

The second edition of the
Integrative Levels Classification:
evolution of a KOS

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Integrative Levels Classification

- Inspired to a project of the Classification Research Group (1969)
- Developed since 2004 by an international team
- Lists **phenomena** instead of **disciplines**
- Freely **faceted**
(= any concept combinable with any other)

Integrative Levels Classification

project

scheme

how it works

León Manifesto

references

Integrative Levels Classification

The Integrative Levels Classification (ILC) is a knowledge organization system featuring experimental innovations.

ILC1 vs. ILC2

- Published 2011 2019
- No. of Classes 7,052 10,845
- Classes moved e.g. *z* 'religion' *r* 'rituals'
- Classes expanded e.g. *al* 'algebraic structures'
- Notation improved e.g. negative digits
(dates & quantities)
- Facet categories reordered
- New facet category 4 'disorder'
inspired by Edgar Morin's philosophy:
no real structure works perfectly!

main classes: (select + to expand)

main classes: (select + to expand)

Classes moved & rearranged

e	atoms	+
f	molecules	+
g	bodies	+
h	celestial objects	+
i	weather	+
j	land	+
k	genes	+
l	bacteria	+
m	organisms	+
n	populations	+
o	instincts	+
p	consciousness	+
q	signs	+
r	languages	+
s	civil society	+
t	governments	+
u	economies	+
v	technologies	+
w	artifacts	+
x	art	+
y	knowledge	+
z	religion	+

jc rocks

e	atoms	+
f	molecules	+
g	continuum bodies	+
h	celestial bodies	+
i	rocks	+
j	land	+
k	genes	+
l	bacteria	+
m	organisms	+
n	populations	+
o	instincts	+
p	consciousness	+
q	language	+
r	rituals	+
s	communities	+
t	polities	+
u	enterprises	+
v	technologies	+
w	artifacts	+
x	artworks	+
y	knowledge	+

Classes expanded

e.g. *al* 'algebraic structures'

al /εla/ algebraic structures [algebra, abstract algebra] ≈
DDC 512

ytcm /jatafam textbooks, didactic expositions ← [yl schools](#)
e/

009 /ɔwɔɔɔ/ [[y](#)
[t](#)] in *document format*

example

- al ytcme "algebraic structures: textbooks", or
- al009cme "algebraic structures, in textbooks"

Notation improved

For Dates and Quantities

jagX /ʒɛgaxaw/ dates, days ← [an quantities](#)

▽	▷	ja9 /ʒɛga/	months
▽	▷	ja9X /ʒɛgaxaw/	dates, days ← an quantities
▽	▷	ja9Xb /ʒɛgaxawba/	1st
▽	▷	ja9Xc /ʒɛgaxawfa/	2nd
▽	▷	ja9Xd /ʒɛgaxawda/	3rd
▽	▷	ja9Xe /ʒɛgaxawe/	4th
▽	▷	ja9Xf /ʒɛgaxawfa/	5th

an /ɛna/ quantities, amounts, numbers ≈ DDC 513

▽	▷	an /ɛna/	quantities, amounts, numbers ≈ DDC 513
▽	▷	anb /ɛnaba/	negative quantities
▽	▷	andW /ɛnadawwa/	positive quantities

ILC1 vs. ILC2 categories reordered

0 under *aspect*

1 at *time*

2 in *place*

3 through *process*

4 made of *element*

5 with *organ*

6 from *origin*

7 to *destination*

8 like *pattern*

9 of *kind*

0 as for *perspective*

1 at *time*

2 in *place*

3 by *agent* (was 36)

4 affected by disorder (new)

5 with transformation (was 3)

6 having *property* (partly new)

7 with *part* (was 4+5)

