

Days of KO, Oslo, 1-2 June 2023

Why disciplines are not enough

Library catalogues and
phenomenon-based classification

Claudio Gnoli
University of Pavia

Bibliographic classifications

- Broad groupings: *“Literature”*, *“Philosophy”*...
- 19th century: relative shelving
 - Schleiermacher's Bibliographisches System
[Stevenson 1978:
<https://www.ideals.illinois.edu/handle/2142/3798>]
 - Dewey’s Decimal Classification
 - ...



Palermo municipal library

Disciplines

- Since Antiquity (Aristotle and scholars, esp. Andronicus)
- Middle Ages: *Trivium* (grammar, logic, rhetoric) +
Quadrivium (arithmetic, geometry, music, astronomy)
(+ architecture, medicine: arts not invited to the party)
- Juan Huarte, Francis Bacon (1605)
arts of memory
arts of imagination
arts of reason

Disciplines by knowing faculties

- Francis Bacon + G.W.F. Hegel

→ William Torrey Harris (1870)

→ Melvil Dewey's DC (1876)

→ Paul Otlet's UDC (1904)

[Sales 2017: <https://doi.org/10.5007/1518-2924.2017v22n50p188>]

Disciplines by knowing faculties

- arts of reason
 - 100 Philosophy
 - 200 Theology
 - 500 Sciences
- arts of imagination
 - 700 Fine Arts
 - 800 Literature
- arts of memory
 - 900 Geography and History

Melvil Dewey, 1876



public domain

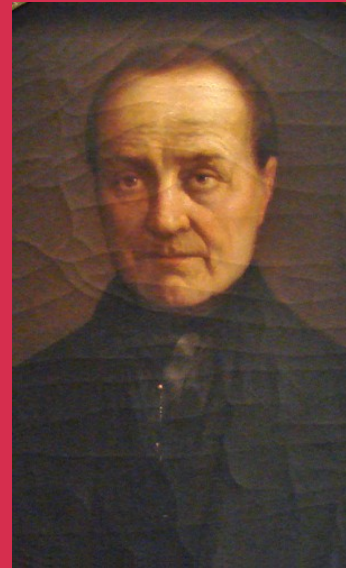
Disciplines by specialization

- *Mathematics*
- *Astronomy*
- *Physics*
- *Chemistry*
- *Physiology - Biology*
- ****Sociology****

NB: Psychology not a main class

[Trompf 2023: <https://www.isko.org/cyclo/comte>]

Auguste Comte, ~1850



CC BY JP Dalbéra

Disciplines by specialization

- A. Comte → H.E. Bliss (1929)
“natural order of the sciences”

*Special Natural Sciences and Descriptive
Natural History,*
Astronomy.
Theoretical, Mechanical.
Astrophysics.
Geology.
Physical and Historical and Stratigraphical.
Theoretical
Geography, Physiography.
Meteorology.
Biological Sciences.
Biology,
Cytology, Ontogeny, and
Embryology.
Physiology and Ecology.
Morphology.
Genetics. Palaeontology.
Phylogeny, Organic Evolution.
Botany.
Zoology.
Geography, Physiography.
Meteorology.



BC Association

[Broughton 2020:
<https://www.isko.org/cyclo/bliss>]

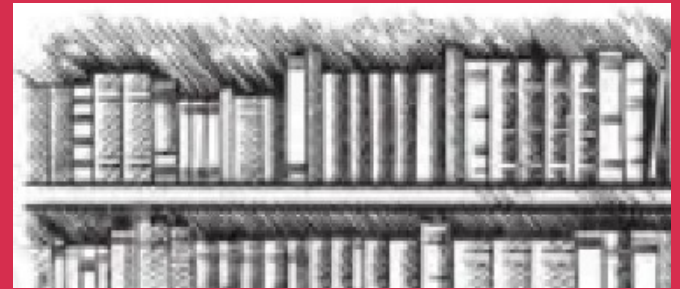
Disciplinary classifications

- Dewey Decimal Classification
- Universal Decimal Classification
- Bliss Bibliographic Classification
- Ranganathan's Colon Classification
- Coates' Broad System of Ordering
- etc.

...Is this the only option?

Dimensions of knowledge

- α (reality in itself)
- β phenomena
- γ perspectives: **disciplines**, methods, viewpoints...
- δ documents
- ϵ collections
- ζ information needs ...



