Getty Vocabularies

An Overview

Patricia Harpring
Managing Editor
Getty Vocabulary Program
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PREFACE

• This presentation is a brief overview of the Getty vocabularies, AAT, TGN, ULAN, CONA and IA.

• For full discussions of the Getty vocabularies, see the vocabulary Web pages, Editorial Manuals, and other presentations on the vocabulary training page.

• http://www.getty.edu/research/tools/vocabularies/index.html
www.getty.edu/research/tools/vocabularies/index.html

PREFACE

- For basic information on vocabularies, see *Introduction to Controlled Vocabularies* (Harpring, Baca editor, revised 2013) and its bibliography
- Translated in Portuguese

Patricia Harpring
Series edited by Murtha Baca

This primer on the characteristics, scope, uses, and methods for building and maintaining controlled vocabularies for art and cultural materials explains how vocabularies should be integrated in cataloging systems; utilized for indexing and retrieval; and structured to group synonyms and arrange concepts into categories.
What Are the Getty Vocabularies?

- AAT
- TGN
- ULAN
- CONA
- IA

www.getty.edu/research/tools/vocabularies/index.html
http://www.getty.edu/research/tools/vocabularies/index.html

Getty Vocabularies
Enabling digital art history

- **AAT**, the Art & Architecture Thesaurus® includes generic terms, relationships, sources, and notes for work types, roles, materials, styles, cultures, and techniques (e.g., amphora, oil paint, olieverf, peintures à l'huile, acetolysis, 玉器, Jadekünste, sintering, orthographic drawings, Olmeca, Rinascimento, Buddhism, watercolors, asa-no-ha-toji)

- **TGN**, the Getty Thesaurus of Geographic Names® includes names, relationships, and coordinates for current and historical cities, nations, empires, archaeological sites, lost settlements, and physical features; through LOD, TGN may be linked to GIS and maps (e.g., Diospolis, Acalán, Ottoman Empire, Mogao, Ch'ien-fu-tung, Ganges River, गंगा नदी)

- **ULAN**, the Union List of Artist Names® includes names, relationships, notes, sources, and biographical information for artists, architects, firms, studios, repositories, patrons, sitters, and other individuals and corporate bodies, both named and anonymous (e.g., Mark Rothko, Cai Xiang,葵襄, Crevole Master, Riza Abbasi, Altobelli & Molins, Rajaraja Museum)

- **IA**, the Getty Iconography Authority™ includes proper names, relationships, and dates for iconographical narratives, religious or fictional characters, historical events, names of literary works and performing art (e.g., Adoration of the Magi, Viaggio dei Re Magi, Flood of Deucalion, French Revolution, Olouajipilele, Xibalba, Niflheim, शिव, Shiva, Bouddha couché)

- **CONA**, the Cultural Objects Name Authority® includes titles, artist attribution, creation dates, relationships, and location for works of art, architecture, and other cultural works, whether extant or destroyed (e.g., The Lacemaker, La Dentellère, Merlettaia, Lion Throne Room, 神奈川沖浪, Great Wave, Die große Welle, Chayasomesvara Temple, Αγία Σοφία, Άγια Σοφία)
What are the Getty vocabularies?

- The Getty Vocabularies contain structured terminology for art, architecture, decorative arts, archival materials, visual surrogates, conservation, and bibliographic materials.
- Compliant with international standards, they provide authoritative information for catalogers, researchers, and data providers.
- The Getty Vocabularies strive to be ever more multilingual, multi-cultural, and inclusive. The vocabularies grow through contributions from institutions and projects comprising the expert user community.
- In the new linked, open environments, the Getty Vocabularies may provide a powerful conduit for research and discovery for digital art history.
What are the Getty vocabularies?

- The Getty vocabularies represent over 35 years of continuing international collaborative scholarship.
- From their inception, the Getty vocabularies were designed to be linkable to each other and to the broader realm of cultural heritage information. For example, in the AAT, concepts are linked to each other through hierarchical and associative relationships.
- With the release of the Getty Vocabularies as Linked Open Data (LOD) a few years ago, the Getty became a leader in advancing the possibilities of technology to enable research and discovery of information about art, architecture, conservation, and other cultural heritage.
- The Getty vocabularies are entering a new world of seemingly limitless possibilities in digital scholarship.
What are the Getty vocabularies?

- Target audience: The primary user communities and target audience of the Getty vocabularies include researchers in art and architecture, art libraries, archives, visual resource collection catalogers, museums, special collections, other repositories of cultural heritage information, conservation specialists, archaeological projects, bibliographic indexing projects, and the information specialists who attend to the needs of these users. In addition, a significant number of users of the Getty vocabularies are students or members of the general public.

- How the vocabularies are constructed: The AAT, ULAN, TGN, IA, and CONA are compiled resources that grow primarily through contributions from the expert user community, including large-scale international translation projects.
Our History: AHIP

The Getty Vocabularies

Catalog, index, document, access, research, discover

- AHIP = trailblazer in
  a) committing resources to standards and vocabularies for art information
  b) bringing together disparate communities under Getty leadership
- Resources envisioned to ask complex art historical questions
- Active in ISO and NISO
- Vocab data model = thesaurus and other links
- Vocab working model = contributions from expert user community coordinated by a central editorial and tech team
- Target users = scholars, researchers, visual resources, photo archives, art libraries, special collections, archives, museums, conservation

Partial group of AHIP staff at new Getty Center
Our History: AHIP
The Getty Vocabularies