8 as *form*

9 of *kind*

New notation for facets

- Only facets with -9- have shortened notation
- Facets **as semantic categories** ≠ **as syntactic specification** (cf. Coates 1973; Hudon and Fortier 2018):

w artifacts

wah mechanical components

wahh wheels (alone)

w97 [wah] with component

wv vehicles

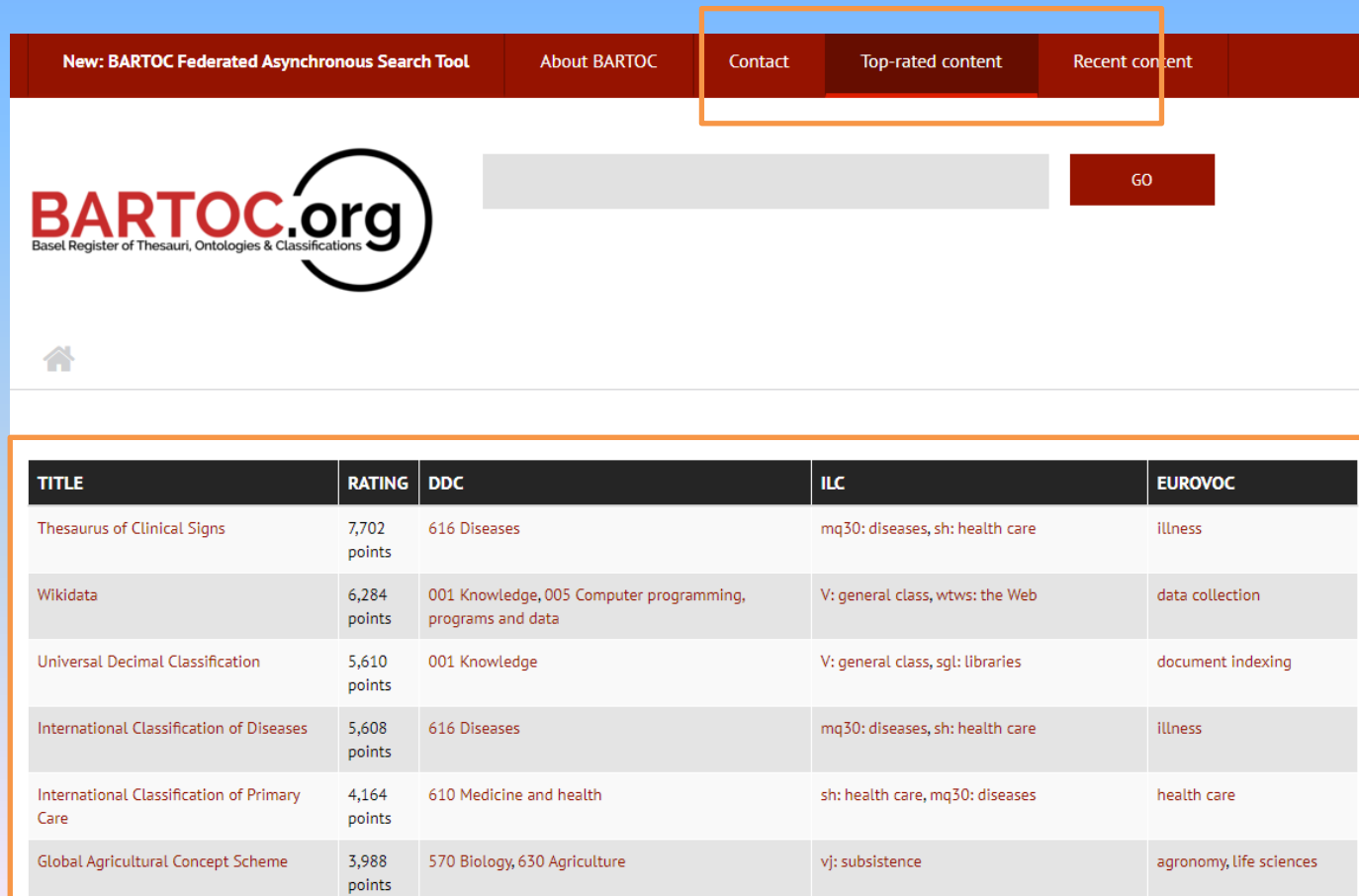
wv97hh vehicles, with wheels

ILC2 representation

- Available as HTML at <http://www.iskoi.org/ilc/ilc.php>
- Being converted into SKOS at Uni South Wales Hypermedia Research Unit (Binding & Tudhope)
- Not all structural elements can be represented in SKOS (see Gnoli et al. 2011)

