The Foundation and Structure of the RILM Music Thesaurus

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Thesaurus Basics

- A type of controlled vocabulary
- Concepts are represented by terms
- Three kinds of relationships
    - equivalence (between terms)
    - hierarchical (between concepts)
    - associative (between concepts)
- Support information retrieval

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Use of Thesaurus

- Search expansion
- Suggestion of alternative search terms
- Support for clustering or other means of refining a search
- Identification of common spelling mistakes
- Automatic indexing

Controlled Vocabularies for Music

Existing thesauri and ontologies for music in digital formats

- Library of Congress Medium of Performance Thesaurus for Music
- The Music Ontology
- MUSA/CILLA - Musiikin asiasanasto
- MUSO - Musiikin ontologia

Previous efforts towards a dedicated thesaurus for music

- MLA, Thesaurus project
- Brigham Young University, International Music Thesaurus
- UCLA, Thesaurus of Ethnomusicology

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RILM Music Thesaurus

- Subject thesaurus
- Multilingual
- ISO 25964
- SKOS-compliant

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RILM Music Thesaurus

- To improve indexing practice at RILM
- To provide better search experience
- To increase connectivity among RILM products
- To be used by other institutions
- To assist the building of a knowledge graph of music scholarship

Display and Visualization

- Browsable hierarchy
- Alphabetical list
- Searchable database
- Graphic display
- ...

Thesaurus development Step 1:
Data Collecting and Cleaning

RILM index: Term categories

1/1	▼	United States of America	🔍	G
1/2	▼	California	🔍	G
1/3	▼	Los Angeles	🔍	G
1/4	▼	Iranian people	🔍	E
1/5	▼	popular music	🔍	M
1/6	▼	music videos	🔍	Z
1/7	▼	relation to identity politics	🔍	
1/8			🔍	

2/1	▼	popular music--by place	🔍	T
2/2	▼	United States of America	🔍	G
2/3	▼	Iranian people	🔍	E
2/4	▼	music videos	🔍	Z
2/5	▼	relation to identity politics	🔍	
2/6			🔍	

3/1	▼	film and video	🔍	T
3/2	▼	United States of America	🔍	G
3/3	▼	Iranian people	🔍	E
3/4	▼	music videos	🔍	Z
3/5	▼	relation to identity politics	🔍	
3/6			🔍	

1/1	▼	archaeology	🔍	T
1/2	▼	archaeomusicology	🔍	Z
1/3	▼	China	🔍	G
1/4			🔍	

2/1	▼	archaeological sites	🔍	T
2/2	▼	China	🔍	G
2/3	▼	instrument building	🔍	T
2/4			🔍	

3/1	▼	instrument building	🔍	T
3/2	▼	antiquity	🔍	T
3/3	▼	China	🔍	G
3/4			🔍	

4/1	▼	antiquity	🔍	T
4/2	▼	China	🔍	G
4/3	▼	soundscapes	🔍	Z
4/4	▼	relation to music performance	🔍	
4/5			🔍	

