

TRADITIONS OF FACET THEORY  
OR  
A GARDEN OF FORKING PATHS?

KATHRYN LA BARRE

Graduate School of Library and Information Science

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# CONVERSATION WITH VICKERY

A structure such as facet may validly represent certain aspects of a field, but only limited aspects.

Do we in fact need a much richer set of semantic relationships such as some ontologies are trying to achieve?

In short — what is the future of facets?

# CONVERSATIONS

A Semantic (Faceted)  
Web?

*Les Cahiers du numérique*  
Instantiation

*Facet Theory:  
Geographically  
Bounded - or  
Transcendent?*

*Returning the (faceted) gaze*

ISKO C/US    Aesthetics

ISKO Spain    Geography

# A GARDEN OF FORKING PATHS?

This web of time —

the strands of which approach one another, bifurcate, intersect or ignore each other through the centuries

— embraces every possibility (Borges, p.98).<sup>[L  
SEP]</sup>

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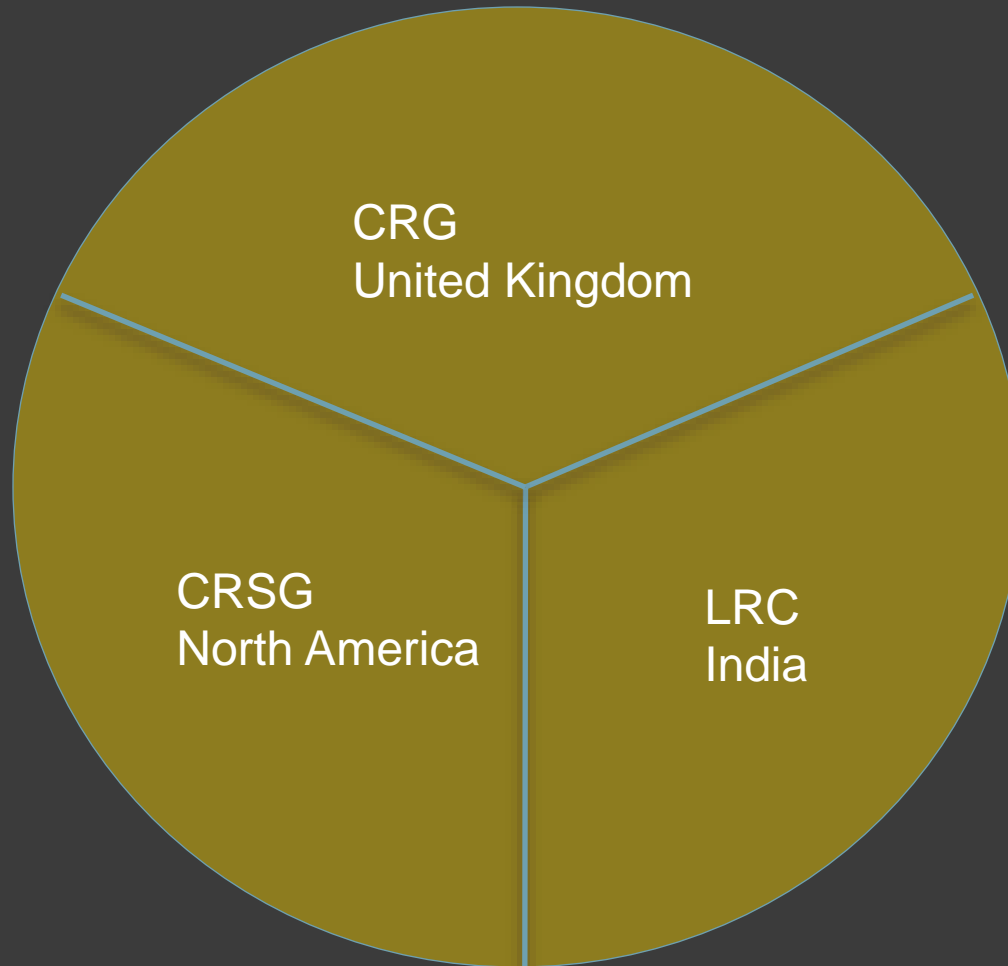
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# APPLES TO APPLES?