Recent application: BARTOC (1)

- 200 top-rated KOSs indexed by ILC1



The screenshot shows the BARTOC website interface. The navigation menu includes 'New: BARTOC Federated Asynchronous Search Tool', 'About BARTOC', 'Contact', 'Top-rated content', and 'Recent content'. The 'Top-rated content' menu item is highlighted with an orange box. Below the navigation is the BARTOC.org logo and a search bar with a 'GO' button. A table of top-rated KOSs is displayed below, with the table itself highlighted by an orange border.

TITLE	RATING	DDC	ILC	EUROVOC
Thesaurus of Clinical Signs	7,702 points	616 Diseases	mq30: diseases, sh: health care	illness
Wikidata	6,284 points	001 Knowledge, 005 Computer programming, programs and data	V: general class, wtws: the Web	data collection
Universal Decimal Classification	5,610 points	001 Knowledge	V: general class, sgl: libraries	document indexing
International Classification of Diseases	5,608 points	616 Diseases	mq30: diseases, sh: health care	illness
International Classification of Primary Care	4,164 points	610 Medicine and health	sh: health care, mq30: diseases	health care
Global Agricultural Concept Scheme	3,988 points	570 Biology, 630 Agriculture	vj: subsistence	agronomy, life sciences

Recent application: BARTOC (2)

- Comparison with DDC (Gnoli et al. 2018)

DDC	ILC
616 Diseases	mq30: diseases, sh: health care
001 Knowledge, <u>005 Computer programming, programs and data</u>	V: general class, wtws: the Web
001 Knowledge	V: general class, sgl: libraries
616 Diseases	mq30: diseases, sh: health care
610 Medicine and health	sh: health care, mq30: diseases
570 Biology, 630 Agriculture	vj: subsistence
001 Knowledge	V: general class, tUE: European Union
577 Ecology	n: populations

Recent application: BARTOC (3)

- Indexing by ILC2 planned

Ex) Thesaurus of Clinical Signs

[ILC1] mq30: diseases

[ILC2] mqad: diseases

mq /maca/ animals, metazoa [zoology] ≈ DDC 590

mq30 [:] affected by *disease, illness, disability, disorder, syndrome* [pathology, nosology]

mqad /macεda / diseases, illnesses, disabilities, disorders, syndromes [animal pathology, nosology, epidemiology, medical] ≈ DDC 616

- Indexing by ILC2 planned (Cont'd)

[ILC1] sh: health care → (s: civil society)

[ILC2] vm: health care → (v: technology)

sh health care, healthcare [medicine]

vm /vama/ health care, healthcare [medicine] ← [mqad diseases](#) ≈
DDC 610

TITLE	RATING	DDC	ILC	EUROVOC
Thesaurus of Clinical Signs	7,702 points	616 Diseases	mq30: diseases, sh: health care	Illness

mqad: diseases, vm: health care

Reclassification Test (ILC1 → ILC2)

ILC1	ILC2
V: general class	V: general class
c: energy	d: energy
c9h: thermal energy	damt: thermal energy
cl: electromagnetic radiation	darl: electromagnetic radiation
f: molecules	f: molecules
faWc: inorganic compounds	fcWe: inorganic compounds
fdWu: organic compounds	fhWu: organic compounds
ij: snow	jakin: snow
ita: climate of ice-caps	jalb: climate of ice-caps

References

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- Hudon and Fortier (2018). Facet: itself a multifaceted concept: *Proceedings of the Fifteenth International ISKO Conference 9-11 July 2018 Porto, Portugal.*

Thank you

감사합니다

[gam-sa-ham-ni-da]

ILC1: <http://www.iskoi.org/ilc/1/ilc.php>

ILC2: <http://www.iskoi.org/ilc/2/ilc.php>

BARTOC: <http://www.bartoc.org/en>