# SPECIATORS TO FACETS IN COLON CLASSIFICATION

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Presents a set of typology of characteristics for Speciators to various facets namely Basic facet, Personality facet, Property facet, Energy facet, Space facet and Time facet for use in the construction of coextensive class numbers according to Colon Classification. The application of typology is illustrated with examples from depth schedules for different fields of knowledge.

## 0 Introduction

Ranganathan introduced in 1964, the concept of specifying various types of whole ideas by a variety of qualifiers. He illustrated the helpfulness of this approach for depth classification (7). Since then nearly 200 classification schedules have been developed for use in specialist libraries. It covers a variety of subject-fields in Natural Sciences and Social Sciences. Studies on the incidence of these qualifiers, later renamed by Ranganathan as speciators, have highlighted the value of this approach in organising information files in a flexible manner. Identification, grouping and arrangement of these speciators have also been studied in the last two decades (2, 3, 4, 6). In the course of these studies, it has been found that any concept has a potential choice for speciating another concept and thus form a compound isolate idea (6). The context of a specific compound subject aids in the resolution of the speciator and the speciated. This paper has developed a comprehensive typology of characteristics to identify

the speciators likely to help grouping of the compound subjects clustering with a basic subject.

## 1 Typology of Speciators to Basic Subjects

The Basic Subjects enumerated in the schedule of Basic Subjects contain Primary Basic Subjects such as Physics, Chemistry and Mathematics. These primary basic subjects are speciated on the basis of a set of characteristics to generate compoud Basic Subjects. The following table presents the same.

| S No. | Type of Characteristics | Examples |
|-------|------------------------|----------|
| 1. | Theory/School of Thought | Psychoanalytic theory Gestalt Psychology |
| 2. | Extra-normal Environment | High Altitude Biology Industrial Medicine |
| 3. | Special characteristics | Femal Medicine Gerontology |
| 4. | Canonical characteristics | Heat Physics Radiation Physics Electricity |

The Schedule of Basic Subjects in Colon Classification edition (1) indicates that the use of the typology is fairly stabilised. The new developments in the universe of subjects is likely to cause addition to these set of characteristics.

## 2 Typology of Speciators to Personality

A typology for speciators for personality isolates going with each of the different basic subjects have been developed. It is evolved on the basis of experience gained in the design of depth classification schedules. The development of the typology is helpful for the recognition of a variety of speciators. The succeeding table presents a set of characteristics helpful in deriving speciators for personality isolate.

| S No. | Type | Example |
|-------|------|---------|
| 1. | General Attributes | By Nomenclature, such as Ford Car By Taxonomy such as Reptalia |
| 2. | Time-denoting Attributes | By Age, By Stage of development |
| 3. | Geographical/Position denoting Attributes | By Location, such as Centrally located concentrators |
| 4. | Direction Denoting attributes | By Orientation, such as Eastward policies, South-oriented buildings |
| 5. | Material of composition denoting attributes | By Material such as Made of plastics |
| 6. | Form denoting Attributes | By Form, such as Fibrous objects Powdered Metals |
| 7. | Shape denoting Attributes | By Shape, such as Round Objects Corrugated plates |
| 8. | Physical feature denoting Attributes | By Physical features, such as Hot metal Rigid systems |
| 9. | Chemical features denoting Attributes | By Chemical features, such as Inflammable objects, Deliquescent systems Acidic systems |
| 10. | Geological features denoting Attributes | By Geological features, such as origin objects Ilmenite ore origin of materials |
| 11. | Biological Attributes | By Biological features, such as Living systems, Growing tensions, Developing Societies, Photosynthetic Energy |
| 12. | Aesthetic Attributes | By Aesthetic features, such as Beautiful persons, Symmetric systems, Soothing Radiations, Charming policies |
| 13. | Linguistic Attributes | By Linguistic features, such as English Speaking people, Linguistic policies, Language developing system |
| 14. | Religious Attributes | By Religious orientation, Agnostic persons, Pro-religious policies, Islamic nations |
| 15. | Philosophical Attributes | By Philosophical orientations, such as Monistic systems, Dualistic policies |
| 16. | Ethical Attributes | By Ethical features, such as Non-Violent systems, Truthful policies |
| 17. | Psychological Attributes | By Psychological features, such as Intelligent policies, Emotional persons, Interactive systems |
| 18. | Educational Attributes | By Educational patterns, such as College-going population, Learning societies |

