (1564)
Q29	Religion	Specific religion	Q29M72	Brahmo Samaj (1872)
S	Psychology	School of Psychology	SM	Experimental psychology (1862)

	Host Class			
CC	Name	Isolate	CC	Example
T	Education	School of edu-cation	TL7	Herbart's school (1776)
T:5, 1	Intelligence test	Subdivision	P:5, 1N	Binet Simon test (1905)
V:91	Election method	System	V:91M	Proportional represen-tation (1857)
X	Economics	System	XM	Co-operative econo-mics (1825)

14 Subject Device

In a similar way, the need for (SD) in an incipient form was felt while working out the sub-divisions of the omnibus (MC) M Useful Arts.· Here, the Roman caps were used in the array of order 2 to derive canonical classes from the (MC) M Useful Arts. Here are the other instances where the Roman caps entered the body of the schedule through (SD).

SUBJECT DEVICE

CC	Name	Isolate	CC	Example
D6:8	Machinery	Specific ma-chinery	D6, 8(B)	Computer machinery
M	Useful arts	Specific trade	MC5	Opticians' trade
NA, 8	Building	Specific building	NA, 8(Z, 8)	Court building
ND, 8	Figure	Specific figure	ND, 8(B942)	Figure of venus
R39	Special view	Specific view	R39(Y)	Humanism
T:3	Teaching technique	Specific subject	T:3(B)	Teaching of mathematics
V:58	Right	Specific right	V:58(X)	Freedom of trade
X8	Industry	Specific industry	X8(F182)	Iron industry
Z, 97	Regulative law	Specific pro-fession	Z, 97(L)	Regulative law in medicine

15 Anteriorising Common Isolates

Another break through the barrier of the tradition of Indo-Arabic numerals was in the use of Roman smalls to represent (ACI). This was done in 1925. But even here it cannot be said that this break-through was done with the full recognition that any single symbol outside the Indo-Arabic numerals can be used as a digit in the con-struction of class numbers.

16 Connecting Symbol

The connecting symbol colon -- a dot pair -- was conceived of even in 1924. For about a quarter of a century, this continued to be the only connecting symbol in use. It was of course outside the base of Indo-Arabic numerals.

17 First Conscious Recognition

The first conscious recognition of a Roman cap, a Roman small, or a colon as an ordinal digit, came only while teaching in the Certificate Course of Librarianship under the auspices of the Madras Library Association in the summer of 1929. Only then was it realised that it was easier to improvise new ordinal numbers than new cardinal numbers. All that was needed to introduce a new ordinal number was realised

to be to define its position between two con-
secutive ordinal numbers. I recall how in
the 1929 class, I used to drive home the
fixing of the ordinal value of colon as one
lying between 0 and 1. I used to say as
follows: "Mathematically, the colon--the
dot pair--is a degenerate form of ellipse.
In the dot pair it takes a subtler form. A
subtler form is more powerful. Therefore,
let us call the dot pair a greater 0. We have
therefore to fix the ordinal value of the dot
pair or colon to be greater than that of 0
and less than that of 1."

18 Roman Small

In respect of the Roman smalls, the
ordinal value of each digit in relation to the
other digits of the same species was taken
from tradition. But no attempt was made
to fix their ordinal value in relation to the
Indo-Arabic numerals, as the necessity did
not arise for it at that time on account of
their anteriorising value.

19 Roman Cap

In respect of the Roman caps, the
original value of each digit in relation to the
other digits of the same species was taken
from tradition. But no attempt was made
for some years to fix their ordinal value in
relation to the Indo-Arabic numerals. This
led to some difficulties in the arrangement
of class numbers--that is of books--parti-
cularly in the (MC) History. In 1930, this
difficulty had to be faced by the Staff
Council of the Madras University Library.
The difficulty was traced to our not having
consciously defined the ordinal value of the
Roman caps in relation to the Indo-Arabic
numerals. We had to choose either Z to be
smaller than 1 or A to be greater than 9.
At that time, the separation of work into that
in the Idea Plane and that in the Notational
Plane had not been made. In fact, it was
made only about twenty years later. There-
fore, a good number of sleepless hours had
to be spent in the blind chase of the difficulty.
Ultimately, it was decided that A should be
defined to have an ordinal value greater than
that of 9.