- **AAT** = late 1970s: architectural historians, visual resources professionals, art literature indexing projects; Toni Petersen, Dora Crouch, and Pat Molholt; began with terms from LOC and local word lists; steering committee - Williams College, Clark Art Institute
- Data creation by panel of architectural historians, spearheaded by Hank Millon, CASVA, National Gallery of Art, Washington
- Getty joined in 1983, participant in discussion, financed effort, provided technology; AAT moved to Los Angeles in 1990, joined Getty Vocabulary Program; combined editorial rules and adopted same core data structure as ULAN and TGN
- First contributions = paper forms, entered by hand, 1000s; books \(\rightarrow\) disks, OUP; Several custom-made editorial systems: merging duplicates, editing, hierarchies, publishing; Now = XML contribution formats, publish in various formats, LOD
- Hundreds of expert contributing institutions, ongoing translations
Origins and development of the Getty Vocabularies

Thanks to the visionaries committed to art information access for research and cataloging

- ULAN and TGN is based on CIHA TAU models
- Thesaurus Artis Universalis committees met in Europe in 1980s, authorities for people/places for art history
- ULAN, in 1984 compiled from artist files of Getty Trust’s automated documentation projects
- Photo Archive, Provenance Index, BHA, JPGM, Witt projects at Courtauld London, Census for Antique Art, Avery Index, Foundation for Documents of Architecture, others
- Leaders: Eleanor Fink (later director of AHIP), Jim Bower, Martha Baca, Patricia Harpring
- Army of grad students with miles of printouts, duplicates to merge and otherwise clean data
- Broader contribution program was initiated, now have 100s of institutional contributors
- ULAN and TGN is in sync with authorities in Categories for the Description of Works of Art (CDWA); = consensus of best practice from broad coalition of scholars, museums, archives, visual resources, others
- ULAN was published in hardcopy books and on disks
- Soon AAT and ULAN were too large for book format, published only in automated formats
Origins and development of the Getty Vocabularies

Thanks to the visionaries committed to art information access for research and cataloging

• TGN began in 1987, was called TAP, Thesaurus of Art Historical Place Names
• Based on Thesaurus Artis Universalis (TAU)
• Further advised by participants in colloquium at Getty in 1991, spectrum of potential expert users of geographic vocabulary in cataloging art and scholarship; Hank Millon from CASVA was key voice
• Leaders: Eleanor Fink, Jim Bower, Murtha Baca, Patricia Harpring
• Needed a skeleton of modern world on which to build historical data; bought and loaded data from atlas publisher, but ran into legal issues; we started over
• Now TGN uses U.S. government databases, USGS and NGA/NIMA, for the skeleton of the modern world
• In 1987, also added 1000s of geographic names in use by various Getty projects (as we continue to add historical names and other information today)
• Again relied upon an army of grad students to build hierarchies and edit data
• TGN debuted online when Getty Center opened in 1997
• TGN grows through contributions and updating from U.S. gov’t sites
• TGN is a Thesaurus with LOD, may be linked to GIS and to maps
Origins and development of the Getty Vocabularies

Thanks to the visionaries committed to art information access for research and cataloging

• CONA planning began in 2004, as a resource comprising unique numeric identifiers and brief records for art and architecture, extant or destroyed, particularly focused on variations of title; based on CDWA/CCO model with links to other Getty vocab and outside resources, including repository records, if such data is discoverable

• IA is based on the Subject Authority of CDWA/CCO; no other global resource is available for indexing proper-name subject content; links to existing standards where possible (e.g., LOC and Iconclass)

• Impetus from Vocab user community, especially VR community and bibliographic projects; in concert with Cataloging Cultural Objects (CCO) advisory committee, users needed authorities for art works depicted in their visual surrogates, and a resource for global iconography depicted

• CDWA/CCO models represented best practice as agreed upon by diverse communities representing the Getty vocabularies’ target users

Addendum:

• In addition to producing and disseminating vocabularies, the Getty Vocabulary Program has from the beginning been involved in training

• Workshops other forums to train users how index with Getty vocabularies and how to contribute

• Editorial guidelines and other training are online, *Intro to Controlled Vocab*
Context for the Getty Vocabularies

AAT      TGN      ULAN      CONA      IA

www.getty.edu/research/tools/vocabularies/index.html
### What Are Controlled Vocabularies?

- A controlled vocabulary is an organized arrangement of words and phrases.
- Typically includes preferred and variant terms.
- Has a defined scope or describes a specific domain.

### Purpose of Controlled Vocabularies

- To provide terminology to catalog and retrieve information.
- To capture the richness of variant terms.
- For some users, to promote consistency in assignment of the same terms to similar content.
- In retrieval, to utilize variants and broader/narrower contexts.
Controlled Vocabularies vs. Controlled Format

- **Controlled vocabularies** are organized sets of controlled terminology values (often with other information as well)

- **Controlled format** refers to rules concerning the allowable data types and formatting of information

- Fields may have controlled format in addition to being linked to controlled vocabulary

- Or the controlled format may exist in the absence of any finite controlled list of acceptable values
Controlled Vocabularies vs. Controlled Format

Controlled format

• May govern the expression of Unicode or other characters in either a free-text field or in a field that is linked to a controlled vocabulary

• Also for fields where numbers or codes are used

• E.g., recording measurements, geographic coordinates
• May regulate the number of digits allowed, the expression of decimals and negative numbers, etc.,
• *Ideally in compliance with ISO, NISO, or another appropriate standard*
## Controlled Vocabularies vs. Controlled Format

### Which fields here are controlled format, which use controlled vocabulary?

<table>
<thead>
<tr>
<th>display</th>
<th>indexing with controlled terms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Materials/Techniques</strong></td>
<td><strong>Dimensions</strong></td>
</tr>
</tbody>
</table>