Traditions? Language? Instantiations?

OPEN QUESTIONS>

# TRADITION



# TRADITION

UK

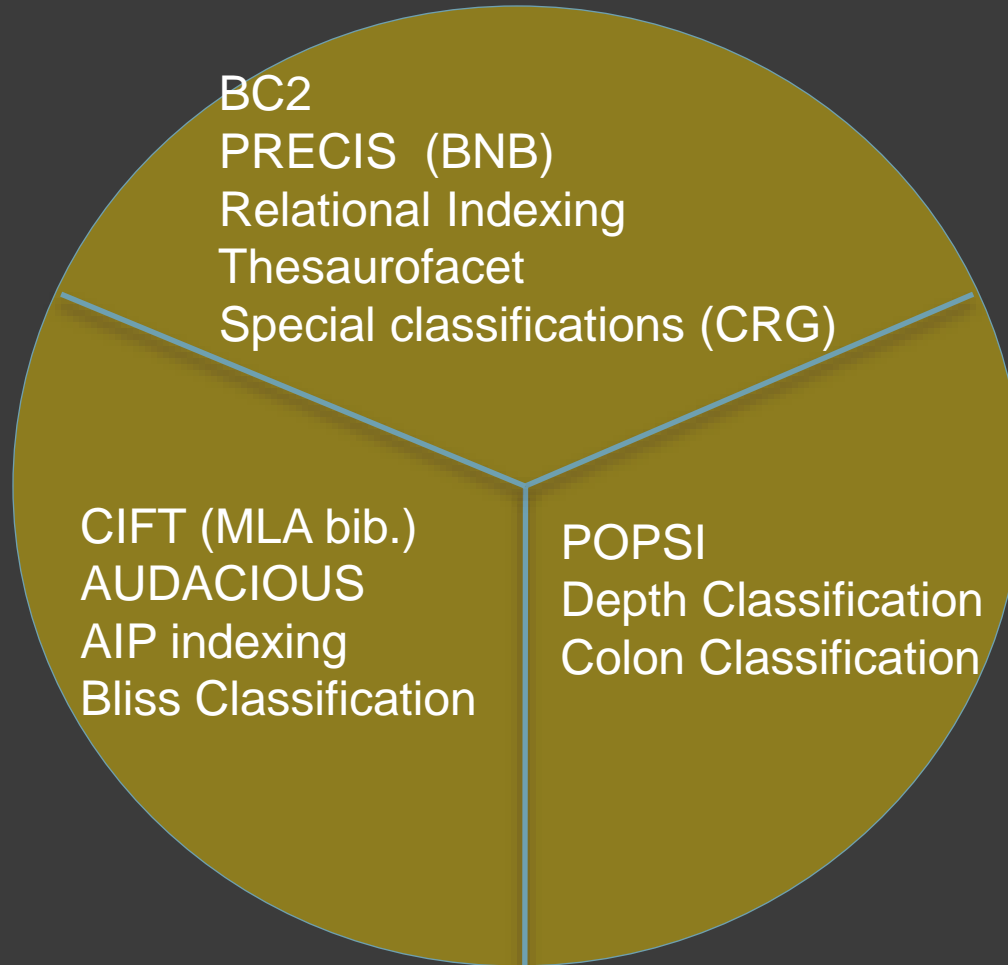
BC2  
PRECIS (BNB)  
Relational Indexing  
Thesaurofacet  
Special classifications (CRG)

CIFT (MLA bib.)  
AUDACIOUS  
AIP indexing  
Bliss Classification

POPSI  
Depth Classification  
Colon Classification

North America

India



# TRADITION?

UK

BSI 8723-1, 2005  
BC2-ongoing updates  
[STAR](#) project

ISO/DIS 25964-1, 2009

OCLC/ FAST  
Faceted navigation

Classaurus  
[LivingKnowledge](#)