| S. No. | Type | Example |
|--------|------|---------|
| 19. | Geographical Attributes | By Geographical attributes, such as Tropical zone, Solar socieites |
| 20. | By Historical Attributes | By Historical features, such as Roman Empire, War policies, German Empire |
| 21. | Political Attributes | By Political systems, such as Totalitarian societies, Communistic policies, Anarchic systems |
| 22. | Economic Attributes | By Economic policies, such as Low-cost systems, Poor societies, Cost effective |
| 23. | Social group Attributes | By Socialogical features, such as |
|  | By Family | Joint family systems |
|  | By Residence | Rural population |
|  | By Nationality | Alien society, Immigrant persons |
|  | By Professions | Teachers, Librarians |
|  | By Social status | Elite population |
|  | By Caste | Brahminic population |
|  | By Race | Dravidian population |
|  | By Institutional Affiliations | Pro-EFC policies |
|  | By Abnormalities | Pathological policies, Destitute societies |
| 24. | Legal Attributes | By Legal features, such as Contractual systems Law-abiding socieites |
| 25. | Extra-normal environment | By Environment, such as High altitude, Highly compressed systems Super-power shadow policies |
| 26. | Experimental condition | By Experimental conditions, such as Invivo systems, solar radiation in ocean surroundings, Non-violent policies. |

The typology indicates that any idea can speciate to any other idea. It is highly flexibile specification. The context of compound subject determines the speciator and speciated ideas.

## 3 Typology of Speciators to Property Isolates

Speciators to property isolates are not incident as frequently as in he case of personality isolates. The main types of characteristics

used for speciating the property isolates are given in the following
table:

*31    Table of Typology of Speciators to Property*

| S. No. | Type | Example |
|---|---|---|
| 0. | Origin-associated attributes | By Source |
| | By Source | Maternal |
| | | Paternal |
| | By Origin | Endogenous |
| | | Exogenous |
| 1. | Substance associated Attributes | Physical substance |
| | | Chemical substance |
| | | Biological substance |
| 2. | Structure associated Attributes | Molecular |
| | | Nuclear |
| | By Molecular structure | |
| | By Nature | Natural |
| | | Artificial |
| | By Stage | Primary |
| | | Secondary |
| | | Tertiary |
| | By Level | Hypo |
| | | Hyper |
| | By Proportion | Partial |
| | | Total |
| | By Polarity | Negative |
| | | Positive |
| | By Bondage | Independent |
| | | Dependent |
| | By Contact | Direct |
| 3. | Function-associated Attributes | Indirect |
| | By Response | Active |
| | | Passive |
| | | Negative |
| 4. | Time-associated Attributes | |
| | By Time of occurrence | Nocturnal |
| | | Diurnal |
| | By Frequency of occurrence | Persistent |
| | | Intermittant |
| | | Recurrent |
| | By Reaction time | Delayed |
| | | Spontaneous |
| | | Prolonged |

| S. No. | Type | Example |
|--------|------|---------|
| 5. | Location-associated Attributes | |
| | By Location | Tip |
| | | Middle |
| | | End |
| | By Orientation | Westward |
| | | Eastward |
| | | Southward |
| | | Northward |
| 6. | Environment-associated Attributes | |
| | By Experimental condition | In-vivo |
| | | In-vitro |
| | By Temperature | Hot |
| | | Cold |
| | | Warm |

# 4  Typology of Speciators to Energy Isolates

Speciators to Energy Isolates denoting action are quite frequent in their incidence in compound subjects. But the typology of characteristics used for deriving these speciators may be reduced to a few. The following table presents these characteristics.