2 Later History
21 Separation of Planes of Work

No conscious effort was made for about
twenty years to make full use of the Roman
caps in any array whatever. In the early
1950's, the path was cleared for further
work by a fundamental step taken. That
was to distinguish the work involved in classi-
fication into work in three different planes--
viz, idea, verbal, and notational planes res-
pectively. It was realised that the failure
to separate these three planes in thought was
responsible to some extent for standing in
the way of research in classification. Once
they were separated, the work in the Idea
Plane and in the Verbal Plane went on inde-
pendently of each other. It also gave an
opportunity to enrich the work in each plane
in the light of the results of the work done
in the other plane. This division of work in
different planes was completed by 1954.

22 Mixed Notation

For one year thereafter, thought was
concentrated on the Notational Plane. The
results were communicated to FID/CA [3].
One of the findings was as follows. In an
array in the Notational Plane, four zones
can be recognised--Zone 1 in which the first
digit of each isolate number is a Roman
small, Zone 2 in which the first digit of
each isolate number, excluding the Empty
Digit 9, if any, is an Indo-Arbic numeral,
Zone 3 in which the first digit of each iso-
late number, excluding the Empty Digit 9, if
any, is a Roman cap, and Zone 4 in which
the first digit of every isolate number is a
starter bracket. This division of array into
zones was due to the use of mixed notation
in CC.

23 Efficiency Table

An efficiency table was constructed
showing the sectors in each of the four Zones
[2]. It was examined whether the isolate
number in each sector in each array was
used and in case they were used, in what
way they were used. It turned out that Zone
4 was used for the construction of isolate
number by (SD), Zone 1 was used for the
construction of isolate number by enumer-

ation, and that Zone 3 was used for the con-
struction of isolate numbers by (AD) or (CD).
The following decision was than made. The
first claim on the digits in the different zones
should be as indicated above. But if in any
array these claims do not arise, then the
digits may be used by ordinary enumeration.
Thus, Roman caps came to be used fully in
any array whatever.

24   Work in Conscious Level

This led to work in conscious level in
the utilization of the isolate numbers in the
different sectors in the different zones.
This in its turn led to the principles for
guiding the work in the helpful utilization of
the different sectors in the different zones.
As a result of this, the (AD) got enunciated
much better than before. The improvement
in the successive rules on (AD) can be seen
from what follows.

3   RULE ON ALPHABETICAL DEVICE
31 CC ed 1, 1933

"67 The Alphabetic Device consists in
using the initial letter, or the initial letter
amplified, of the name of the substance or
any other appropriate entities, for the fur-
ther subdivision of a class of substance or
entities. "671 If more than one substance
or entity have the same initial letter, their
initial letters may be amplified by the addi-
tion of the numbers 1, 2, 3, etc respectively".

32   Prolegomena, Ed. 1, 1937

The first edition of the Prolegomena
to library classification did not do anything
more than to give examples of the use of
(AD).

33   Prolegomena, Ed 1, 1957

But the second edition of the Prolego-
mena to library classification devotes a
chapter headed "25 Verbal Mnemonics" to
(AD). It defines the Canon of Verbal Mne-
monics as follows:

"Verbal mnemonics should be rejected,
without any hesitation, if a sequence more
helpful to readers or more filiatory than
alphabetical sequence exists. Verbal mne-

monics by alphabetical device should be
preferred if the alphabetical sequence is as
helpful as any other sequence. The word
forming the basis of verbal mnemonics
should be that of international nomenclature
wherever it has been set up. This is the
Canon of Verbal Mnemonics".

This canon clearly states the condi-
tions under which (AD) should be used. It is
essential that the (AD) should use only the
term accepted in international nomenclature.
This is in order to facilitate class numbers
being used for international communication.

34   CC, Ed 6, 1960

The above prescription in the Prolego-
mena was amplified still further in ed 6 of
CC published in 1960, as follows:

"0585 The Alphabetical Device (AD)
consists in using the first or the first two,
or, the first three, etc. initial letters (all
in caps) of the name of an entity, existential
or conceptual, for the formation or the sub-
division of an isolate.

"The following convention is suggested
in dealing with names having the same initial
letter. The first letter alone may be used
for the most favoured entity, i e, the entity
which has the greatest literary warrant or
which is the first on which literature arrives.
The first two letters are to be used for the
second favoured entity with the same initial
letter, using 'favoured' in the above sense,
and so on. The use of the first three letters
may be invoked if the name of another entity
has the same two initial letters as the one
already selected for two-letter-representa-
tion. The number of letters used may be
further increased to the necessary extent.

