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Faceted Classification Today

Syntax of facets and sources of foci

A review of alternatives

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What is a "facet"?
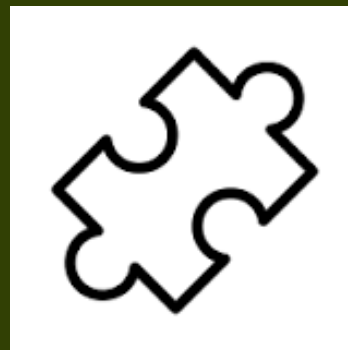
...It depends!

It can be many things according to:
- thesauri vs. classifications
- libraries vs. Web
- ...

What is a "facet"?

Let us take a generalistic, neutral approach, then consider alternatives.

Generic meaning:
a concept that can be combined with others

Possible syntax

(1) Free
(2) Freely faceted
(3) Classical special facets
(4) Common facets

(1) Free combination

Simple juxtaposition

    "Free classification" vs. "faceted classification"
      [Gardin 1965]

Not properly "facets"

history ; literature
(history of literature?
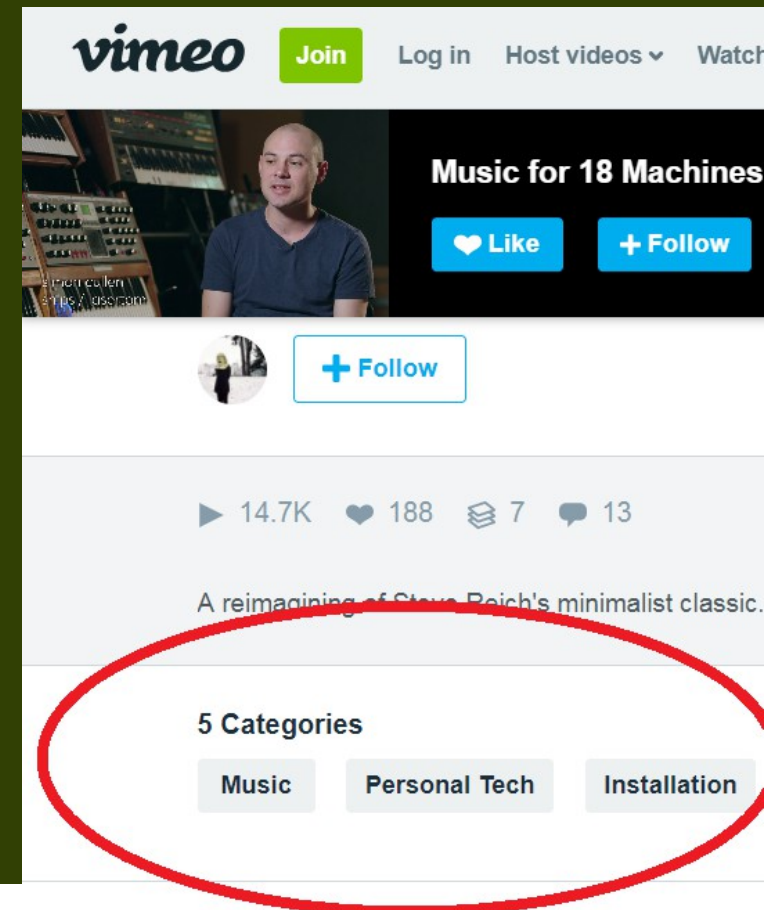 literature on history?
 history and literature?...)

(1) Free combination

Used in
postcoordinated systems
such as keywords
and tags (folksonomies)

Keywords: subject searching; subject authority control; OPAC; Universal Decimal Classification; multilingual subject index

(1) Free combination

Also in classification schemes:

94:82 "history (in some relation with) literature"
82:94 "literature (in some relation with) history"

Order may express focus on a class
(base theme)
cfr. Szostak [2016]

(1) Free combination

If a kind of relationship is expressed
(e.g. bias, comparison, difference, influence)
we get a **phase relationship**

[Ranganathan 1967]

94-042.3:82 "literature, influence of history"

This opens the way to...