5/1	▼	China	🔍	G
5/2	▼	antiquity	🔍	T
5/3	▼	musical life	🔍	M
5/4			🔍	

RILM index terms by category

Specific entities: **608,109**

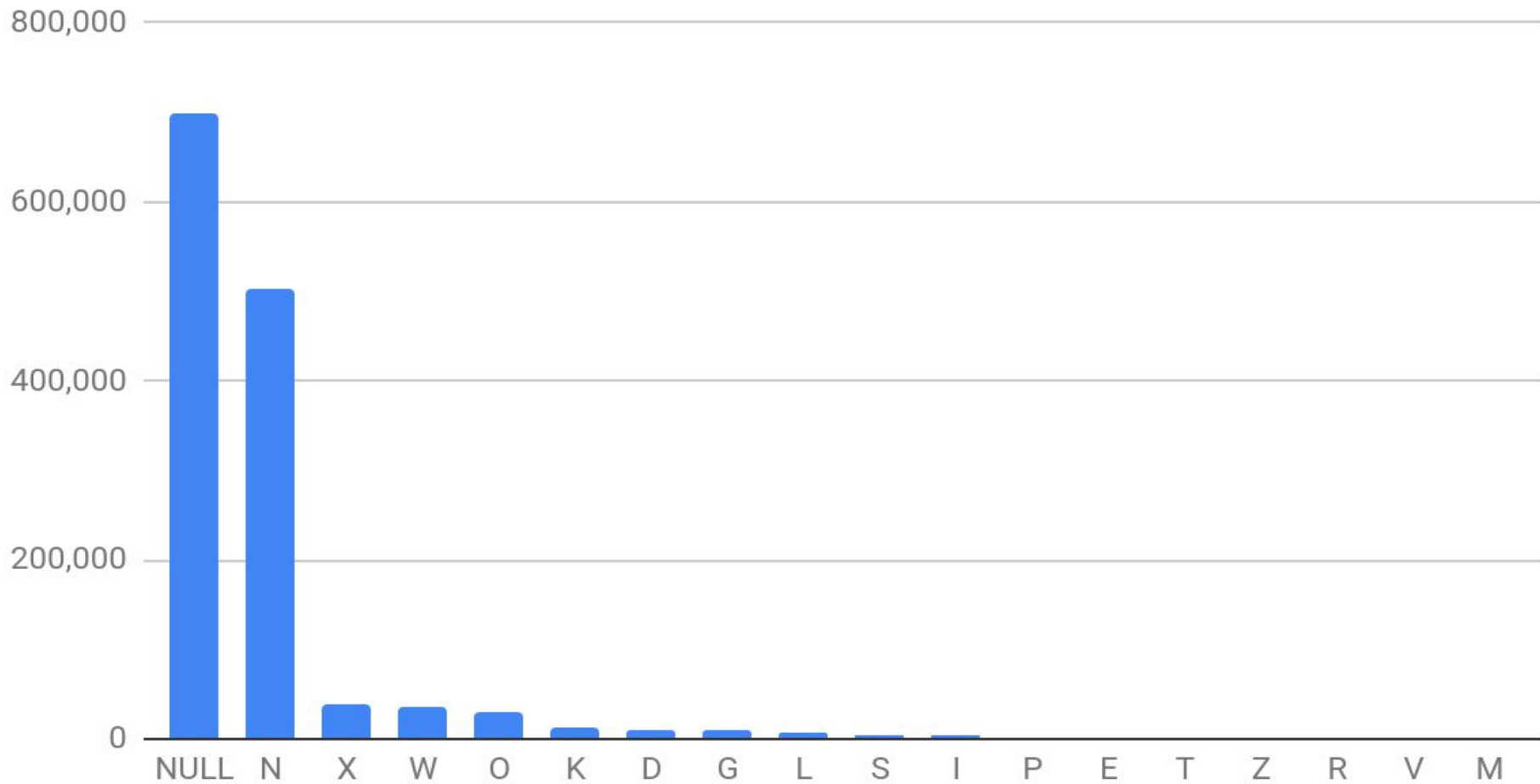| N	Names of individuals or families	503,807	W	Titles of individual musical works	35,589
K	Names of individuals from IPM	14,095	L	Titles of individual literature works	6,160
I	Musical instruments and instrument families	2,897	V	Titles of individual visual arts works	169
O	Names of individual organizations	29,604	R	Titles of manuscripts	677
S	Names of individual schools	3,045	P	Titles of individual periodicals	2,541
G	Names of individual geographic locations	9,525			

Topical terms: **15,420**

T	Topical terms (headwords)	1,439
M	Topical terms	71
Z	Topical terms	1,420
D	(mostly) Topical	10,840
E	Ethnic groups	1,650

NULL terms: **699,691**

NULL	Terms without a cat. tag	**699,691**
X	Terms not to be used in the index	37,811

Total: **1,361,031**

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Index terms by category

	800,000															
	600,000															
	400,000															
	200,000															
	0															
	NULL	N	X	W	O	K	D	G	L	S	I	P	E	T	Z	R	V	M