"This device is to be used only in
cases where no other method of subdivision
gives a more helpful sequence. The sched-
ules and the Rules indicate the places where
this Device has to be used.

"05851 The (AD) can be applied only
in respect of proper names, trade names,
and certain technical nomenclature which
are internationally current.

"05852 There are some unsolved diffi-

culties in the application of this device.
Certain combination of letters occur fre-
quently at the beginning of names. Then,
several letters have to be brought into use
to secure individualization".

4 BINOMIAL TERM
41 Virology

During the last year, the classification
of Virology was taken up. It was found that
taxonomic classification of virus was not
recommended by the specialists. In fact
they did not adopt even taxonomic nomencla-
ture. The general consensus of opinion
among the virologists appears to be to adopt
non-taxonomic nomenclature. One result of
this is that a classification schedule has to
represent a virus by (AD). Often the name
of a virus is a binomial--that is, it consists
of two terms. Occasionally it consists of
even three terms. Here the existing Rule
0585 does not easily lend itself to the con-
struction of the isolate number for a virus
by (AD).

42 Work of an Author

The existing Rule of CC for the con-
struction of the isolate number for the work
of an author in the (MC) Literature calls for
the use of Indo-Arabic numerals. Here are
the rules.

"041 The Work (IN) should be con-
structed as follows:

"1 If the number of works of the author
does not exceed eight, the works should be
arranged in chronological sequence or, if it
is impossible, in any arbitrary sequence or,
if it is impossible, in some convenient se-
quence, and they should be divided succes-
sively into groups of eight each, and the
numbers 1, 2, 3 ... 8, respectively should be
assigned to the works.

"2 If the number of works of an author
is greater than eight but does not exceed
sixty-four, the works should be arranged in
chronological sequence or, if it is impossible,
in some convenient sequence, and they should
be divided successively into groups of eight
each, and the number 1, 2, 3 ... 8, respec-
tively should be assigned to the groups. Such

a number may be termed Group Number.
Then to get the actual Work (IN) of the works
in any group, 1, 2, 3 ... 8, respectively should
be put after the Group Number; thus, each
Work (IN) will consist of two digits, the
first digit indicating the group into which the
book falls and the second indicating the work
in the group.

"3 If the number of works is greater
than sixty-four but does not exceed 512, the
same device may be extended. That is, the
Work (IN) will consist of three digits, the
first digit showing the major group of 64
works into which the work falls, the second
digit showing the sub-group of the major
group into which the book falls, and the
third digit indicating the work in the sub-
group".

43 Analogy and Illusion

In practice, the application of the above
rules involves a considerable work on the
part of the classifier. In the refresher
course being given to some librarians in
Bangalore, the return for this considerable
work was examined. The return was not
found to be adequate to the work involved.
But why was this rule formulated in 1933?
It was due to an anology and an illusion. At
that time, it was rightly realised that to
arrange the authors in a particular form of
literature in particular language by (CD) was
more helpful than to arrange them by (AD).
Even now this is true. This led us to say
"Let us arrange the works of any one author
also chronologically, though uses of (CD)
may not be easy to work with". This was
the reason behind Rule 041 quoted in Section
42. It is now realised that the analogy is
not true. The assumption, that the readers
would prefer a chronological arrangement
of the works of an author in the (MC) Liter-
ature, in a particular language and in a parti-
cular form, even as they would prefer a chro-
nological arrangement of the authors them-
seves, errs on the side of illusion rather
than of reality. The present view is that
there can be no particular arrangement of
the works of an author in the same form in
the same language in the (MC) O Literature
which is really more useful and likely to be
sought by users than their arrangement by

(AD). This is also true of the arrangement of the works of an author treated by the Classic Device.

44 Illustration 1

Let us take the case of the dramatic works of William Shakespeare. Even scholar-ship extended over several decades could not assert the exact chronological sequence of his plays. The following is given by scholars as one possible chronological table of them [1].