**Description:** egg-tempera paint with tooled gold-leaf halos on panel

**Role:** medium  | **Material Name:** egg tempera | gold leaf

**Role:** support | **Material Name:** wood panel

**Technique Name:** painting | gold tooling

**Description:** comprises 10 panels; overall: 280 x 215 x 17 cm (110 1/4 x 84 5/8 x 6 3/4)

**Extent:** components  | **Value:** 10  | Type: count

**Value:** 280  | Unit: cm  | Type: height

**Value:** 215  | Unit: cm  | Type: width

**Value:** 17  | Unit: cm  | Type: depth

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AAT

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*Overview of Getty Vocabularies*
Types of Controlled Vocabularies

- Most controlled vocabularies in art indexing are structured vocabularies
- Structured vocabulary = emphasizes relationships

Relationships in General

- Connections between terms and between concepts
  Are a rose window and a Catherine wheel the same thing? How is pot-metal glass related to the more general term stained glass?
- Between equivalents (synonyms)
- Other relationships = hierarchical and associative (links that organize concepts and provide context)
Types of Controlled Vocabularies

The most common types of controlled vocabularies used for art and architecture information

- subject heading lists
- simple controlled lists
- synonym ring lists
- taxonomies
- thesauri
Subject Heading Lists

Uniform words or phrases intended to be assigned to books, articles, or other documents in order to describe the subject or topic of the texts and to group them with texts having similar subjects.

Examples:

**Library of Congress Subject Headings (LCSH)**

**Bicycle racing--United States**

**Medical Subject Headings (MeSH)**

Embryonic and Fetal Development

- Typically arranged in alphabetical order, with cross-references between the preferred and other nonpreferred headings.
- Differ from other vocabularies = precoordination of terminology = combine several unique concepts together in a string.
Other Headings

• Other types of headings or labels may be used to uniquely identify or disambiguate one vocabulary entry from another

• E.g., name of a creator may be listed with a short biographical string to form a heading or label for display in a work record

**Pierre Koenig** *(American architect, 1925-2004)*

- name
- display biography
Label: Case Study House No. 21 (house; architect: Pierre Koenig (American architect, 1925-2004); 1956-1958; renovated 1998)

Examples of headings in object record

Controlled Lists

A controlled list is a simple list of terms used to control terminology.

A well-constructed controlled list, the following is true:

- each term is unique
- terms are not overlapping in meaning
- terms are all members of the same class (i.e., having the same level of rank in a classification system)
- terms are equal in granularity or specificity
- terms are arranged alphabetically or in another logical order

- Should be derived from larger published standard vocabularies if appropriate

- They are best employed in certain fields of a database where a short list of values is appropriate and where terms are unlikely to have synonyms or ancillary information
Controlled Lists

*Pick Lists*

Lead users to a small set of choices of terms for a given field

Often implemented as drop-down or other types of lists

- From the end-user perspective, such short lists may be easier to navigate than more complex lists, particularly for nonspecialist users
Controlled Lists

**Pick Lists**

In cataloging systems, advantage of such lists = cataloger or indexer has only short list of terms from which to choose

Thus ensuring more consistency and reducing the likelihood of error

Example of a pick list from The Museum System (TMS) application for the J. Paul Getty Museum

| architecture | manuscripts |
| armor        | miscellaneous |
| books        | paintings     |
| coins        | photographs   |
| decorative arts | sculpture |
| drawings     | site installation |
| implements   | texts         |
| jewelry      | vessels       |
Controlled Lists

*Pick Lists*

In cataloging systems, advantage of such lists = cataloger or indexer
has only short list of terms from which to choose

Thus ensuring more consistency and reducing the likelihood of error

- Dozens of areas of a work record may be better suited for a short controlled list rather than a more complex controlled vocabulary

  Classification field, Title Type (e.g., artist’s, descriptive, inscribed, etc.), Title Language (e.g., English, French, German, Italian, Spanish, etc.), or Title Preference (e.g., preferred, alternate)

- **Disadvantage** is that it limits choices to cataloger or end-user; if used in retrieval would not allow retrieval by synonyms and related terms
**Synonym Ring Lists**

- Simple sets of terms considered equivalent for the purpose of retrieval

- Catalogers do not use synonym rings for indexing; used behind the scenes of an electronic information system

- Used to broaden retrieval (query expansion): may contain near-synonyms that have similar or related meanings rather than only terms with true synonymy

- Used with texts, not generally with fielded data

- Best when constructed by an expert in the content and for a specific text
Authority Files

Sets of established names or headings and cross-references to the preferred form from variant or alternate forms

• Authority control refers as much to the methodology of application as to a particular controlled vocabulary

Any listing of terms, names, or headings that distinguishes between a preferred and variant names or headings may be used as an authority

• Getty vocabularies are non-authoritarian authorities; preferred term is flagged (term used most often in scholarly literature in language of the record) but users may use any term in the record if they wish
Taxonomies

A taxonomy = orderly classification for a defined domain
Comprises controlled vocabulary terms organized into a hierarchical structure

- A taxonomy may differ from a thesaurus in that it generally has shallower hierarchies and a less complicated structure
- For example, it often has no equivalent (synonyms or variant terms) or related terms (associative relationships)
- Scientific classifications of animals and plants are well-known examples of taxonomies
### Alphanumeric Classification Schemes

Controlled codes (letters or numbers, or both letters and numbers) that represent concepts or headings