Index terms by category group

X-ed Terms
2.8%

Topical Terms
1.1%

Specific Entities
44.7%

Specific Entities

NULL

NULL
51.4%
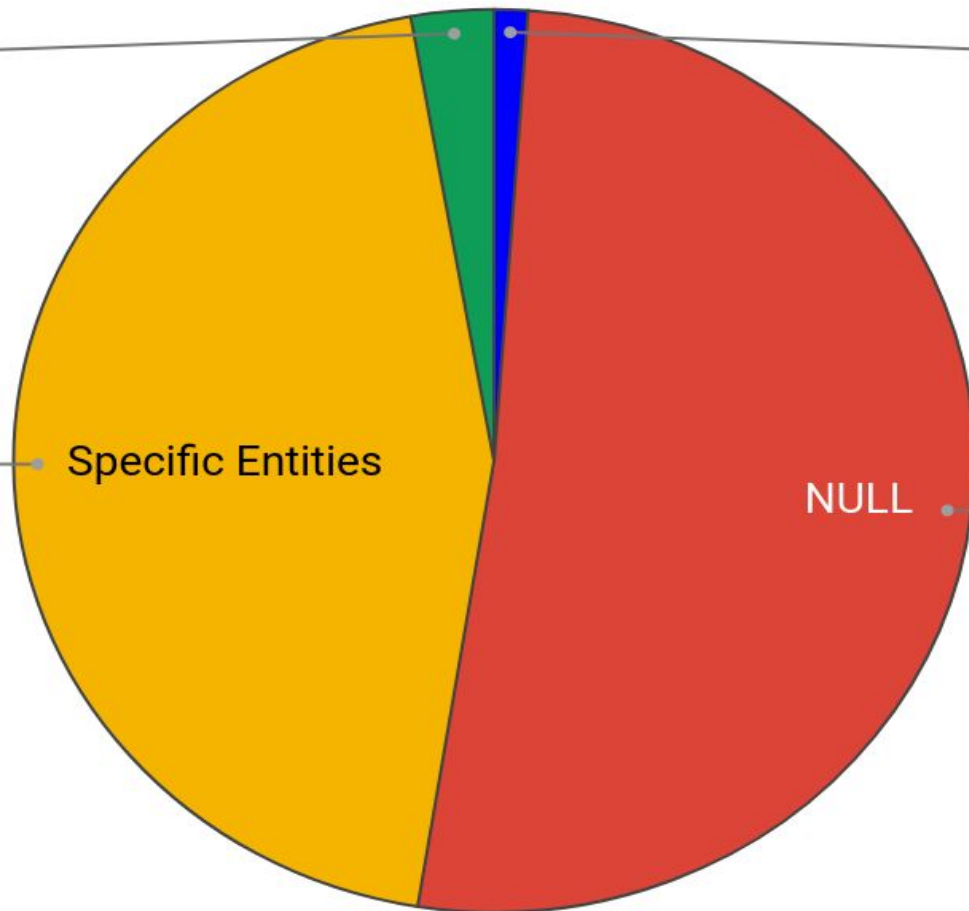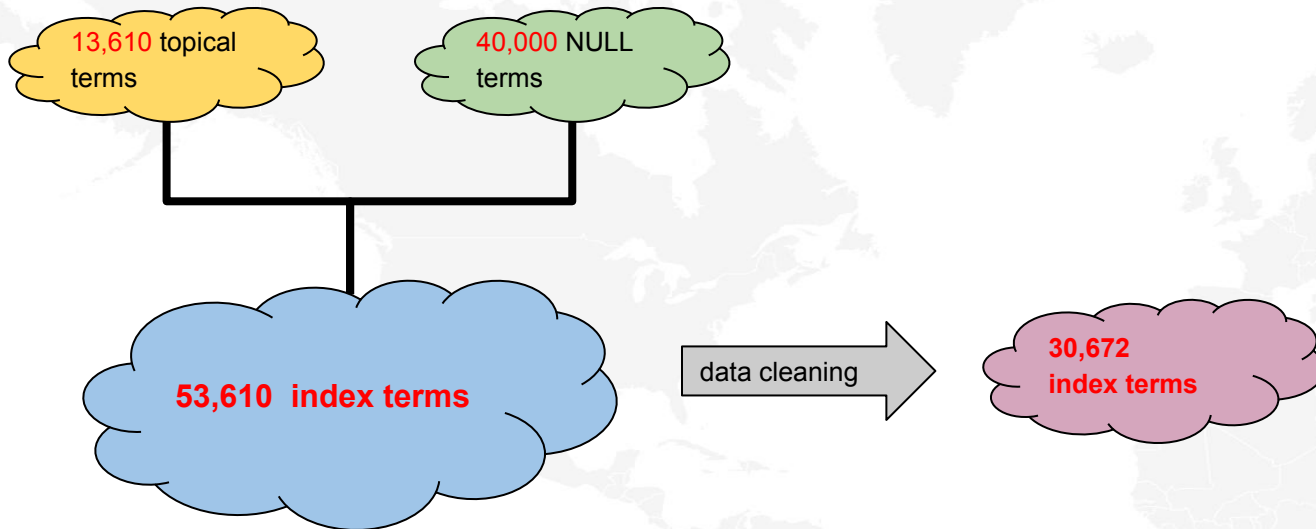
Thesaurus development Step 2:
Topic Classification and Hierarchy Construction