Chronology of the Plays of Shakespeare

1590-91

1 Henry VI (2)
2 Henry VI (3)

1591-92

3 Henry VI (1)

1592-93

4 Richard III
5 Comedy of errors

1593-94

6 Titus Andronicus
7 Taming of the shrew

1594-95

8 Two gentlemen of Verona
9 Love's labour's lost
10 Romeo and Juliet

1595-96

11 Richard II
12 Midsummer night's dream

1596-97

13 John
14 Merchant of Venice

1597-98

15 Henry IV (1)
16 Henry IV (2)

1598-99

17 Much ado about nothing
18 Henry V

1599-1600

19 Julius Caesar

20 Merry Wives of Windsor
21 As you like it

1600-1601

22 Twelfth night
23 Hamlet

1601-1602

24 Troilus and Cressida

1602-1603

25 All's well that ends well

1604-1605

26 Measure for measure
27 Othello

1605-1606

28 Macbeth
29 Lear

1606-1607

30 Antony and Cleopatra

1607-1608

31 Coriolanus
32 Timon of Athens

1608-1609

33 Pericles

1609-10

34 Cymbeline

1610-11

35 Winter's tale

1611-12

36 Tempest

1612-13

37 Henry VIII
38 Two noble kinsmen

The following note is prefixed to the above table in the Encyclopaedia; "It will be understood that neither the order in which the plays are given nor the distribution of them over the year lay claim to more than approxi-mate accuracy". In these circumstances, it is hardly reasonable to expect that all readers will know the chronological sequence of the plays or will feel it more helpful if the plays

are arranged on the shelves and in the cata-
logues in this particular sequence rather than
in the alphabetical sequence.

44 Illustration 2

In the case of Shakespeare we had at
least some readymade table provided by
scholars. In other cases, even this help
may not be available. In 1928 we were made
to realise the enormous difficulty of arrang-
ing the works of another author by (CD). For,
in that year a reader presented to the
Madras University Library the complete
works of Alexandre Dumas (1802-1870.
These were in 277 volumes. This threw us
a challenge to work out a schedule for the
dramas and the novels of Dumas. ·We spent
a good deal of time over it, now and again
consulting those who were devoted students
of his works. But at the end we asked our-
selves, "How many readers will feel helped
by this chronological arrangement of the
works of Dumas? Will not the readers be
helped much better if the works are arrang-
ed alphabetically by their titles"?

45 Multi-Worded Titles

We now prefer to construct by (AD)
the (IN) of a work of an author in the (MC)
·O literature or classified by Classic Device.
Here we found the problèm of the titles of
many a work being multiworded. They also
often create a situation in which the (AD) has
to be applied to many of the words in the
title even as it happens in the case of the
multi-nomial nomenclature of virus.

5 ALPHABETICAL DEVICE FOR
MULTI-NOMIALS

We are now making a study of how the
(AD) should be applied to multi-nomial terms
such as titles of works in literature or in
classics and multi-nomial nomenclature of
virus.

51 Example 1
Schedule for the Work Facet of Shakespeare

The following arrangement of the work
of Shakespeare given in Sec 44 has been ten-
tatively arrived at, with the use of (AD).

A	All's well that ends well
AN	Antony and Cleopatra
AS	As you like it
C	Comedy of errors
CO	Coriolanus
CY	Cymbeline
H	Hamlet
HE-4-1	Henry IV (1)
HE-4-2	Henry IV (2)
HE-5	Henry V
HE-6-1	Henry VI (1)
HE-6-2	Henry VI (2)
HE-6-3	Henry VI (3)
HE-8	Henry VIII
J	John
JU	Julius Caesar
K	King Lear
L	Love's labour's lost
M	Macbeth
ME	Measure for measure
MER	Merchant of Venice
MERR	Merry wives of Windsor
MI	Midsummer night's dream
MU	Much ado about nothing
P	Othello
PE	Pericles
R-2	Richard II
R-3	Richard III
RO	Romeo and Juliet
T	Taming of the shrew
TE	Tempest
TI	Timon of Athens
TIT	Titus Andronicus
TR	Troilus and Cressida
TW	Twelfth night
TWO	Two gentlemen of Verona
TWO-N	Two noble kinsmen
W	Winter's tale

52 Example 2
Sample Schedule for Virus

AP	Apeu
APP-M	Apple mosaic
APP-R	Apple rubbery wood
B	Bacillus (bacteriophage)
B-A	Bacillus anthracis (bac-teriophage)
B-C	Bacillus cerus (bacterio-.phage)
B-M	Bacillus megaterium (bacteriophage)
BA-F	Barley false-stripe