- Generally have an implied taxonomy that can be surmised from the codes

<table>
<thead>
<tr>
<th>Dewey</th>
<th>LC</th>
<th>General Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>000, 040, 080</td>
<td>AC</td>
<td>General Collections</td>
</tr>
<tr>
<td>010, 020, 090</td>
<td>Z</td>
<td>Library Science</td>
</tr>
<tr>
<td>030</td>
<td>AE</td>
<td>Encyclopedias</td>
</tr>
<tr>
<td>050</td>
<td>AP</td>
<td>Periodicals</td>
</tr>
<tr>
<td>060</td>
<td>AS</td>
<td>Academies, Societies</td>
</tr>
<tr>
<td>070</td>
<td>PN</td>
<td>Literature (Gen.)</td>
</tr>
<tr>
<td>100</td>
<td>B-BJ</td>
<td>Philosophy (Gen.)</td>
</tr>
<tr>
<td>110-120</td>
<td>BD</td>
<td>Speculative Philosophy</td>
</tr>
<tr>
<td>130, 150</td>
<td>BF</td>
<td>Psychology</td>
</tr>
<tr>
<td>140, 180, 190</td>
<td>B</td>
<td>Philosophy (Gen.)</td>
</tr>
<tr>
<td>160</td>
<td>BC</td>
<td>Logic</td>
</tr>
<tr>
<td>170</td>
<td>BJ</td>
<td>Ethics</td>
</tr>
<tr>
<td>200, 210, 290</td>
<td>BL</td>
<td>Religions, Mythology</td>
</tr>
<tr>
<td>220</td>
<td>BS</td>
<td>The Bible</td>
</tr>
<tr>
<td>230</td>
<td>BT</td>
<td>Doctrinal Theology</td>
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<tr>
<td>240, 250</td>
<td>BV</td>
<td>Practical Theology</td>
</tr>
<tr>
<td>250, 270</td>
<td>BR</td>
<td>Christianity</td>
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<tr>
<td>280</td>
<td>BX</td>
<td>Christian Denominations</td>
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<tr>
<td>300</td>
<td>H</td>
<td>Soc. Sci. (General)</td>
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</tbody>
</table>

<table>
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<tr>
<th>Dewey</th>
<th>LC</th>
<th>General Subject</th>
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<td>570</td>
<td>GN, QH</td>
<td>Anthropology, Nat. Hist.</td>
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<tr>
<td>580</td>
<td>OX</td>
<td>Botany</td>
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<tr>
<td>590</td>
<td>QL</td>
<td>Zoology</td>
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<td>600</td>
<td>T-TX</td>
<td>Technology</td>
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<td>610</td>
<td>R</td>
<td>Medicine (General)</td>
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<td>620</td>
<td>TA</td>
<td>Engineering</td>
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<tr>
<td>630</td>
<td>S, HD</td>
<td>Agriculture, Land Use</td>
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<tr>
<td>640</td>
<td>TX</td>
<td>Home Economics</td>
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<td>650</td>
<td>HF</td>
<td>Commerce</td>
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<tr>
<td>660</td>
<td>TP</td>
<td>Chemical Technology</td>
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<td>670, 680</td>
<td>TS, HD</td>
<td>Manufactures</td>
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<td>690</td>
<td>TH</td>
<td>Building Construction</td>
</tr>
<tr>
<td>700</td>
<td>N</td>
<td>Visual arts</td>
</tr>
<tr>
<td>710</td>
<td>SB</td>
<td>Plant culture</td>
</tr>
<tr>
<td>720</td>
<td>NA</td>
<td>Architecture</td>
</tr>
<tr>
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<td>NB</td>
<td>Sculpture</td>
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<td>740</td>
<td>NC</td>
<td>Drawing, Design</td>
</tr>
<tr>
<td>750</td>
<td>ND</td>
<td>Painting</td>
</tr>
</tbody>
</table>

Dewey Decimal Classification and Library of Congress Classification systems
Ontologies

Formal, machine-readable specifications of a conceptual model

Not a controlled vocabulary, but use one or more controlled vocabularies and expresses the vocabulary in a representative language to express relationships

- Ontologies generally divide the realm of knowledge that they represent into the following areas: individuals, classes, attributes, relations, and events
- Ontologies used in the Semantic Web, artificial intelligence, software engineering, and information architecture

A detail of a sample ontology for Vincent van Gogh's *Iris* and Henri Matisse's *Still Life*, illustrating how the works are part of a subset of oil paintings under the category paintings.
Folksonomies

Assemblages of concepts represented by terms and names (called tags) that are compiled through social tagging; became prominent ca. 2004

Do not typically have hierarchical structure or preferred terms for concepts, and they may not even cluster synonyms

Not considered authoritative because they are typically not compiled by experts

- Can be useful in situations where controlled tagging is not possible
- Potential for enhanced retrieval = by linking folksonomies to more rigorously structured controlled vocabularies

Philadelphia Museum of Art

Overview of Getty Vocabularies
Thesauri

- Thesaurus: A semantic network of unique concepts
- Thesauri may be monolingual or multilingual
- Thesauri may have the following three relationships:
  - Equivalence Relationships
  - Hierarchical Relationships
  - Associative Relationships

Objects Facet
.... Furnishings and Equipment
........ Containers
............ <culinary containers>
............ <vessels for serving / consuming food>
........................ rhyta
........................ rhyton
........................ rhytons
........................ rhea
........................ rheon
........................ rheons
........................ rítón

Stirrup cups, coaching glasses, hunting glasses
Sturzbechers, Sturzbecherstortebekers
Rhyta, rhyton, rhytons, rhea, rheon, rheons, rítón

hierarchical

associative

equivalence

distinguished from
Using Multiple Vocabularies

Catalogers of art information require multiple vocabularies because no single vocabulary provides the full set of terminology needed to catalog or index a given set of cultural heritage data.

- A combination of vocabularies is necessary for indexing.
- A separate combination may be necessary for retrieval (or at minimum the cataloging vocabularies may be used differently in retrieval).
Scope and Content of the Getty Vocabularies

AAT      TGN      ULAN      CONA      IA
The AAT is a thesaurus containing generic terms, dates, relationships, sources, and notes for work types, roles, materials, styles, cultures, techniques, and other concepts related to art, architecture, conservation, other cultural heritage.