1 phenomenon to many disciplines

<i>388.132</i>	iron bridges (communications)
<i>546.621</i>	iron (chemistry)
<i>553.3</i>	iron (economic geology)
<i>572.517</i>	iron (biochemistry)
<i>613.2851</i>	iron (dietetics)
<i>622.341</i>	iron (mining)
<i>624.1821</i>	iron and steel (civil engineering)
<i>669.1</i>	ferrous metals (metallurgy)
<i>739.4</i>	iron works (sculpture)
<i>930.16</i>	Iron Age (archaeology)

1 phenomenon to many disciplines

DDC “interdisciplinary
number”: 669.141

place of unique definition

[Farradane]: 546.621

The screenshot shows the 'Nuovo soggettario - Thesauri' website. The main heading is 'Nuovo soggettario - Thesauri'. Below it are navigation links: 'Criteri', 'Aiuto alla ricerca', 'Sigle e simboli', 'Fonti', 'Novità', and 'Download'. A link 'Torna alla ricerca' is also present. The main entry is 'Ferro' (circled in red), with a 'GERARCHIA' icon. Below this, it lists 'Macrocategoria: Categoria Cose:Materia'. It also shows 'Termine apicale: Materia', 'Termine più generale: Metalli di transizione', and 'Termine più specifico: Ferro radioattivo'. Under 'Fonti', it lists 'Soggettario; Treccani.it; DeM; PT; VLI; AGROVOC; DIPAI; EDA; SaluteAZ; ThPRE; WebDewey(IT); Wikipedia(IT)'. The 'DDC (WebDewey) 669.141' is circled in red. Below that, it lists 'Equiv. in altri strumenti di indicizzazione' with flags and terms: 'LCSH: Iron', 'RAMEAU: Fer', 'GND: Eisen', and 'EMBNE: Hierro'. At the bottom, it says 'Proponente BNI'.

Interdisciplinary subjects

306.4819 travels and tourism (culture and institutions)

790.18 travels and tourism (leisure)

333.79 energy (economics)

354.4 energy (public administration)

531.6 energy (mechanics)

631.371 energy types (agriculture)

Interdisciplinary subjects

363.73874 greenhouse gases (social problems and services)
("global warming" not listed in Italian ed. yet)

000 information (reference)

003.54 information theory (systems)

Classes identified pragmatically, lack of consistent definitions

A partial solution: cross references



✦ SciGator ✦

Explore University of Pavia libraries...



home	Browse subclasses ↓	...then launch a search by the buttons beside [help]	it / en
↑ 719	wildlife landscapes	search the catalogue expand → 333.72 577.8 712.5	SBN  WorldCat
↑ 719.3	nature reserves	search the catalogue	SBN  WorldCat
↑ 719.32	public parks and nature monuments	search the catalogue	SBN  WorldCat

See also:

↑ 333.72	conservation	search the catalogue → 344.046 639.9 719 ≈ S.SPEC.32.BJ 18C
↑ 577.8	synecology, population biology	search the catalogue → 576.58 719
↑ 712.5	public parks	search the catalogue → 719

“De-disciplining” DDC, UDC

PROCEEDINGS UDC Seminar 2009 | *Classification at a Crossroads: Multiple Directions to Usability*

UDC as a non-disciplinary classification system for a high-school library

Philippe Cousson

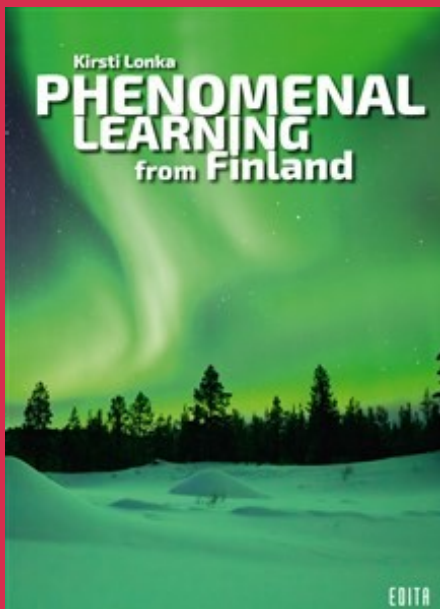
Nouaillé Maupertuis, France

ABSTRACT: The paper addresses issues in establishing a user-friendly systematic collection arrangement following a merger of two high school and college library collections classified according to UDC. In the way it was used, this scheme presented some weaknesses with respect to collection usage. Due to the disciplinary nature of UDC, subjects and phenomena are dispersed in the scheme according to the disciplines in which they are the subject of study. At the same time students in a school library often seek interdisciplinary subjects and need access to clusters of documents which according to UDC may be classed in several different knowledge areas. The author illustrates how this problem was resolved by re-arranging the collection according to phenomena. This was achieved by interpreting UDC numbers as if they represented specific phenomena. Thus, by superimposing some local indexing rules onto a disciplinary knowledge organization system it was possible to collocate interdisciplinary subjects under a single class