ANSI/NISO Z39.19

North America

India



# LANGUAGE

FACET

FUNDAMENTAL CATEGORY

FACET ANALYSIS

# FACET

[Ranganathan, 1967]

*train of characteristics*

*Any component of a  
compound subject.*

[ISO/DIS 25964-1, 2009]

**2.19 facet grouping of concepts  
of the same inherent category**

**[LIVING ORGANISMS]**

**Animals, mice, daffodils and bacteria**

# FACET ANALYSIS

[FOSKETT, 1962] ‘...analysis of a subject in its entirety into a certain number of ... categories of things.’

[ISO/DIS 25964-1, 2009]

**2.20 analysis of subject areas into constituent concepts grouped into facets, and the subdivision of concepts into narrower concepts by specified characteristics of division**

# FUNDAMENTAL CATEGORIES

[Vickery, 1961] *conceptual categories* ‘of high generality and application that can be used to group other concepts’

[[ISO/DIS 25964-1, 2009 Note: 2.19: Facet]

Examples of high-

level categories that may be used for grouping concepts into facets are:

*objects, materials, agents, actions, places and times.*

*these may optionally be replaced by or subdivided into narrower groupings such as living organisms, processes, operations, etc.*

# INSTANTIATION

“OCLC has pursued a faceted syntax for LCSH, . . . on a limited scale [with] **eight facets already recognized by LCSH\*.**”

“FAST puts most topics into a single topical facet. This is hardly what most experts mean when they refer to faceted syntax.”  
Anderson (2006 p. 12).

- (x) Topical
- (z) Geographic (Place)
- (v) Form (Type, Genre)
- (y) Chronological  
(Time, Period)

Title

Names:

Personal,  
Corporate,  
Meeting Name

**\*LCSH subdivisions**

## TOPICAL

- thing/entity
- kind
- part
- property/attribute
- material
- process
- operation
- client
- product
- by-product
- agent/means
- space
- time

## BC2 FACETS

### NON-TOPICAL

- approach
- format
- medium
- audience

# OPEN QUESTIONS

- What is a facet?
- What is the role of fundamental categories?  
Universal? Domain Specific? Both?
- How to model facet analysis?
- Formats and models for facet relations?
- Can facet theory play a role in ontology building?
- Role of facet theory in Linked Data applications?
- ‘Low hanging fruit’
- How to make facet theory approachable?

# ARTICULATION AGENDA

## APPLIED CRITICAL PRACTICE

terminological vagaries

variant traditions

comparative instantiations

> OPERATIONAL DEFINITIONS

> FUNCTIONAL REQUIREMENTS



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Thank you!

Continue the  
conversation...

See you at ISKO, 2012  
Bangalore?