- Generic terms, not proper names
  - *oil paint, olieverf, acetylization, sintering, orthographic drawings, Olmeca, Rinascimento, Buddhism, watercolors, asa-no-ha-toji, sralais*
- AAT is multilingual; large translation projects are underway
- Conceptually organized from terms to describe abstract concepts to generic terms for concrete, physical artifacts
- Facets are the upper levels of the AAT structure
- AAT is not organized by subject matter or discipline
### Sample record

**ID:** 300132869  
**Terms:**  
- bobbin lace (pref, en)  
- bone lace (en)  
- cushion lace (en)  
- 梭心蕾絲 (zh)  
- 線軸編織花邊 (zh)  
- kloskant (nl)  
- dentelle aux fuseaux (fr)  
- encaje de bolillos (es)  
- encaje de bolillo (es)  
- Klöppelspitze (de)  
- Klöppelspitzen (de)  

**Associative Relationships**  
requires ... lace pillows (<textile fabricating tools and equipment>...Objects Facet) [300132869]

**Hierarchical Relationships (poly)**  
- Objects Facet  
- ... Visual & Verbal Communication  
- ..... Visual Works  
- ........ visual works (works)  
- ........ <visual works by material>  
- ............ needlework (visual works)  
- ............. lace (needlework)  
- ............... bobbin lace

**Note:** With "needle lace," one of two primary types of handmade lace. It is characterized by being made by ...  

**Chinese (traditional) .....** 與「針織蕾絲（needle lace）」同為主要的手工蕾絲,其特色是以纏繞於線軸或梭心...  

**Dutch .....** Een van de twee belangrijkste soorten met de hand vervaardigde kant; 'naaldkant' is ...  

**German .....** Zusammen mit der "Nadelspitze" eine der wichtigsten...  

**Spanish .....** Junto a "encaje a aguja", uno de los dos tipos principales de ...

**Contributors:** VP, CHIN, AS, RKD, IFM-SMB-PK, CDPB-DIBAM  
**Sources:** Earnshaw, Clabburn, Needleworker's Dictionary (1976); Identification of Lace, 2d ed. (1984); Ginsburg, Illustrated History of Textiles (1991)
Contributors are cited

AAT records are merged information from multiple contributors.

Getty Vocabularies grow through contributions from the expert user community.

All information in a Getty Vocabulary record is attributed to a contributor and cites the published sources.

- Getty Conservation Institute (Los Angeles, California)
- Academia Sinica (Nankang, Taiwan)
- Netherlands Institute for Art History (RKD: Bureau AAT) (The Hague, The Netherlands)
- Centro de Documentación de Bienes Patrimoniales (Dirección de Bibliotecas, Archivos y Museos) (Santiago, Chile)
- Staatliche Museen zu Berlin Preussischer Kulturbesitz (Berlin, Germany)
- [Canadian Heritage Information Network (CHIN) (Gatineau, Quebec, Canada), Istituto Centrale per il Catalogo e la Documentazione (Rome, Italy)(ICCD)] and other contributors of partial translations; future translations in French, Italian, Portuguese, other languages.

Bobbin lace (preferred, C, U, LC, English-P, D, U, PN)
Bone lace (C, U, English, UF, U, N)
Cushion lace (C, U, English, UF, U, N)
Lace, bobbin (C, U, English, UF, U, N)
Lace, pillow (C, U, English, UF, U, N)

Contributors are cited

AAT records are merged information from multiple contributors.

Getty Vocabularies grow through contributions from the expert user community.

All information in a Getty Vocabulary record is attributed to a contributor and cites the published sources.

- Getty Conservation Institute (Los Angeles, California)
- Academia Sinica (Nankang, Taiwan)
- Netherlands Institute for Art History (RKD: Bureau AAT) (The Hague, The Netherlands)
- Centro de Documentación de Bienes Patrimoniales (Dirección de Bibliotecas, Archivos y Museos) (Santiago, Chile)
- Staatliche Museen zu Berlin Preussischer Kulturbesitz (Berlin, Germany)
- [Canadian Heritage Information Network (CHIN) (Gatineau, Quebec, Canada), Istituto Centrale per il Catalogo e la Documentazione (Rome, Italy)(ICCD)] and other contributors of partial translations; future translations in French, Italian, Portuguese, other languages.
Thesaural structure

- Sub-facets (called "hierarchies") establish the context of the term
- Guide terms in angled brackets

- Work type: carte-de-visite
Indexers may choose the term that best describes the work
- The concept and each term are identified by unique numeric IDs
- e.g., singular for a single item, language
- Some systems or local cataloging rules do not allow linking at the term level
ULAN, the Union List of Artist Names®

ULAN contains names, relationships, notes, sources, and biographical information for artists, architects, firms, studios, repositories, patrons, sitters, and other individuals and corporate bodies, both named and anonymous.

- Named people and corporate bodies
  - Bartolo di Fredi, Xueshi Bai, 白雪石, National Palace Museum (Taipei)
- Anonymous creators known by appellation: Santa Eufemia Master
- Scope also includes “Non- Artists” (e.g., sitters and patrons)
- “Unknown People by Culture” (e.g., unknown Aztec)
- “Unidentified Named People” (e.g., known from archival documents)

- ULAN includes current and historical associative relationships (e.g., students to teachers; firm and studios to members)
- Contributions to ULAN are from experts at authorized institutions (e.g., museums, special collections, art libraries, cataloging projects, bibliographic projects, etc.)
Sample record

**ID:** 500060426

**Names:**
Hokusai, Katsushika (pref, en, ja-trans, de)
Katsushika Hokusai (en, ja-trans)
Hokusai (en, ja-trans)

**Nationalities:**
Japanese (pref)

**Roles:**
artist
printmaker
caller
Figure artist
Ukiyo-e artist

**Birth and Death Places:**
Born: Tokyo (Kanto, Japan) (inhab place)
Died: Tokyo (Kanto, Japan) (inhab place)

**Events:**
active: Tokyo (Kanto, Japan) (inhab place)

**Associative Relationships:**
teacher of Taito, Katsushika, II
	(Japanese printmaker, active ca. 1820-1850)
child of Nakajima Ise
	(Japanese mirror maker, 18th century)
possibly identified with ... Toshūsai Sharaku
	(Japanese printmaker, active 1794-1795)

**Contributors:**
VP, Avery, GRL, BHA, CCA

**Sources:**
Bowie, Drawings of Hokusai (1964);
Grove Dictionary of Art online (1999-2002); Library of Congress Authorities database (n.d.);
Metropolitan Museum of Art [online] (2003-);
Bouquillard, Hokusai: First Manga Master (2007)
TGN focuses on places relevant to art, architecture, and related disciplines, recording names, relationships, place types, dates, notes, and coordinates for current and historical cities, nations, empires, archaeological sites, lost settlements, and physical features.