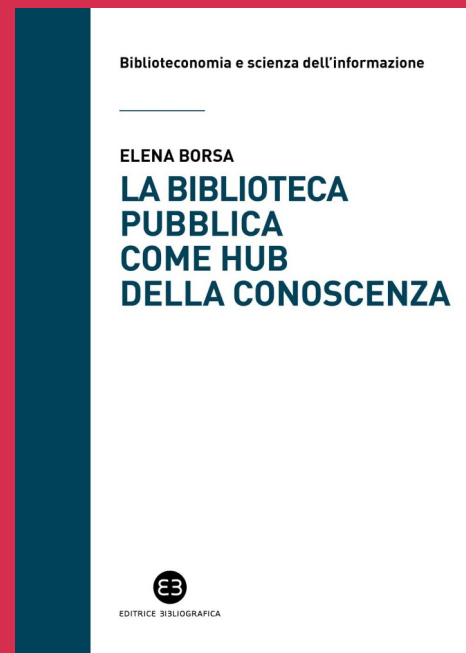
The image shows the cover of an e-book titled "No Sweat Library Management: How to Make Dewey Decimals More Student-Friendly". The cover is white with a colorful border in shades of blue, yellow, purple, and red. At the top left is the "No Sweat Library" logo, which consists of three stacked circles in blue, yellow, and red, with the words "No", "Sweat", and "Library" inside them. To the right of the logo, the text reads "No Sweat Library" in a bold, sans-serif font, followed by "8 North Wackerly, Suite 1000" and "Chicago, IL 60607" in a smaller font. Below this, a quote says "I sweat it, so you don't have to." To the right of the quote, a testimonial reads "My goal for No Sweat products is to minimize the time it takes students to find something they need." The main title of the book is "No Sweat Library Management" in blue, followed by "How to Make Dewey Decimals More Student-Friendly" in a larger, bold blue font, and "An E-book for School Librarians" in a smaller blue font. Below the title, a paragraph describes the book as a 20-page PDF document explaining ways to use existing, modified, and "created" DDC numbers to help students find books more easily & quickly, along with a set of book labels, shelf labels, and signs for a few Special Collections. At the bottom of the cover, it says "No Sweat Library is a Teachers Pay Teachers Store".

Interdisciplinary education

Public librarians report that lay people look for interdisciplinary subjects (phenomena) and are hindered by disciplines



Finland has a program for phenomenon-based education





Search the catalogue Search Advanced search Search for lists

Mostri <esseri immaginari>

(Argomento)

Thesaurus

Più generale (BT)

Più specifico (NT)

- Esseri immaginari Grinch <personaggio di Dr. Seuss> Gormiti Ulf <personaggio di The Beastly Boys> Atze <personaggio di Ursel Scheffler> Calla Orchi Sfinge <esseri immaginari> Mostri <organismi> Kraken

Note: Esseri immaginari che si presentano con caratteristiche estranee al consueto ordine naturale e come tali inducono stupore e paura.

Vedi anche (RT)

Opere collegate ...come argomento (726)

Found 1223 documents.

Related search results: Rete Bibliotecaria Bergamasca (0)

Filter search results Resources

Catalogue (1223)

Library

Qualsiasi

Genre

Fiction (1128)

Essays (90)

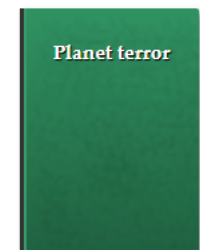
Reading target

Primary, ages 6-10 (563)

Adult, general (408)

Order by Relevance

Save search



VCR: DVD Planet terror Medusa Home Entertainment, [2008]

Reserve Total items: 1 On loan: 0 Reservations: 0

Abstract: In questo primo segmento dell'opera Grindhouse, un ospedale viene invaso da persone coperte da orribili piaghe. Nell'ospedale si trova Cherry, unaballerina che ha perso una gamba, assistita da Wray. I due si mettono a capo di un gruppo di sopravvissuti che cercano di combattere i mostri e salvare la terra.