- Decide on the top-level categories
- Group index terms into those categories
- Develop hierarchies for each category
- Review and adjust categories and hierarchies

Top categories

Agents	People	Concepts	General Concepts, Multidisciplinary
	Corporate bodies		Philosophical Concepts
	Animals		Cultural, social, and related concepts
Activities	Disciplines		Language-related Concepts
	Events		Religions and Religious Concepts
	Processes and Techniques		Scientific Concepts
	Activities		Music Concepts
Styles and Periods	Styles and Periods		Dance Concepts
Objects	Visual and Verbal Communication		Dramatic Arts Concepts
	Musical Instruments		Literary Concepts
	Objects (general)		Art and Architecture Concepts
Places	Geographical Locations		
	Venues		

April 2018

Agents	People		Places	Geographic locations		Forms of Expression	General Forms of Expression
	Organizations			Venues			Document Types
	Animals		Concepts	Music Concepts			Versions
Activities	Disciplines			General Concepts			Formats
	Events			Philosophical Concepts			
	Techniques and Methods			Cultural and social Concepts			Notations
	Phenomena			Languages and Linguistic Concepts			Symbols
	Games and Sports			Religions and Religious Concepts			Information and Communication Technology
	General Activities			Medical and Scientific Concepts			
Periods and Styles				Dance concepts			
	Chronological Periods			Dramatic Arts Concepts		Genres	Music Genres
				Literary Concepts			Dance Genres
	Styles			Art and Architecture Concepts			
Objects	Media for Music Performance			Pedagogy Concepts			Dramatic Arts Genres
	Manmade and Natural Objects						Arts and Architecture Genres
							Literary Genres

November 2018

Activities (facet)	Techniques and Methods	techniques/methods in music			
			instrument building and restoration		terms for instrument building and restoration
			compositional techniques and methods		terms for compositional techniques, methods, etc., including text setting
			music analysis (thesaurus guide)		terms for music analysis techniques, methods, and types of analysis
			music training and practice		terms for music training and practice
			general musical techniques and methods		terms for other music techniques methods, approaches, processes, activities, etc.
			music performing techniques and methods	music performing techniques and methods (general)	terms for music performing techniques, methods, approaches, strategies, etc.
				singing techniques and methods	terms for singing techniques and methods
				instrument playing techniques and methods	terms for instrument playing techniques and methods
				directing/conducting techniques and methods	terms for directing and/or conducting techniques and methods
				genre-specific techniques and methods	terms for music genre-specific techniques and methods