| S. No. | Type | Example |
|--------|------|---------|
| 1. | Steps in Action | |
| | By Steps | First step |
| 2. | Attributes of Action | |
| | By Nature of action | Beneficial |
| | | Painful |
| | | Pathological |
| | | Harmful |
| 3. | Method of Action | |
| | By Method | Pneumatic methods |
| | | Oral Methods |
| 4. | Agent of Action | |
| | By Agents | Cartoonists |
| | | Nurses |
| | | Teachers |
| | | Policy makers |

| S. No. | Type | Example |
|---|---|---|
| 5. | Instruments of Action | |
| | By Instruments | Constitution |
| | | Blackboard |
| | | Needle |
| 6. | Environment of Action | |
| | By Extra-normal environment | Cold |
| | | Hot Irradiated |
| | | High altitude |
| 7. | Time of Action | Concurrent |
| | | Post-mortem |

# 5 Typology of Speciators to Space

Space isolate ideas are generally common isolates. The Speciators for the same can be drawn from typical set of characteristics. These are indicated in the following table:

| S. No. | Type | Example |
|---|---|---|
| 1. | Physical feature | |
| | By Land | Subterranean |
| | By Surface | Submerged land |
| | | Plain |
| | | Desert |
| | By Land-cum-water | Coast land |
| | | Peninsula |
| | By Water feature | Underground water |
| | | Fresh underground water |
| | By Air Spaces | Atmosphere |
| | By Population cluster | Hamlets |
| | | Villages |
| 2. | Climatic zones | Equatorial zone |
| | By zone | Tropical zone |
| | | Temperate zone |
| 3. | Sea surrounded area | |
| | By Ocean | Atlantic countries |
| | | Baltic countries |
| | By Produce | Agricultural countries |
| | By Political ideology | Democratic countries |
| | By Development | Under-developed countries |

| S. No. | Type | Example |
|---|---|---|
| 3. | Sea surrounded area (*Contd.*) | |
| | By Language | English speaking area |
| | By Religion | Islamic countries |
| 5. | Direction | |
| | By Orientation | East |
| | | West |
| | | South |
| | | North |
| 6. | International groups | |
| | By Empire | British Empire |
| | | Dutch Empire |
| | By Organisations | United Nations |
| | By Pact | NATO countries |
| | By Ideology | Non-aligned countries |

# 6  Typology of Speciators to Time

Time isolates are also common isolates. The speciators for these isolates can be derived from a typical set of characteristics as indicated in the following table:

| S. No. | Type | Example |
|---|---|---|
| 1. | Periods of time | |
| | By Calendar | Roman |
| | | Arabic |
| | | Vikrama saka |
| | | Milineum |
| | By Duration | Century |
| | | Decade |
| | | Year |
| | | Month |
| | | Day |
| | By Season | Winter |
| | | Summer |
| | | Spring |
| | | Autumn |
| 2. | Events | |
| | By Social events | Marriage time |
| | | Festival time |
| | | National Holidays |

| S. No. | Type | Example |
|---|---|---|
| 2. | Events (*Contd.*) | |
| | By Economic events | Recession time |
| | | Boom time |
| | | Fluctuating time |
| | By Political events | World War II |
| | | Coronation time |
| | | Water time |

Among the speciators for the P, M, E, S, T, our experience in design of depth classification indicates that the frequency of incidence of speciators for personality is highest whereas it is least for T. The Energy isolates have also a good measure of incidence of speciators in Science and Technology.

## 7 Application of the Typology

The typology of speciators presented in the earlier sections is helpful in identifying the speciators that are likely to occur in the schedules for subjects clustering with a host subject. Usually, a selection of these sequences is used for grouping of speciators. The sequence is dependent on the context of the host subject. The following examples illustrates the use of these typology.