More OPACs for kids can now be searched by fictional subjects

Some librarians "shelve nonfiction graphic novels with other items that deal with similar subject matter" (Becnel & Moeller 2022)

Ricerca nel catalogo Cerca

Ricerca avanzata

Ricerca per liste

Home Audiolibri Fumetti Libri antichi MLOL Musica Video In evidenza Consigliati

Mamme

“moms”

Termini Mamme

Risultati da altre ricerche: Biblioteche Empolese-Valdelsa (0) - Biblioteche Pisane (0)

Filtra i risultati

Risorse

Catalogo (2)

Biblioteca

Qualsiasi

Livello

Monografie (2)

Materiale

A stampa (2)

Nomi

Bosco, Federica <1971- > (1)

Iwamura, Kazuo (1)

Yamashita, Haruo (1)

Lingue

Italiano (2)

Data

2008 (1)

2018 (1)

Paese

Italia (2)

Soggetto

Mamme (1)

Racconti italiani - Tomi [1] Figlio

Ordina per

Rilevanza

Salva la ricerca



Libri Moderni

Tu sei parte di me / Bosco ... [et al.]

Milano : Garzanti, 2018

Prenota

Copie totali: 1

In prestito: 0

Prenotazioni: 0

Abstract: Nulla può spezzare il legame speciale che si crea in nove mesi, quando è solo un filo a unire due vite. Un legame che si fa ancora più forte quando finalmente le mani si stringono e ci si sente al sicuro l'una nelle braccia dell'altra. Gli anni passano, le certezze si modificano, i baci cambiano il loro sapore. Si diventa amiche, complici, confidenti. Si piange e si ride all'unisono. A volte la parola «insieme» fa paura e ci si ritrova nemiche, rivali. Ci si... [leggi tutto]

0 stars 0 comments

0 location

Aggiungi a



Libri Moderni

Iwamura, Kazuo - Yamashita, Haruo

La famiglia topini va a scuola : una storia / di Haruo Yamashita, illustrata da Kazuo Iwamura

Milano : Babalibri, 2008

nonfiction



fiction



Themes in art works

Art works can indeed contain relevant info for different disciplines

The screenshot shows the Taylor & Francis Online interface. At the top, the logo and name 'Taylor & Francis Online' are on the left, and 'Access provided by Università Studi di Pavia' is on the right. A navigation bar below contains links: Home, All Journals, Cataloging & Classification Quarterly, List of Issues, Volume 59, Issue 5, and Fiction in a Phenomenon-Based Classifica The main content area features a journal cover for 'Cataloging & Classification Quarterly' on the left, with 'Submit an article' and 'Journal homepage' buttons. To the right is a search box with the placeholder 'Enter keywords, authors...'. Below the journal cover, statistics are listed: 362 Views, 0 CrossRef citations to date, and 7 Altmetric. A 'Listen' button is also present. The article title 'Fiction in a Phenomenon-Based Classification' is prominently displayed, followed by authors 'Patrícia de Almeida & Claudio Gnoli' and publication details: 'Pages 477-491 | Received 27 Apr 2021, Accepted 17 Jun 2021, Published online: 06 Aug 2021'. A 'Download citation' button and a DOI link 'https://doi.org/10.1080/01639374.2021.1946232' are provided, along with a 'Check for updates' button. A row of action buttons includes 'Full Article', 'Figures & data', 'Citations', 'Metrics', 'Reprints & Permissions', 'View PDF', and 'View EPUB'. On the left side, a 'In this article' table of contents lists 'Abstract', '1. Introduction', and '2. Classification of fiction'. The main text area begins with the 'Abstract' section, which discusses traditional classification methods and introduces the Integrative Levels Classification (ILC2) system.

Taylor & Francis Online

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Volume 59, 2021 - Issue 5

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Research Article

Fiction in a Phenomenon-Based Classification

Patrícia de Almeida & Claudio Gnoli

Pages 477-491 | Received 27 Apr 2021, Accepted 17 Jun 2021, Published online: 06 Aug 2021

Download citation <https://doi.org/10.1080/01639374.2021.1946232> Check for updates

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In this article	
Abstract	
1. Introduction	
2. Classification of fiction	

Abstract

In traditional classification, fictional works are indexed only by their form, genre, and language, while their subject content is believed to be irrelevant. However, recent research suggests that this may not be the best approach. We tested indexing of a small sample of selected fictional works by Integrative Levels Classification (ILC2), a freely faceted system based on phenomena instead of disciplines and considered the structure of the resulting classmarks. Issues in the process of subject analysis, such as selection of relevant

Themes in art works

The curtain of Broni
[Gnoli 2023]

ofness vs aboutness
[Panofsky; Salaba]



Themes in art works



1/4

Casali, Luigi [1946-] - Fraccaro, Cristina - Prina, Vittorio . Gli arazzi della battaglia di Pavia nel Museo di Capodimonte a Napoli / Luigi Casali, Cristina Fraccaro, Vittorio Prina. - Pavia : ViGiEffe, stampa 1993. - 110 p. : ill. ; 30 cm + 7 tav. sciolte a col. in cartella (49x70 cm.)