BA-S	Barley stripe-mosaic
BA-Y	Barley yellow-dwarf
BE-R	Beet ring spot
BE-Y	Beet yellows
Be-Y-N	Beet Yellow-net
BLU-S	Blueberry stunt
BO-V-B	Borreliota variolae Var. bouis
Bo-V-H	Borreliota variolae Var. hominis
O-M	Oat mosaic
O-R	Oat red-leaf
OR-M	Orchid flower breaking
P-M	Papaya mosaic
PA	Papilloma
PAR-I	Para influenza
PAR-I-1	Para influenza 1

.. .. ..

PAR-I-10	Para influenza 10
PE-E-M	Pea-enation mosaic
PE-M	Pea mosaic
PE-S	Pea streak
PE-ST	Pea stunt
PEA-M	Peach mosaic
PEA-R	Peach ring spot
PEA-Ro	Peach rosette
PEA-S	Peach stunt
PEA-Y-B-M	Peach yellow-bud mosaic
PEA-Y-L-M	Peach yellow leaf-roll
PEA-Y-M	Peach yellow mosaic
PEAN-R	Peanut rosette
POL	Polyoma
POT-A	Potato A
POT-C	Potato C
POT-CA	Potato calico
POT-CO-R	Potato corky ringspot
POT-F	Potato F
POT-L	Potato late breaking
POT-LE	Potato leafroll
POT-Y	Potato Y
POT-YE-D	Potato yellow dwarf
TO-M	Tobacco mosaic
TO-R	Tobacco rattle
TO-RI	Tobacco ringspot
TOM-A	Tomato aspermy
TOM-AU-M	Tomato aucuba mosaic
TOM-B	Tomato big-bud
TOM-BU	Tomato bushy-stunt
TOM-F	Tomato fern-leaf
TOM-M	Tomato mosaic
TOM-R	Tomato ringspot
TOM-S	Tomato spotted-wilt

TOP-Y	Top yellows
TOM-Y-N	Tomato yellow-net

53 Some Inference
531 Title of Work

A comparison of the schedules for the dramas of Shakespeare and for virus calls for some remarks. In Shakespeare, Roman numerals are all converted into Indo-Arabic numerals. The occasion to use a binomial is not much. It is equally so with the use of trinomials. Apart from the historical plays, where a numeral has to be used, we do not find the need for a binomial number except in the case of "Two gentlemen of Verona" and "Two noble kinsmen". Since we have already used TW to represent the "Twelfth night", we are obliged to use TWO to represent the first word in each of the above plays. But it happens that the same first word occurs in the name of both the plays. Therefore we have to invoke the aid of the second word in the title of the latter play. Thus we get the (IN) TWO and TWO-N.

532 Name of Virus

But, in the case of a virus, the users' memory will be very much helped if each word in the binomial or the trinomial, as the case may be, is represented in the (AD), thought it may not be necessary for the individualisation of the isolates. This is an important difference between the application of (AD) to works in literature or in classics and to the names of the viruses.

6 RULES FOR (AD)

In the light of the experience indicated above, the following additional rules are suggested for (AD) to facilitate the number-ing of the rules. It may be helpful to re-number the existing Rule 05852 into 05852-05855. The rule about the (AD) for binomial may be given the number 05852 as shown below:

05852 .- If the users find it helpful to denote an entity by a binomial term, the (AD) should be applied independently to both the words in the binomial term, as pres-cribed in the Rule 0585.

05853 .- The two (IN) got thus by (AD) are to be connected by the super-imposition device " -" (hyphen), in order to fill (IN) by (AD).

05854 .- The device prescribed by the Rules 05852 and 05853 may be called "Binomial (AD)".

05855 .- The (AD) may be applied to trinomials and higher multinomials in a similar way. The corresponding (AD) may be called Trinomial (AD) ... Multinomial (AD).

Note.- It may be explicitly stated that it is not obligatory to use all the words in a multinomial in the (AD) unless the helpfulness to users demands it as in the biological sciences.

In other cases such as in the works of a classical author or in the author (MC) O literature, it is a matter for judgment whether it is more economical to ignore the second and the later words in the (AD) or to use not only the first word but also the later words to the necessary extent.