*71    Dairy Technology Schedule*

The following is a list of characteristics used in the most subject "F8, 3B DAIRY TECHNOLOGY" (5).

| S. No. | Characteristics | Correlation with typology |
|---|---|---|
| 1. | By Country of Origin | By Geographical attributes |
| | *Speciators:* | |
| | Indian | |
| | Danish | |
| 2. | By Brand | By Nomenclature |
| | *Speciators:* | |
| | Amul | |
| | Britannia | |

| S. No. | Characteristics | Correlation with typology |
|--------|-----------------|---------------------------|
| 3. | By Purpose<br>*Speciators:*<br>Infant-food<br>Under-nourished Food<br>Dietary foods | By Economic attributes |
| 4. | By Stage of Development<br>*Speciators:*<br>Fruiting<br>Ripening<br>Dying | By Time denoting attributes |
| 5. | By Condition of Use<br>*Speciators:*<br>Raw<br>Fresh | By Economic attributes |
| 6. | By Physical Form<br>*Speciators:*<br>Sheet<br>Water<br>Flake | By Physical features |
| 7. | By Processed Form of commodity<br>*Speciators:*<br>Converted<br>Skimmed<br>Pasteurised | By Chemical features |
| 8. | By Composition | By Chemical Features |
| 9. | By Nutritive quality<br>*Speciators:*<br>Growth promoting<br>Growth retarding | By Biological features |
| 10. | By Texture<br>*Speciators:*<br>Fine<br>Course<br>Jellified | By Geological features |
| 11. | By Colour<br>*Speciators:*<br>White<br>Red<br>Pink | By Physical features |
| 12. | By Odour<br>*Speciators:*<br>Burnt<br>Pungent<br>Putrid | By Chemical features |

| S. No. | Characteristics | Correlation with typology |
|--------|-----------------|---------------------------|
| 13. | By Taste<br>*Speciators:*<br>Sweet<br>Bitter<br>Salty | By Biological features |
| 14. | By Time of Use<br>*Speciators:*<br>Immediate<br>in seconds<br>in hours | By Time denoting attributes |

The table indicates the incidence of typology in a good measure in personality facets.

### 72   Human Disease Schedule

The following table presents a list of characteristics used in the host subject "L, 1:4 Human Disease" (9).

### 721   CHARACTERISTICS FOR SPECIATORS TO PROPERTY ISOLATES

| S. No. | Characteristics | Correlation with Typology |
|--------|-----------------|---------------------------|
| 1. | By Cause | Origin-associated attributes |
| 2. | By Carrier | Structure-associated attributes: Contact |
| 3. | By Signs and symptoms | Structure-associated attributes: Nature |
| 4. | By Localisation | Structure-associated attributes: Proportion |
| 5. | By Prognosis | Structure associated: Stage |

The schedule of Human Diseases contains several order of characteristics which are used for successive sub-divisions to derive speciators to the property isolate disease. Here again, there can be several additions to the typology as we update them periodically.

### 73   Therapeutic Radiology

The following table presents a list of characteristics used in the host subject "L, 1:4:6 Therapeutic radiology (8).

| S. No. | Characteristics | Correlation with Typology |
|--------|-----------------|---------------------------|
| 1. | Purpose | Attributes of action |
| 2. | Kind of Radiation | Nature of radiation |
| 3. | Energy of Radiation | Attributes of action |
| 4. | Source of Radiation | Attributes of action |
| 5. | Form of Radionucleotide | Attributes of action |
| 6. | Quantity of Dose given | Method of action |
| 7. | Applicator | Instrument of action |
| 8. | Irradiation technique | Method of action |
| 9. | Field | Environment |
| 10. | Frequency of dose | Time associated |
| 11. | Exposure time | Time associated |
| 12. | Position of patient | Environment of action |
| 13. | Number of dose | Method of action |
| 14. | Combination | Method of action |
| 15. | Dose distribution | Method of action |

The typology appears to be comprehensive. The number of characteristics used to derive speciators in Therapeutic Radiology appears to be exhaustive.

# 8 Conclusion

It is evident from the foregoing presentations that it is possible to develop a set of typology for speciators to different facets in Colon Classification system. The design and development of classification schemes would be facilitated by such standardisation procedures in classification.

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