Classificazione: 746.3 [D] [D]

Pavia. Universitaria: PAVIA E 1678

"tapestries"

Pavia. 'C. Bonetta': Misc4 991

Pavia. Musei Civici: MISC.S.P.4° 269

"history of Pavia"

Landriano. "M. Hack": 746.3_CAS

Ateneo. Scienza e Tecnica: Tamburini 945.29 CASara 1993

Themes in the fine arts

DDC: 700 + T3C.4

700.434 feasts in arts

700.462 animals in arts

700.47 supernatural in arts

NB: no cross references!

CC subject device: $N(K)$ fine arts on zoology

The key idea

devised by another member of the Group, Jean Aitchison).

Barbara Kyle moved away from the traditional approach to classification, depending upon a basis of disciplines or main classes, but she retained Ranganathan's fundamental categories of Personality and Energy, analysing the Social Sciences under these two major categories and organizing the containing concepts on the principle of 'levels of integration' or 'levels of complexity'. Foskett outlines this approach in his contribution to the *Sayers memorial volume*(6) and Kyle herself expounded it later in a paper

McIlwaine 1993 in DJ Foskett festschrift

Listing phenomena

393	<i>Crystals</i>	K	<i>LIQUID LAYERS</i>
395	<i>In mixtures</i>		Oceans, rivers, ground water, etc. To be established.
396	<i>In solution</i>		
4	<i>Fields of elements and compounds</i>	L	<i>LAND FORMS</i>
	May be qualified by numbers from C3		3 <i>Rocks</i>
44	<i>By properties</i>		4 <i>Strata</i>
444	<i>Refractories/non-refractories</i>		5 <i>Mantle</i>
5	<i>Inorganic elements and compounds</i>		6 <i>Core</i>
55	<i>Metals/non-metals</i>		8 <i>Continents, islands, mountains, etc. To be established.</i>
56	<i>Acids, bases, salts</i>		
6	<i>Elements</i>		
7	<i>Compounds</i>		
8	<i>Specific elements: their mixtures, compounds, etc.</i>	M	<i>GEO-CENTRED LIVING SYSTEMS</i>
D	<i>MINERAL SYSTEMS</i>	N	<i>VIRUSES</i>
3	<i>Minerals</i>		3 <i>By chemical composition</i>
4	<i>General structures of astronomical entities</i>		5 <i>By host organism</i>
	Structures of specific entities, class in G	P	<i>ORGANISMS SHARING CHARACTERISTICS OF PLANTS AND ANIMALS</i>
	Earth systems H-L.		
44	<i>Layers, lamina</i>	Q	<i>PLANTS</i>
45	<i>Gas layers, atmospheres</i>	R	<i>ANIMALS</i>
46	<i>Liquid layers</i>	S	<i>MAN</i>
47	<i>Solid cores and mantles</i>		
473	<i>Rocks</i>		
474	<i>Strata</i>		
478	<i>...</i>		

What are phenomena?

- the objects of knowledge
- that is, noumena (α) as known by humans
- both things and processes (“tables”, “respiration”)
- not just according to phenomenology
- collectively identified as **concepts**
- therefore, evolving (“ether”, “gravitational waves”...)

Phenomenon-based systems

- Roget's Thesaurus (ed. 1911)
- Brown's Subject Classification (1906)
- CRG's NATO general classification (1969)
 - PRECIS (1974)
 - Integrative Levels Classification (2004-)
- Basic Concepts Classification (2004-)

Integrative Levels Classification

search by **verbal caption:**

main classes: (select + to expand)

browse by **notation:**

browse **facets** of category:

a	forms	+
b	quantum fields	+
c	spacetime	+
d	particles	+
e	atoms	+
f	molecules	+
g	continuum bodies	+
h	celestial bodies	+
i	rocks	+
j	land	+
k	genes	+
l	cells	+
m	organisms	+
n	populations	+
o	agency	+
p	consciousness	+
q	language	+
r	production	+
s	services	+
t	communities	+
u	polities	+
v	legal entities	+
w	customs	+
x	creative arts	+
y	scholarship	+