- Places relevant to art history
  - Thebes, Diospolis, Ottoman Empire, Mogao Caves, Ch’ien-fu-tung, Ganges

- TGN is a structured vocabulary

- TGN is a thesaurus compliant with ISO standards

- Focus on historical regions, archaeological sites, lost settlements, built upon a skeleton of the modern world from NGA/NIMA and USGS data sets

- TGN is not GIS, is a thesaurus focused on names and links. Why invent the wheel over again? Many sources of geographic data exist. However, TGN may be linked to GIS, maps, and other geographic resources.
TGN, the Getty Thesaurus of Geographic Names®

**Sample record**

<table>
<thead>
<tr>
<th>ID: 7011179</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Names:</strong></td>
</tr>
<tr>
<td>Siena (it,en,es,fr,nl,de)</td>
</tr>
<tr>
<td>Сиена (el)</td>
</tr>
<tr>
<td>Siyehana (zh)</td>
</tr>
<tr>
<td>シェーナ (ja)</td>
</tr>
<tr>
<td>Sienese (en-adj)</td>
</tr>
<tr>
<td>Sienna (h-en)</td>
</tr>
<tr>
<td>Sena Julia (h-la)</td>
</tr>
<tr>
<td>Sanna (h)</td>
</tr>
<tr>
<td>Saena (h)</td>
</tr>
</tbody>
</table>

**Hierarchical Rel. (polyhier.)**
- World (facet)
  - Europe (continent)
  - Italy (nation)
  - Tuscany (region)
  - Siena (province)
  - Siena (inhabited place)
- World (facet)
  - Europe (continent)
  - Italian Peninsula (peninsula)
  - Etruria (former confederation)
  - Siena (inhabited place)
  - Historical: Late Etruscan

**Place Types**
- inhabited place
- settled by Etruscans
  - (flourished by 6th century BCE)
- city
- archiepiscopal see
- commune (administrative) since 1125
- cultural center
- university center
- world heritage site

**Associative Rel.**
- ally of Pisa (inhabited place) [7006082]
  - Ghibelline allies, 13th-14th centuries

**Contributors:** BHA, FDA, GRLPSC, VP

**AAT**
- city
- archiepiscopal see
- commune (administrative) since 1125
- cultural center
- university center
- world heritage site

**Note:** Siena was founded as an Etruscan hill town; later was the Roman city of Sena Julia (3rd century BCE). It flourished under the Lombard kings (6th century CE) and was Medieval self-governing commune...
IA, the Getty Iconography Authority™

IA is a thesaurus that covers topics relevant to art, architecture, and related disciplines; includes multilingual proper names, relationships, and dates for iconographical narratives, religious or fictional characters, themes, historical events, and named literary works and performing arts.

- Includes the proper names of subjects not covered by other Getty Vocabularies
- Scope is multicultural and multilingual, grows through contributions
- Includes links to other sources where there is overlap, such as Iconclass and US Library of Congress subject authorities
- The IA is compliant with the Subject Authority of CDWA and CCO (Categories for the description of Works of Art and Cataloging Cultural Objects)
- The IA has a thesaural structure; it includes equivalence, associative, and hierarchical relationships
- The IA is linked to the other Getty Vocabularies
### Sample record

**ID:** 1000085

**Names:**
- Avalokiteshvara
- Avalokiteśvara
- अवलोकितेश्वर
- Spyan ras gzigs

**AAT links**
- role/characteristic is ... bodhisattva
- symbolic attribute is ... lotus
- culture/religion is ... Mahayana (Buddhism)
- culture/religion is ... Theravada (Buddhism)

**Associative Relationships**
- associated with .... Krishna (Hindu iconography)
- counterpart is .... Guanyin (Buddhist iconography)

**Note**
The bodhisattva of infinite compassion and mercy; embodies the compassion of all Buddhas. This bodhisattva is portrayed in different cultures as either female or male...

**Contributors & sources**
- [VP] Encyclopedia Britannica Online (2002-);
- Bowker, Oxford Dictionary of World Religions (1997);
- Huntington, Art of Ancient India (1985);
- LC: LC control no.: sh85010492
CONA, the Cultural Objects Name Authority®

CONA compiles titles/names and other metadata for works of art, architecture, and other cultural works, current and historical, documented as items or in groups, whether works are extant, destroyed, or never built.