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Term ID	Term	Cat.	Index frequency	2nd place	music performing techniques and methods (general)	singing techniques and methods	instrument playing techniques and methods	directing/conducting techniques and methods	genre-specific techniques and methods	compositional techniques and methods	instrument building and restoration	music analysis (thesaurus guide)	music training and practice	general musical techniques and methods	ethnicity	geography	notes	resp editor (tagger)
226888	a cappella	D	128	GM		t											A cappella (pronounced [a kkap pɛlla]; Italian for "in the manner of the chapel")[1] music is specifically group or solo singing without instrumental accompaniment, or a piece intended to be performed in this way. It contrasts with cantata, which is usually accompanied singing. The term "a cappella" was originally intended to differentiate between Renaissance polyphony and Baroque concertato style.	yuf
472083	a cappella singing	Z	30			t												yuf
5135	agréments	D	2							t								dgb
11948	ālāpana	D	10		t					t						India	an improvisation upon the raga, precedes a precomposed form (kriti) or elaborated improvised form (tanam and pallavi)	dgb
11319	algorithmic composition	NULL	177							t								mcr
228297	alterations	D	38							t								eap
289062	alternatim	D	21							t								eap
20173	appoggio	D	6			t											Italian, voice support	dgb
267766	arranging	D	96							t								eap
523156	audience development	D	39											t				dch
1349857	audio signal processing	D	6											t			this is a music-related process/technique, a "sub-facet" that's missing in the current typology	jlo
138828	augmentation	D	4							t								ceb
225401	aural skills	NULL	65										t					ceb
1673324	aural sonology	D	3									t					Analytical method for free jazz improvisation, developed in Norway by Lasse Thore...	yuf
1243019	backmasking	D	1											t			Sound recording technique in which material is recorded backward onto tracks	gbr
71569	banjo making	I	18								t							yuf
123975	basso continuo realization	D	49				t											ceb
1663188	battle rap	D	9			t											(also known as rap battling[1]) is a type of rapping that includes bragging, insults an...	yuf/n
1482645	beatmatching	D	1		t												Disc jockey technique of pitch shifting or timestretching an upcoming track to match its tempo to that of the currently playing track	yuf/j
31154	bel canto	Z	411			t												
394201	belting	Z	59			t											(or vocal belting) is a specific technique of singing by which a singer brings their chest register above its natural passaggio (break) at a loud volume; instead, an alternative production is developed, often described and felt as supported and sustained yelling	yuf

30,672 index terms

tagging process

10,000 index terms in hierarchy

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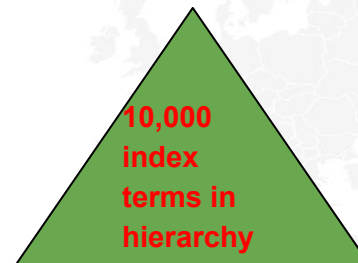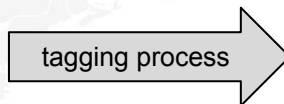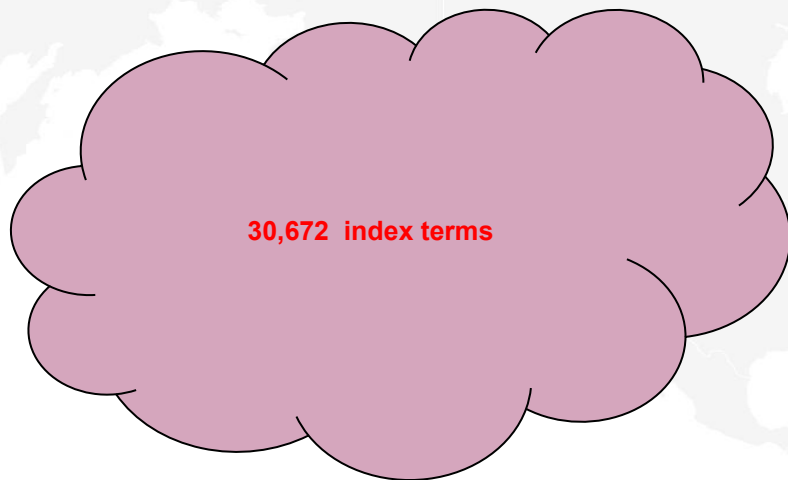
Filter Relationships

- Seven types of filters:
  - Geography
  - Ethnicity/nationality
  - Chronology
  - Language
  - Religion
  - non-Western musical concepts
  - Gender
- How each filter is applied to each top category is explicitly defined