7 RELEASE OF ZONE 2

The use of (AD) to get (IN) for the works of a classical author or an author in (MC) O literature or for virus or other isolates in any facet shifts the representation of the isolates from Zone 2 to Zone 3 of the Array of Order 1 in its facet. This makes Zone 2 fallow. The Efficiency Table [2] prompts us to examine whether the fallow Zone 2 can be put to any use. How it can be usefully put to some other use in virology will be indicated in a later paper. We shall confine ourselves here to the use of Zone 2 in the case of a work facet of an author. For definiteness, we shall take the dramas of Shakespeare as an illustration.

71 Grouping of Works of Shakespeare

We have literary warrant demanding the grouping of the dramas of Shakespeare into comedies, tragedies, etc. There are certainly critical works on such groupings. Bradley's "Shakespearean tragedy" is an example. The present rules in CC do not provide any way of individualising such iso-

lates. It now occurs that Zone 2 in work facet may be used for the purpose. Here is an illustrative schedule.

3 Comedies
5 Tragedies
6 Historical Plays
7 Romantic Plays

Note. It may be noted here that the digits used are mnemonics. The digit 6 is the mnemonic for time and therefore used to represent historical plays. The digit 5 is the mnemonic for emotion and therefore used as the mnemonic for the most stirring emotion implied in tragedy. The digit 3 is used for comedies as it is the specific digit for joy in the schedule for "S Psychology" With such a schedule as above, the number for Bradley's "Shakespearean tragedies" will be O111, 2J64, 5:g.

72 Collection of a Group of Works

In CC, the digit x is used to represent collection as well as selection. When applied to the works of an author, the digit x should be added after the author number (vide Rule 09x). Thus the (CN) O111, 2J64x will represent both the collected works of Shakespeare and any collection or selection of Shakespearean works. But we have collection or selection of tragedies alone, the collections and selections of comedies, and so on. Till now, it has not been possible for us to give a co-extensive and expressive (CN) for them. The prescription contained in Section 71 shows a way out. In fact, it shows two possible ways out. The (CN) for the collection and selection of Shakespearean tragedies may be either.

O111, 2J64, 5x or
O111, 2J64x5

The former number has the advantage of bringing together the editions of the collection of tragedies as well as the critical works on tragedies. On the other hand, the later number places the collection of tragedies just after the collection of all the works. Since we cannot allow a homonym in a classificatory language, a decision must be made once and for all to prefer the one or the other. Perhaps the first alternative will be more helpful than the second.

73 A New Facet

These ideas open up a very vast vista in the depth classification of subjects in (MC) Literature, as this would be needed in documentation work. It is particularly useful in the documentation of the ancient and medieval literature in the Indian languages. Here a variety of forms of poetry have been identified. For example in Tamil, as many as 170 varieties of poetry have been listed. There is a considerable amount of literary warrant on some of these varieties. Till now we had no means of facing the challenge of depth classification in this field. How this challenge can now be met will be shown in Paper Q in this issue.

74 Application to Linguistics

There has been another unsolved problem haunting us all along. The evaluation of a work in (MC) O Literature is different from the norms or the rules for the composition of different forms of literature such as a poem, a drama, a novel, and a short story. The ideas developed in this paper suggest a solution to this problem only, the following numbers which are more extensive have been possible till now:

P111,J72:7   Art of writing drama in modern English

P111,J73:7   Art of writing a novel in modern English.

It is now possible to have numbers which are more coextensive than the classes concerned such as the following:

P111,J725:7   Art of writing a tragedy in Modern English

P111,J731:7   Art of writing short story in modern English.

These ideas require further pursuit. In particular, each of the language schedules should be worked out for subforms and for each of the broad forms such as poetry, drama and fiction.

8 APPLICATION TO CLASSICS

In arranging the Indian Classics in part 3 of CC-- particularly the works of a single author considerable difficulty was felt in 1933. Fortunately Mahamahopadhyaya S Kuppuswami Sastri, was a living encyclopaedia and a bibliography on sanskrit class helped me in deciding the sequence of the works. But there is bound to be some difference of opinion with regard to their sequence. More over new classics are being continuously unearthed since then. In view of this it is felt that the work facet in a classic as well as the commentary facet may be constructed by (AD), without much of unhelpfulness to the readers. A small section of the schedules of the classics in Advaita is reproduced here both as it is in the printed media CC and as it would be if the (IN) in the work facet is constructed by (AD).