(2) Freely faceted systems

Concepts are grouped in categories
e.g. Things, Properties, Processes
then combined.

Frequent in thesauri (AAT, NS):

bottles [Thing] : manufacturing [Process]

(2) Freely faceted systems

Syntax can have no order [Hudon 2007, for IR]:
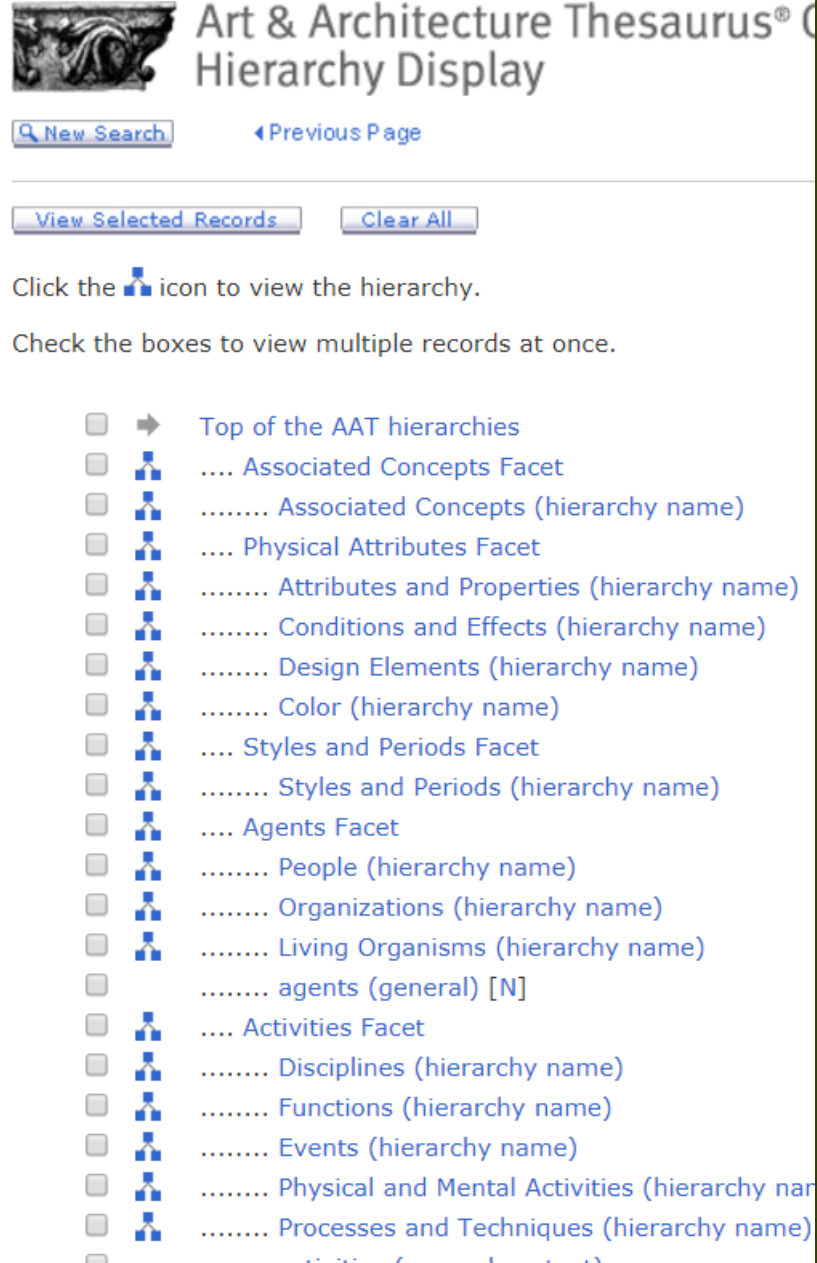*bottles [Thing]*
manufacturing [Process]

or a standard citation order of categories
like in P,M,E,S,T:

Thing: bottles, Process: manufacturing

(2) Freely faceted systems

NB: "Facets" have
a semantic (paradigmatic)
rather than
a syntactic (syntagmatic)
meaning!