## Image credits

Doll, Bundle: <http://travishocutt.blogspot.com/>

Mappa Mundi: <http://unknownskywalker.tumblr.com/post/699508665>



# RELATIONS BS ISO 25964-1

*USE*

*UF*

*USE+*

*UF+*

*TT Top term;;*

*BT Broader term;; BTG Broader term (generic)*

*BTI Broader term (instantial) –*

*BTP Broader term (partitive)*

*NT Narrower term;*

*NTG Narrower term (generic)*

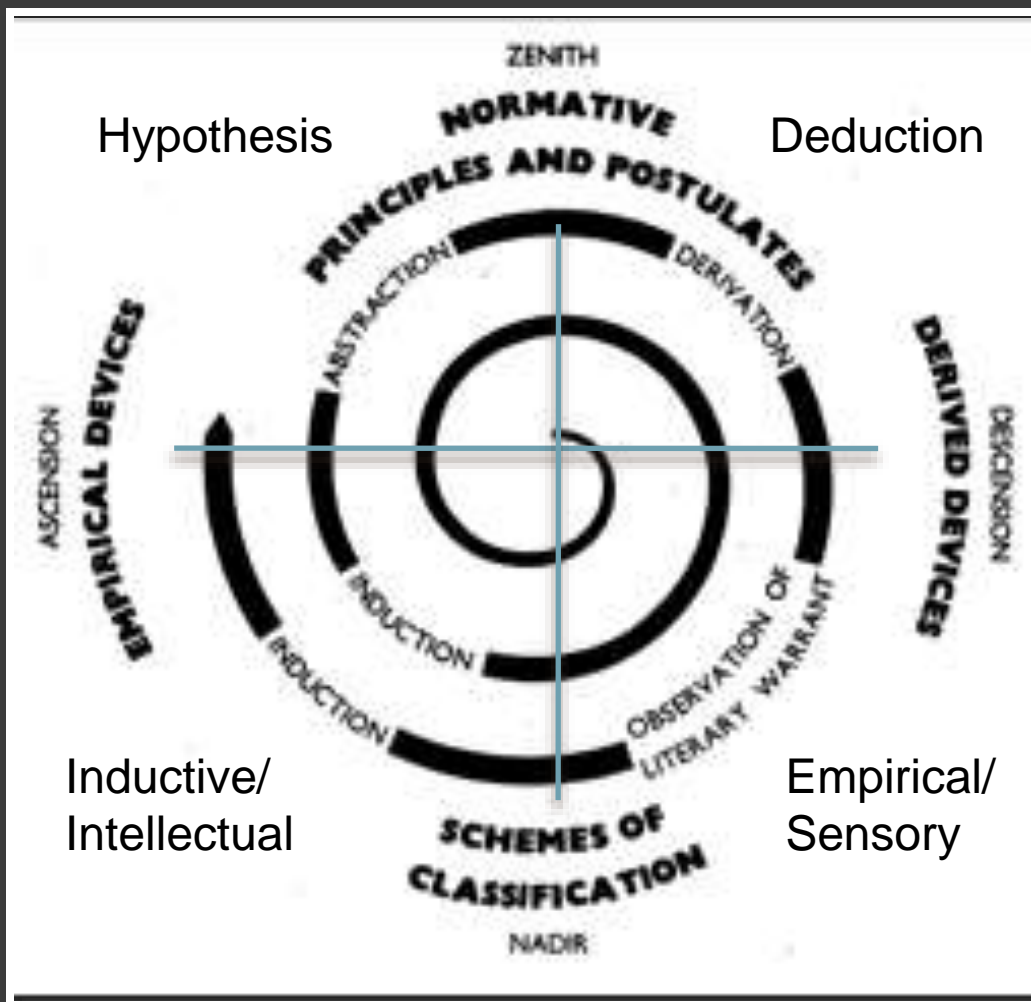
*NTI Narrower term (instantial)*

*> NTP Narrower term (partitive)*

*— RT Related term;;*

# SPIRAL OF INTELLECTION

Trans- intellectual, trans-sensory, trans-emotional, trans-memory



*PROLEGOMENA (1967)*

# PLANES OF WORK

- **Idea:** The work of FA takes place in the Idea plane, where an entity is analyzed into component parts
- **Verbal:** FA continues here as further sorting and transformation of the selected categories/facets or terms occur.
- **Notational:** work of FC -- translating selected terms into notation.