- In development, may be used to record works depicted in visual surrogates and for other purposes.
- CONA compiles titles, attributions, depicted subjects, and other metadata about works of art, architecture, and cultural heritage, both extant and historical works, works never built, disassembled works, conceptual works for multiples.
  *Hagia Sophia, Mona Lisa, Thirty-six Views of Mount Fuji, 富嶽三十六景*
- Scope is multicultural and multilingual; grows through contributions.
- CONA is linked to images; CONA is linked to the AAT, TGN, ULAN, and IA.
- Through this rich metadata and links, CONA may provide a powerful conduit for research and discovery for digital art history.
The Simplified entity-relationship diagram for CONA is the same as CDWA / CCO.
### Sample record

<table>
<thead>
<tr>
<th>ID: 700001950</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Titles:</strong></td>
</tr>
<tr>
<td>Shiva met de maan in het haar (nl)</td>
</tr>
<tr>
<td>Shiva with the Moon in his Hair (en)</td>
</tr>
<tr>
<td><strong>Catalog Level:</strong> item</td>
</tr>
<tr>
<td><strong>Work Types:</strong> sculpture (visual work)</td>
</tr>
<tr>
<td><strong>Classifications:</strong> sculpture (preferred)</td>
</tr>
<tr>
<td><strong>Creation Date:</strong> 1000/1200</td>
</tr>
<tr>
<td><strong>Creator Display:</strong> anoniem sculptor: unknown Chola</td>
</tr>
<tr>
<td><strong>Locations:</strong> Rijksmuseum (Amsterdam, North Holland, Netherlands) AK-MAK-1291; RM001.collect.910; Bruikleen van de Vereniging van Vrienden der Aziatische Kunst</td>
</tr>
<tr>
<td><strong>Creation:</strong> Tamil Nādu (India)</td>
</tr>
<tr>
<td><strong>Materials:</strong> bronze founding</td>
</tr>
<tr>
<td><strong>Dimensions:</strong> 40 cm (height) x 24cm (width) x 10.5 (depth)</td>
</tr>
<tr>
<td><strong>Events:</strong> exhibition: Metamorfoze/Geheugenproject Willem Witsen</td>
</tr>
<tr>
<td><strong>Cultures:</strong> Indian Chola</td>
</tr>
<tr>
<td><strong>General Subject:</strong> human figure(s) (preferred ) religion and mythology</td>
</tr>
<tr>
<td><strong>Specific Subjects:</strong> Shivá (Hindu iconography) mudrā (pose, &lt;visual and representational concepts&gt;)</td>
</tr>
<tr>
<td><strong>Contributors &amp; Sources:</strong> [Rijksmuseum;VP]; Rijksmuseum XML file</td>
</tr>
</tbody>
</table>
Possible implementations of CONA

Movable works linked to architecture depicted

CONA ID 700000090  Class. architecture

**Work Type: house**

Title: Case Study House No. 21  
Title: Bailey House  
Title: CSH #21

Creator: architect: Pierre Koenig

Creation Date: 1956-1958; renovated 1998

Dimensions: 1 story, 1320 square feet, 4 rooms and 2 baths, on a 110 x 160 foot lot

Mat & Tech: steel frame and flat roof deck

Current Location: Los Angeles (California, USA)

Address Note: 34.116634 -118.391623; 038 Wonderland Park Avenue, Hollywood Hills, Los Angeles, 90046

CONA ID 700008539  Work Type: photograph

Title: Case Study House No. 21

Creator: Julius Shulman

Current Location: GRI Special Collections, Getty Center (Los Angeles, California); 2004.R.10-26622-32-LF

CONA ID 700000120  Work Type: architectural drawing

Title: Case Study House No. 21

Creator: Pierre Koenig

Current Location: GRI Special Collections, Getty Center (Los Angeles, California) 2006.M.30-

Based on

Preparatory for

Depicts

Depicted in
### Possible implementations of CONA

<table>
<thead>
<tr>
<th>CONA ID: 700002923</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog Level: item</td>
</tr>
<tr>
<td>Classification: architecture</td>
</tr>
<tr>
<td>Work Type: building complex</td>
</tr>
<tr>
<td>Title/Name: Temple of Heaven (en)</td>
</tr>
<tr>
<td>Tian Tan (zh-tr)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Creator: [display] first built by Ming Chengzu (1360-1424); extended by Ming Shizong (1507-1567); renovated by Qianlong (1711-1799)</td>
</tr>
<tr>
<td>Creation Date: [display]: 1530, during Ming dynasty</td>
</tr>
<tr>
<td>General Subject: architecture</td>
</tr>
<tr>
<td>Type: isness</td>
</tr>
<tr>
<td>Specific Earth: [TGN 7030638] Extent: dedication</td>
</tr>
<tr>
<td>Current Location: Beijing (Beijing Shi (municipality), China) (nation)</td>
</tr>
<tr>
<td>Address Note: 39°57′05″N 116°24′36″E</td>
</tr>
<tr>
<td>Dimensions: [display] entire complex: 237 hectares</td>
</tr>
<tr>
<td>Mat &amp; Tech: [display] wood and stone [wood AAT 300011914</td>
</tr>
<tr>
<td>Style: Chinese [AAT 300018322]</td>
</tr>
<tr>
<td>Contributors: JPGM VP_GRISC BWR</td>
</tr>
<tr>
<td>Sources: Built Works Registry BWR3792244; Library of Congress Authorities online (2002-); n2011019454; Fodor’s Travel (2016); J. Paul Getty Museum, collections online (2000-); Great Buildings Online (1997-)</td>
</tr>
</tbody>
</table>

### Works linked to outside resources

*Merging information from multiple contributors*

- CONA ID uniquely identifies the work in CONA
- Links to other IDs, such as LOC, VIAF, BWR

Overview of Getty Vocabularies
Multiple opinions are accommodated

CONA ID: 700000178
Catalog Level: item
Classification: paintings
Work Type: panel painting | altarpiece
Title: Adoration of the Magi
Creator: Bartolo di Fredi (Sienese painter, active by 1353, died 1410)
Creation Date: 1380s/1390s; some scholars date it ca. 1400 or later
Execution: Start Date 1380, End Date 1399
Alternative date: Start Date 1395, End Date 1409
General Subject: religion and mythology | human figures
Specific: Adoration of the Magi
Extent: foreground | Siena | horses | Holy Family | gold | frankincense | myrrh | Journey of the Magi
Extent: background | king | deity | death | Epiphany | Three Ages of Man
Current Location: Pinacoteca Nazionale di Siena (Siena, Italy);
Repository No: no. 104
Dimensions: 195 x 158 cm (76 x 61 5/8 inches)
Mat & Tech: tempera on panel
Contributors: BHA VP CD PNS GRI-PA
Sources: Pinacoteca Nazionale di Siena (2002-); Boucher and Fiorini, Magi Reconstructed (2012); Cole, Sienese Painting (1985); Freuler, Bartolo di Fredi (1994); Harpring, Bartolo di Fredi (1992)