"nature" not "function"
[Hudon & Mustafa 2017]

Art & Architecture Thesaurus® (
Hierarchy Display

New Search   ◄Previous Page

View Selected Records   Clear All

Click the 🔺 icon to view the hierarchy.

Check the boxes to view multiple records at once.

- ➡ Top of the AAT hierarchies
- .... Associated Concepts Facet
- .... Associated Concepts (hierarchy name)
- .... Physical Attributes Facet
- .... Attributes and Properties (hierarchy name)
- .... Conditions and Effects (hierarchy name)
- .... Design Elements (hierarchy name)
- .... Color (hierarchy name)
- .... Styles and Periods Facet
- .... Styles and Periods (hierarchy name)
- .... Agents Facet
- .... People (hierarchy name)
- .... Organizations (hierarchy name)
- .... Living Organisms (hierarchy name)
- .... agents (general) [N]
- .... Activities Facet
- .... Disciplines (hierarchy name)
- .... Functions (hierarchy name)
- .... Events (hierarchy name)
- .... Physical and Mental Activities (hierarchy nam
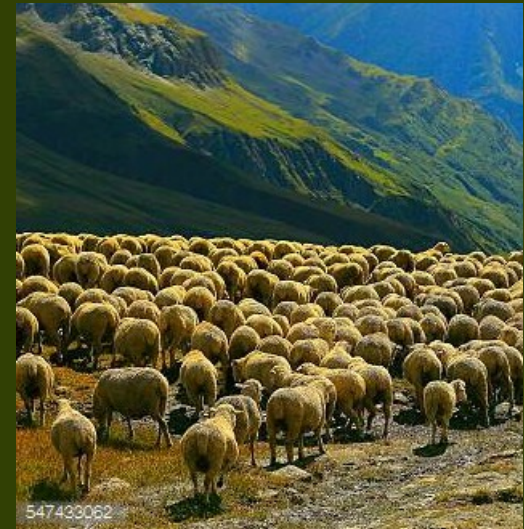- .... Processes and Techniques (hierarchy name)

(2) Freely faceted systems

Indeed, "herds" have the nature of a Thing
but functionally can play both as agents…
    herds – *grazing*
…and as patients:
    herds – *breeding*

Facet categories in the functional sense
are rather called "roles" in e.g. PRECIS

(2) Freely faceted systems

This syntax can also be adopted to give a "freely faceted classification" [Austin 1976] where any concept can be combined with others from any main class:

jy93i "soils, hit by rain"
jy43wndt "soils, altered by trucks"

(3) Classical special facets

On the other hand, in faceted classification
as conceived by Ranganathan,
"facets" are bound to a given main class

<div align="right">[Broughton 1999]</div>

to give a semantic frame [Green in this conf.]

(3) Classical special facets

In CC and BC2, every discipline
has its own facet formula:

L Medicine

[organ] : [problem] , [cause] : [handling]

L:4	diseases
L:4:3	diagnosis of disease
L9F:4	gynaecology
LC,9F:4	gynaecology according to Siddha system

(3) Classical special facets

Special facets have been introduced
in some classes of UDC and of DDC:

274-53-23 "protestantism, worship, sacred books"