Facets key

0	as for perspective	+
1	at time	+
2	in place	+
3	by agent	+
4	opposed to	+
5	undergoing change	+
6	having property	+
7	with part	+
8	in quantity	+
9	of quality	+

browse **special classes:**

A	the entirety	+
B	the 1st ones	+
C	the 2nd ones	+
D-S	(etc.)	
T	the local	+
U	the typical	+
V	these	+
W	everything until	+
X	something	+
Y	the actual	+
Z	the mentioned	+

Disciplines in ILC

y c	axioms; postulates
y h	theorems
y r	corollaries
ym	theories; conceptual models [theory theory] ≈ DDC 161 167
yr	paradigms
ys	disciplines; fields; bodies of knowledge; forms of knowledge; domains 🍌
ysh	philosophy; wisdom ≈ DDC 100
ysm	mathematics; maths ← a forms
yss	empirical sciences; pure sciences ≈ DDC 507
yst	techniques; applied sciences ← yss empirical sciences v legal entities
ysv	history ← uy u politics
ysw	philology ← x1 literature q language
ysx	literary criticism ← x1 literature ≈ DDC 807
yx	knowledge organization systems; KOSs; documentary languages; indexing languages
yxc	lists

mq07s animals, studied in science

mq07w animals, studied in philology

Facets of phenomena

In disciplinary schemes,
some facets do not refer to studied phenomena:

“chemistry, methods”

In phenomenon-based schemes:

“chemical substances, methods” :-)

“chemical substances, boiling point” :-)

“chemical substances, as studied by method...”

Facets of phenomena

f molecules; chemical substances

f3 chemical substances, bond

f3c chemical substances, covalent bond

f5 chemical substances, reaction

f5b chemical substances, synthesis

f65 chemical substances, aggregation state

f65g chemical substances, gaseous

f65g5b3c

chemical substances, gaseous, reaction, covalent bond

Dimensions as 0- facets

Perspective, document, collection etc.
are expressed by 0- facets:

f03chl chemical substances, as studied by laboratory method

f007cj chemical substances, as in academic journals

f0007m chemical substances, as collected in libraries

Free facets

Any two classes can be combined:

r90f production, of chemical substances

v70f companies, owing chemical substances

m370f organisms, affected by chemical substances

ILC in a library?

Szostak et al. 2016 report a test at Uni Pavia where books on environment conservation have been classified by both DDC and ILC

Grouping phenomena may puzzle researchers but suggest interdisciplinary connections (active role for KO)

Tricks for shelfmarks

Classmarks tend to be long,
but can be cut as with Dewey

Express facets relevant for shelf order,
possibly adapting citation order

Document facet (“monograph”...) not needed

Indexing videos

Traditional Europe

A selected videography indexed by ILC

Click on one, two or three entries, following the top-down order, then on the "search" button:

🌙 **customs:** games · initiation · marriage · **Carnival** · Easter · May Day · Christmas

🏰 **region:** Britain · Ireland · Germany · Benelux · France · Spain · Portugal · Italy

🌿 **symbols:** clothes · effigies · flags · plant parts · animals

🎭 **rites:** dressing up · procession · itinerant begging · **bonfire** · meal

🎵 **instruments:** song · percussion · drums · stringed · wind



Indexing videos

Out of 62 audiovisual documents in the directory, 3 (sorted by classmark) include the chosen combination.



w1dc92dj7f5f5h5b

Carnival,
typical of Pays-de-la-Loire,
effigies,
bonfire,
ritual meal,
dressing up



w1dc92ezpd5b5fe53ccbw53d53k1g53nq50xn

Carnival,
typical of Northern Portugal,
dressing up,
effigy burning,
by cowbells,
by membranophones,

Ongoing work

Gnoli, Smiraglia and Szostak, in prep.

“Phenomenon-based classification”,

Annual Review of Information Science and Technology

ILC getting more stable, to be developed in greater detail

More applications needed

Conclusions

- A developing trend in KO
- Supports interdisciplinary navigation
- Applied in education, catalogues for kids, artworks, fiction...
- Generalization of classification principles:
 - * disciplines as one type of phenomena
 - * facets work
 - * dimensional facets: perspective, document, collection...



THANK YOU !

claudio.gnoli@unipv.it