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terms (topics)	specifications	terms (topics)
AC	is performing group of gender	f/m
AC	organization is originally from place	PG
AE	event began in time period	CPP/CM
AE	event declined/ended in time period	CPP/CM
AE	event take place in place	PG
AE	event was active in time period	CPP/CM
AE	is event associated with religion	CR
AE	is event concept specific to people	AP/groups of people by ethnicity, groups of people by nationality
AP	is gender	f/m
AT/music, dance, pedagogy	is technique used by people	AP/groups of people by ethnicity, groups of people by nationality
AT/music, dance, pedagogy	is technique used in place	PG
CC/cultural/social/ecnomic	is cultural concept specific to place	PG
CLC	is literary concept associated with religion	CR
CLC	is literary concept originated in place	PG
CM	is music concept associated with religion	CR
CM	is music concept in place	PG
CM	is non-Western music concept specific to people	AP/groups of people by ethnicity, groups of people by nationality
CM	is non-Western music concept specific to place	PG
CM	is original music concept of people	AP/groups of people by ethnicity, groups of people by nationality
CP	is philosophical concepts from place	PG
CR	is religion originally practiced by people	AP/groups of people by ethnicity, groups of people by nationality
CR	is religion originated/practiced in place	PG
GD	is dance originally performed by people	AP/groups of people by ethnicity, groups of people by nationality
GD	is dance originated/danced in place	PG
GD	is danced by gender	f/m
GD	was dance performed/danced in time period	CPP/CM
GDA	is dramatic arts associated with religion	CR
GDA	is dramatic arts originally performed by people	AP/groups of people by ethnicity, groups of people by nationality
GDA	is dramatic arts originated in place	PG
GDA	is performed in language	CLR

Thesaurus development Step 3 (ongoing): Thesaurus Term Editing and Index Cleaning

back to ibis

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thesaurus tree

Activities

Agents
- Animals ⊞
- Organizations ⊞
  - academic organizations ⊞
  - performing groups ⊞
    - genre-specific performing groups ⊞
    - instrumental groups ⊞
      - instrument-specific groups ⊞
        - alta ensemble
        - brass ensembles
        - clarinet choirs
        - drum ensembles
        - duos, viola and violoncello
        - fife and drum bands
        - **gamelan gambuh**
        - laptop ensembles
        - percussion ensembles
        - quartets, flute
        - quintets, brass
        - quintets, piano and strings
        - quintets, string
        - quintets, wind
        - sextets, strings
        - shengguan ensemble
        - steelband
        - steelbands
        - string bands
        - string ensembles
        - string orchestra
        - string quartet
        - string quartets
        - trios, string
        - trombone ensembles
        - vocal jazz ensembles
        - wind bands
        - wind ensemble
        - wind ensembles
        - wind orchestras
      - instrumental groups (general) ⊞
  - performing groups (general) ⊞
  - performing groups by

thesaurus term

Agents > organizations > performing groups > genre-specific performing groups
Agents > organizations > performing groups > instrumental groups > instrument-specific groups

gamelan gambuh ↗

topic type: topic
term category: D

broader terms

instrument-specific groups
genre-specific performing groups

We cannot add another broader term to a term with more than one broader term.
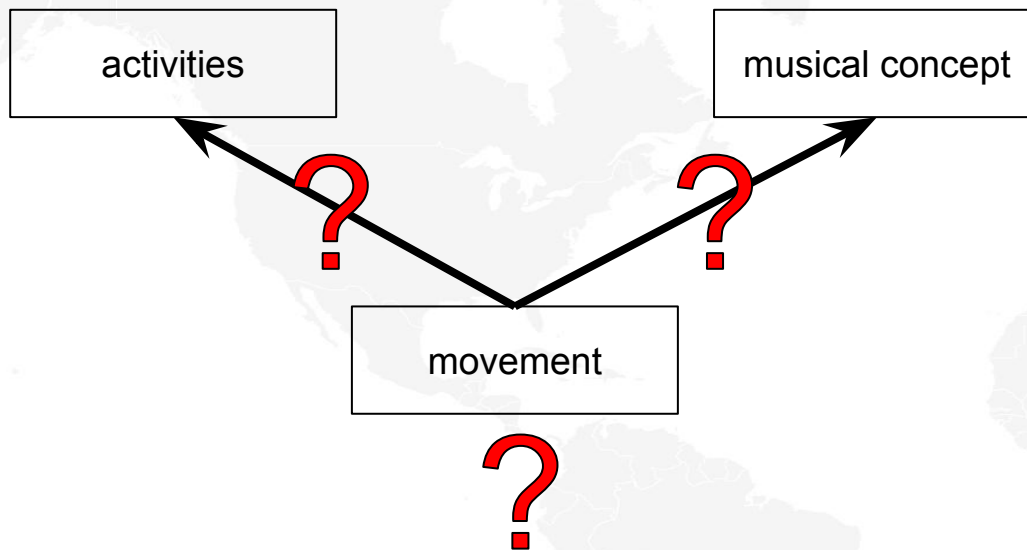
narrower terms

[   ] [add as narrower]

thesuarus guide term ☐

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Index Cleaning

activities

musical concept

?