# HIGH LEVEL CATEGORIES

Ranganathan	Shera/Egan	Prieto-Diaz	Aitchison	Aristotle
<ul style="list-style-type: none"> <li>&gt;Personality</li> <li>&gt;Matter</li> <li>&gt;Energy</li> <li>&gt;Space</li> <li>&gt;Time</li> </ul>	<ul style="list-style-type: none"> <li>&gt;Product</li> <li>&gt;Agent</li> <li>&gt;Tools</li> <li>&gt;Act</li> <li>&gt;Object of action</li> <li>&gt;Space</li> <li>&gt;Time</li> </ul>	<ul style="list-style-type: none"> <li>&gt;Function</li> <li>&gt;Objects</li> <li>&gt;Medium</li> <li>&gt;System-type</li> <li>&gt;Functional area</li> <li>&gt;Setting</li> </ul>	<ul style="list-style-type: none"> <li>&gt;Entities, things, objects</li> <li>&gt;Kinds or types/ systems and assemblies</li> <li>&gt;Actions and activities</li> <li>&gt;Applications and purposes</li> <li>&gt;Space, place, location and environment</li> <li>&gt;Time</li> </ul>	<ul style="list-style-type: none"> <li>&gt;Substance</li> <li>&gt;Quality</li> <li>&gt;Quantity</li> <li>&gt;Relation</li> <li>&gt;Place</li> <li>&gt;Time</li> <li>&gt;Position</li> <li>&gt;State</li> <li>&gt;Action</li> <li>&gt;Affection</li> </ul>

# FACETED ANALYTICO-SYNTHETIC THEORY

Most inclusive terminology (Broughton/CRG tradition)

/ indicates the existence of guiding principles

/ incorporates:

- Facet Analysis: *technique*

  - Entity analyzed into facets

  - (characteristics-things, concepts-ideas)

- Faceted Classification: *structure*

  - Consists of schedules for basic classes with pre-determined facets for all entities.

- Analytico-Synthetic Classification

  - Five step process: from facet analysis to notation.



# GUIDING PRINCIPLES

- Postulates:
  - Five fundamental categories: PMEST
  - Three planes of work: Idea Verbal Notational
- Canons:
  - Parsimony
  - Symmetry
  - 5 laws of LS (Books are for use) (Books are for all) (Every book its reader) (Save the time of the reader) (A library is a growing organism).
  - Others:
    - Consistent sequence
    - Currency
    - Enumeration
    - Context
    - Reticence
    - Relativity
    - Mnemonics
    - Viewpoint
    - Classics
    - Distinctiveness

TRAVIS WILSON (CREATOR OF FACETMAP): THREAD: SPECIAL VS.  
GENERAL SCHEMES: DATE: WED, 12 MAR 2003 09:14:11 +0000  
[HTTP://ARTICLE.GMANE.ORG/GMANE.COMP.INFODESIGN.FACETEDCLASSIFICATION/1](http://article.gmane.org/gmane.comp.infodesign.facetedclassification/170/match=facet)

### 70/MATCH=FACET

At the other extreme, the universal qualities espoused by Ranganathan and others just don't apply to many resources that deserve classification. The "space" facet only works in the context of resources that have physical incarnations in a spatial location; perhaps this is obvious, but it confirms that there is indeed a context -- one that many data-based resources don't share.

In the end, the whole idea of a set of general facets as a "framework for facets typical of each discipline" simply limits the number of disciplines that can use FC (to those that fit within the framework).

Ranganathan was really not concerned with disciplines outside of biology. I don't think that kind of limitation is appropriate for faceted classification in general, and I hope we don't impose it.

# FACET

## Facet:

- A generic term used to denote any component of a compound subject, <including> ranked forms, terms and numbers (Ranganathan, 1967, p. 88).
- A general manifestation of a subject (Ranganathan, 1962, p. 82).
- Groups of terms derived by taking each term and defining it, *per genus et differentiam*, with respect for its parent class (Vickery, 1960, p. 12).
- **Facet analytical approach:** Proper and rigorous practice of facet analysis by observing the rules of logical division. (Broughton, 2001, p. 67; Mills, 2004, p. 268).
  - (1) one characteristic of division is applied at a time [conceptual analysis]
  - (2) division steps should be logical and proximate
  - (3) division should be exhaustive (Mills, 2004, pp. 551).

# BLISS FACETS [TOPICAL]

## TOPICAL

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- kind
- part
- property/attribute
- material
- process
- operation
- client
- product
- by-product
- agent/means
- space
- time

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