(4) Common facets

A.k.a. common auxiliaries/subdivisions
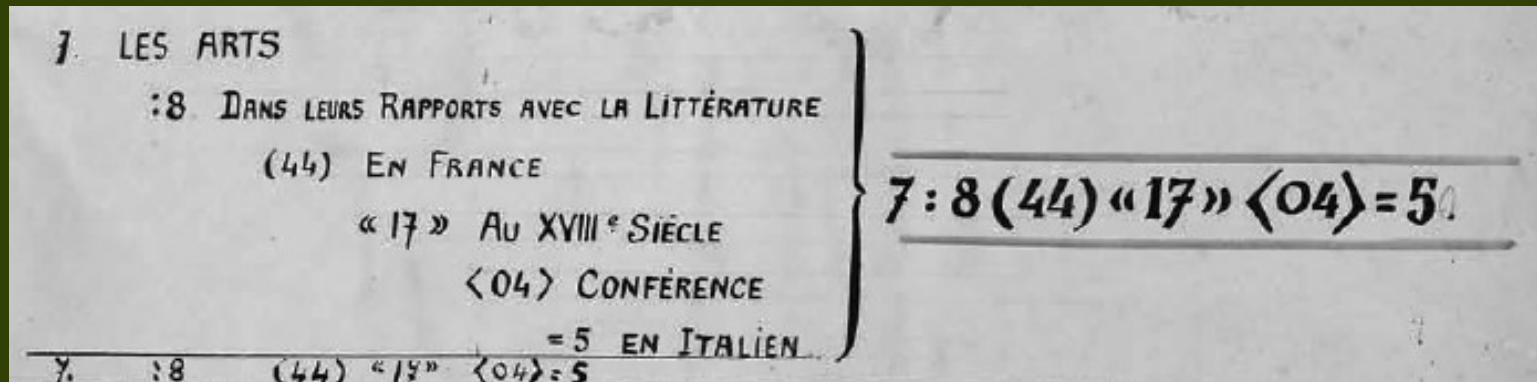Especially Time, Place, Form...

Just additional specifications of a basic subject

7(44)"17"=131 "arts, in France, in 18th C, in Italian"

(4) Common facets

The most common ones in KOSs
since Otlet's time

[Otlet 1910~ in Slavic & Davies this conf.]

Probably inspired facet analytical theory

(4) Common facets

A reason to describe
enumerative systems as "faceted"

Cfr. LCSH version FAST
"Faceted Application of Subject Terminology"

or DDC having "12,194 facets (building blocks from
Tables 1-6 and internal add tables, added to show
languages, geographic areas, ethnic/national
groups, genres, etc.)"

These are facets only in a broad sense.

(4) Common facets

This extended meaning of "facet" is spreading because facet analysis is now acknowledged to be a basic requirement for any modern KOS.

But restructuring an existing system into a fully faceted structure requires big effort.

OCLC FAST
FAST is a project of OCLC Research.

FAST (Faceted Application of Subject Terminology)

FAST (Faceted Application of Subject Terminology) is an enumerative, faceted subje[ct] the Library of Congress Subject Headings (LCSH). The purpose of adapting the LCS[H] create FAST is to retain the very rich vocabulary of LCSH while making the schema [to] apply, and use. The schema maintains upward compatibility with LCSH, and any vali[d] be converted to FAST headings. The FAST Authority file contains links to LCSH Auth[ority] authoritative sources such as VIAF, GeoNames, and Wikipedia. We will continue to a[dd]

(4) Common facets

Also used in
online navigation
[La Barre, 2010]

usually generated
automatically
→ effective with
Places or Periods
not Parts, Agents…

"Ersatz" facets

"ersatz" facets: *red cars* (simple attributes)
"real" facets: *car manufacturing*
                    [Frické 2010; 2011; 2013]

"ersatz" = Part, Property, Material…
"real"   = Process, Agent, Space, Time…
                (relations with external systems)

cfr. general systems theory

Sources of foci

Foci: possible values of a facet
cars, colour: {red|silver|white|blue|…}

basic   facet   foci
class

Where are foci to be taken from in the schedules?