81 Existing Sequence

Existing class Number	Work	Proposed class Number
R66x1, 11	Sankara: Upadesa-sahasri	R66x1, U
R66x1, 12	Sankara: Viveka-cudamani	R66x1, VI
R66x1, 13	Sankara: Aparoksanubhuti	R66x1, A
R66x1, 14	Sankara: Dasa-sloki	R66x1, DA
R66x1, 14, 1	Madhu-sudana Sarsvati: Siddhanata-bindu	R66x1, DA, S
R66x1, 15	Sankara: Panci-karana	R66x1, P
R66x1, 16	Sankara: Daksinamurti-stotra	R66x1, D
R66x1, 17	Sankara: Vakya-sudha	R66x1, V

82 Proposed Sequence

The above eight works will fall in the

Proposed Class Number	Work	Existing class Number
R66x1, A	Sankara: Aproksanubhuti	R66x1, 13
R66x1, D	Sankara: Daksinamurti-atotra	R66x1, 16
R66x1, DA	Sankara: Dasa-sloki	R66x1, 14
R66x1, DA, S	Madhy-sudana Sarasvati: Siddhanta-bindu	R66x1, 14, 1
R66x1, P	Sankara: Panci-karana	R66x1, 15
R66xq, U	Sankara: Upadesa-sahasri	R66x1, 11
R66x1, V	Sankara: Vakya-sudha	R66x1, 17
R66x1, VI	Sankara: Viveka-cudamani	R66x1, 12

83 Illustration from Nyaya Philosophy

The following is another selection from the classics on Nyaya Philosophy. They are arranged with the help of the proposed (AD). Their original class number are given in column 3.

Proposed Class Number	Work	Existing Class Number
R625x1, N	Gautama: Nyaya-sutra	R625x1, 1
R625x1, N, B	Vatsyayana: Nyaya-bhasya	R625x1, 1, 1
R625x1, N, B, V	Uddyota-kara: Nyaya-varttika	R625x1, 1, 1, 1
R625x1, N, B, V, T	Vacaspati-misra; Nyaya-varttikatatparaya-tika	R625x1, 1, 1, 1, 1
R625x1, N, B, V, T, P	Udayanacarya: Nyaya-varttika-tatparya parisuddhi	R625x1, 1, 1, 1, 1, 1
R625x1, N, M	Jayanta Bhatta: Nyaya-manjari	R625x1, 1, 2
R625x1, N, S	Visva-natha Pancanana: Nyaya-suotra-vrtti	R625x1, 1, 3
R625x1, N, S-V	Radha-mohan Bhattacarya: Nyaya-sutra-vivarana	R625x1, 1, M10

The titles of the works are all binomials or even trinomials. All of them begin with the word 'Nyaya'. Therefore 'N' is used as (IN) the work number only for the basic class. In the other works it is only the second term in the title that is used for the (AD). In the last two examples the titles of works are trinomials. The first two terms are the same. Therefore the first word 'Sutra' alone is used in the (AD) for one of the works. Both the term in the binomial 'Sutra'-vivarana', in the second work the (IN) in the work facet is a hyphenated one— S-V.

84 Old and New

The points in sections 741-43 are brought for discussion. It is not the intention that they should be immediately adopted. If it is finally decided to favour (AD) for work .facet in Classics, all the libraries starting classification hereafter may adopt it. Even libraries already classified may adopt it for the new Classics to be added. But the numbers for the already classified Classics in the library either the old number may be retained permanently or they may be gradually changed to new numbers as prescribed in the Method of Osmosis.

BIBLIOGRAPHY

Note: 1 The following is the list of the docu-
       ments used.

2 Column 1 of this bibliography give
  the serial number of the documents
  included in it.

3 Column 2 of this bibliography gives
  the number of the section in the
  text, where the reference to the
  document is made.

1 Sec 44 ENCYCLOPAEDIA BRITANNICA:
          New survey of universal know-
          ledge. Ed 14. 1929. 20; 439.

2 Sec 23 RANGANATHAN (S R). Efficiency
          table. (Depth classification, 17).
          (An lib sc, 2; 1955; 1-8).

3 Sec 22 — Report to FID/CA 5. 1955.