?

movement

?

2/1	▾	dance--by place	🔍	T
2/2	▾	Serbia	🔍	G
2/3	▾	northeastern	🔍	X
2/4	▾	traditional	🔍	X

traditional dance northeastern Serbia

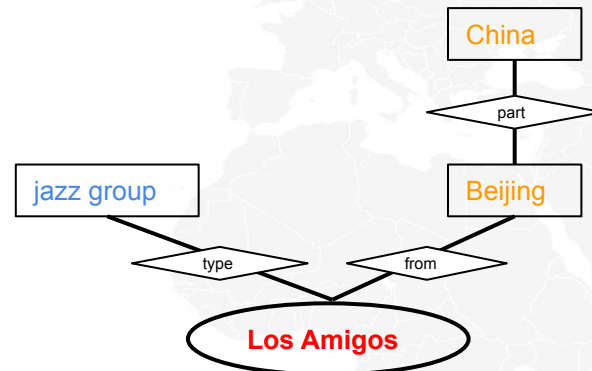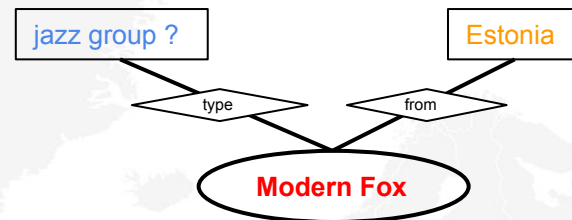| 1/1 | ▾ | instruments--wind | 🔍 | I |
1/2	▾	wind instruments	🔍	I
1/3	▾	Croatia	🔍	G
1/4	▾	Bilogora	🔍	
1/5	▾	traditional	🔍	X

traditional wind instruments

Future Work

- Identify specific entities
- Define identified specific entities using existing metadata standards or creating new ones
- Change index style
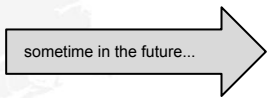- User interface, thesaurus API, SPARQL endpoint, etc.

8/1	▼	performing groups--jazz and blues	🔍	T
8/2	▼	Estonia	🔍	G
8/3	▼	Modern Fox	🔍	O
8/4	▼	activities of Sander	🔍	
8/5			🔍	

jazz group ?   Estonia

type   from

Modern Fox

3/1	▼	performing groups--jazz and blues	🔍	T
3/2	▼	China	🔍	G
3/3	▼	Beijing	🔍	G
3/4	▼	Los Amigos	🔍	
3/5			🔍	

China

part

jazz group   Beijing

type   from

Los Amigos

RILM thesaurus terms
terms from outside sources
RILM specific entities

1/1	▾	United States of America	🔍	G
1/2	▾	California	🔍	G
1/3	▾	Los Angeles	🔍	G
1/4	▾	Iranian people	🔍	E
1/5	▾	popular music	🔍	M
1/6	▾	music videos	🔍	Z
1/7	▾	relation to identity politics	🔍	
1/8			🔍	
2/1	▾	popular music--by place	🔍	T
2/2	▾	United States of America	🔍	G
2/3	▾	Iranian people	🔍	E
2/4	▾	music videos	🔍	Z
2/5	▾	relation to identity politics	🔍	
2/6			🔍	
3/1	▾	film and video	🔍	T
3/2	▾	United States of America	🔍	G
3/3	▾	Iranian people	🔍	E
3/4	▾	music videos	🔍	Z
3/5	▾	relation to identity politics	🔍	
3/6			🔍	

sometime in the future...

- **Los Angeles**
- **Iranian people**
- **popular music**
- **music videos**
- **relation to identity politics**