Sources of foci

Possibilities:

- context-defined:
  "*industry, performing quality control*"

- extra-defined
  – general: "*libraries, specialized in agriculture*"
    Opportunities for reusing notation [Mills 1982]

  – special: "*vets, for [animal] canaries*"
    Cfr. parallel divisions in UDC
    Opportunities for shortened notation

Reusing notation

Advantage for retrieval,
especially in freely faceted systems

but the same order in different classes
is not always appropriate:

- botany vs. agriculture
- biology vs. palaeontology
- mineralogy vs. jewellery

The limits of combination

Also, combination may become awkward:

water   = "hydrogen" + "oxygen"
hydrogen peroxide = "hydrogen" + "oxygen"

irrigation = "making" + "falling" +
                          + "hydrogen" + "oxygen" ??!

Which are the primitives
    (Szostak's "basic concepts") ?
Leibniz never specified it… [Soergel this conf.]

Limits of combination

Sometimes it may be wiser to have
a different notation for the whole that is
the integrated result of combination:

~~2(52)~~ "religions of Japan"
225   "religions of Japan"

Limits of combination

Relationship with the semantic factors
can still be recorded as "see also" links:

225 "religions of Japan" → *(52)* "Japan"

water   → oxygen
irrigation   → water

[Gnoli et al. 2015]

Appendix:

Philosophical background
of facet analysis

General approaches to LIS+KO

Rationalist
Empiricist
Historical-hermeneutical
Pragmaticist

[Hjørland various papers]

Rationalism

Facet analysis: The logical approach to knowledge organization

Birger Hjørland

Royal School of Library and Information Science, 6 Birketinget, [...]

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ABST

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Is Facet Analysis Based on Rationalism?
A Discussion of Satija (1992), Tennis (2008), Herre (2013), Mazzocchi (2013b), and Dousa & Ibekwe-SanJuan (2014)

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Eclecticism

Thomas M. Dousa - Graduate School of Library and Information Science, University of Illinois, Urbana-Champaign, USA
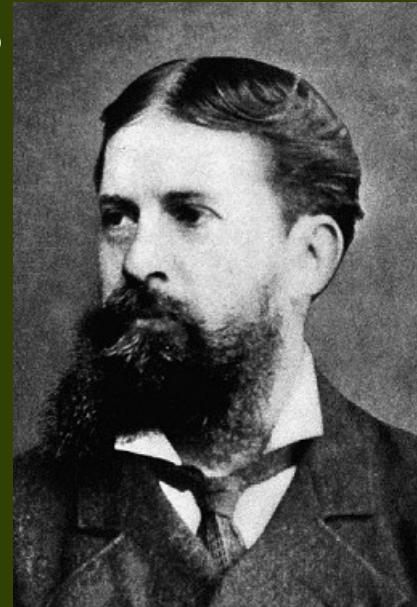**Fidelia Ibekwe-SanJuan** - ELICO - University of Lyon 3, France

Epistemological and Methodological Eclecticism in the Construction of Knowledge Organization Systems (KOSs). The Case of Analytico-synthetic KOSs

Abstract

In recent years, Hjørland has developed a typology of basic epistemological approaches to KO that identifies four basic positions - empiricism, rationalism, historicism/hermeneutics, and pragmatism -with which to characterize the epistemological bases and methodological orientation of KOSs. Although scholars of KO have noted that the design of a single KOS may incorporate epistemological-methodological features from more than one of these approaches, studies of concrete examples of epistemologico-methodological eclecticism have been rare. In this paper, we consider the phenomenon of epistemologico-methodological eclecticism in one theoretically significant family of KOSs - namely analytico-synthetic, or faceted, KOSs - by examining two cases - Julius Otto Kaiser's method of Systematic Indexing (SI) and Brian Vickery's method of facet analysis (FA) for document classification. We show that both of these systems combined classical features of rationalism with elements of empiricism and pragmatism and argue that such eclecticism is the norm, rather than the exception, for such KOSs in general.

Rationalism

Are fundamental categories rationalistic?
Cfr. Aristotle [Dahlberg],
    Peirce (founder of pragmaticism!)

Ranganathan uses
postulates, principles, canons…:
he is "rationalistic" like Euclides or Spinoza
He is also pragmatic:

Let us check the sources

- All classes depend on the "**purposes**"
  of classification [Ranganathan 1967]

- "the most relevant literature is that which arises
  directly from the establishment's **activities** – in
  particular, its research and development reports"

- "The **empirical** study of **helpfulness** to users
  should decide the whole sequence of facets"
  [Vickery 1960]
  = domain analysis ante litteram?
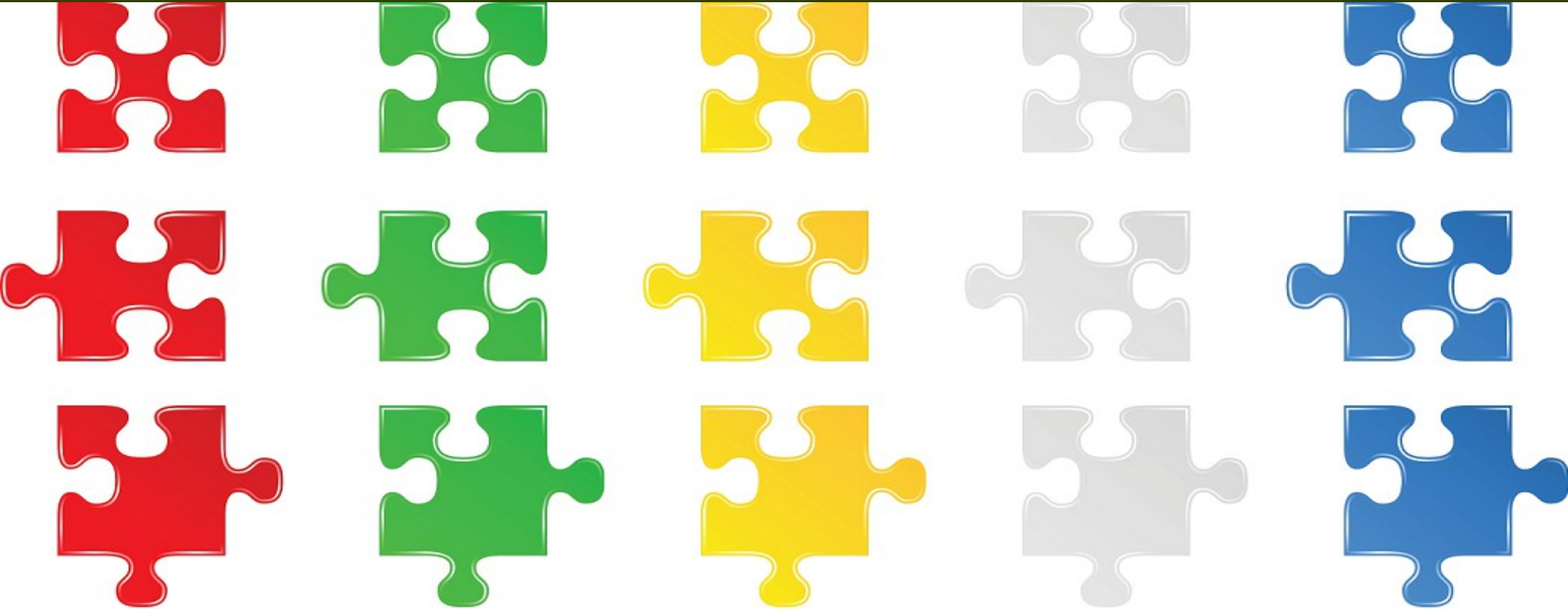
Eclecticism

Green [this conf.]: both bottom-up (empirical) and
top-down (rationalistic) help to identify facets

Szostak [2004]: both induction and deduction
are needed to develop KOSs

I subscribe to Dousa & Ibekwe [2014]:
facet analysis is eclecticist
rather than rationalistic only

...Now it is Birger's turn :-)

Thanks

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