Opinions vary, all may be included in the CONA record

Overview of Getty Vocabularies
Possible implementations of CONA

**IA ID 1000045**
Names
- Xibalba
- Place of Fear

**AAT ID 300191778**
Terms
- skeleton [English]
- beendergestel [Dutch]
- esqueleto [Spanish]
- squelette [Italian]
- 骨架 [Chinese]

**CONA ID 70000012** Class: Pre-Colombian art

**General Subject:**
- religion and mythology [General Subject ID 31801]

**Specific Subjects:**
- Xibalba (Maya underworld) [IA 1000045]
- Baby Jaguar (Maya character) [IA 901002211]
- Chahk (Maya deity) [IA 901002210]
- man (male human) [AAT 300025928]
- man (male human) [AAT 300025928]
- skeleton (animal component) [AAT 300191778]
- ax (weapon) [AAT 300024664]
- altar [AAT 300003725]
- death [AAT 300151836]
- celebration [AAT 300152441]

Works linked to subjects depicted
Value added: Contributions to CONA may be indexed for subject depicted access

OCLC survey, of core fields missing is subject depicted
Mining titles and text for subjects depicted, missing from museum data
Controlled by AAT, ULAN, TGN, CONA, and IA

Overview of Getty Vocabularies
Works depicted in visual surrogates

- What is advantage to linking to CONA for work depicted?
- Access for all surrogates for same work
- Multilingual access, links, etc.

够的信息在代理记录中使得为所描绘的作品制作最小的记录成为可能

Cona_ID: 700008694  Class.: paintings
Titles: Equestrian Portrait of Philip IV
Filippo IV, re di Spagna
Felipe IV a caballo
Work Types: painting (visual work)
Creation Date: ca. 1645
Creator Display: Diego Velázquez and assistants; after Peter Paul Rubens, now lost
Locations: Galleria degli Uffizi (Florence, Tuscany, Italy) [500125191]
Repository Numbers: 1890:792
Address Note: Room 41: Rubens
Display Materials: oil on canvas
Dimensions: 338 x 267 cm
General Subject: portraits
Specific Subjects: equestrian portrait [300403976] (AAT)
Philip IV, King of Spain (Spanish king, 1605-1665) [500282775] (ULAN)
Related Works:
pastiche copy after .... Equestrian Portrait of Philip IV [700008695] painting (visual work); Peter Paul Rubens; now lost; 1628-1629
Sources and Contributors:
[VP] [GRI Photo Archives database (1974-)]
... Fossi, Uffizi Gallery (2001)
... GRI Photo Archives database (1974-)

Cona_ID: 700008694  Class.: visual
Titles: Equestrian Portrait of Philip IV
Work Types: study photograph [300403973]
Creation Date: unknown
Creator Display: unknown photographer
Locations: Getty Research Institute Photo Archive
Repository Numbers: STAR Record: 197312
Display Materials: photograph
Dimensions: undetermined
General Subject: another work (preferred)
Specific Subjects: Equestrian Portrait of Philip IV [700008694] Velázquez et al copy after Rubens

Surrogate in Photo Archive

Velázquez et al copy in the Uffizi after Rubens

Links

- AAT
- ULAN
- TGN
- AAT
- ULAN

Conna_Vocabularies Overview

28 April 2020  57
www.getty.edu/research/tools/vocabularies/index.html

What Do We Do?

AAT  TGN  ULAN  CONA  IA
Processing records

- Contributors’ data is loaded and processed by the Getty Digital team and the Getty Vocabulary Program.
- Data is merged, normalized, and published.
- Exported data is refreshed for users every month.
- Releases: Online search, Web services APIs, LOD, XML, and relational tables.

At any time, could be 100s of thousands of candidate records, contributed but still in process.

Editors have monthly quotas for work done to allow anticipation of time frame for publications to ensure not too much time is spent on unsolvable tasks.

Overview of Getty Vocabularies
The *International Terminology Working Group (ITWG)*—a collective of metadata and controlled vocabulary professionals and scholars from North and South America, Europe, Asia, and the Middle East—meet every year or so to discuss four AAT translation Projects (including the Dutch AAT), as well as new projects, the other vocabularies, and overall the challenges and opportunities in developing and maintaining multilingual electronic thesauri for use by cultural heritage institutions. Getty Center, February 2020.

**What do we do?**

**Coordinating contributions**

- Nurturing relationships with contributors
- Advising re. mapping their existing data to format for loading into our editorial system
- Advising re. translation methodology and content issues
- Meetings and online conversations

*Overview of Getty Vocabularies*
Relationships and linking are built into and among the Getty vocabularies

Merging data in one record

- Getty vocabularies merge contributed records representing the same concept
- Example from ULAN: Three contributions; are any of these records for the same person? Yes, 1st and 3rd rows
- Merged by algorithm, if possible; if not, merged by editors

<table>
<thead>
<tr>
<th>ULAN ID</th>
<th>Matching name</th>
<th>Display biography</th>
<th>Roles (AAT-controlled)</th>
<th>Nationality (AAT-controlled)</th>
<th>Estimated birth date</th>
<th>Estimated death date</th>
</tr>
</thead>
<tbody>
<tr>
<td>500017409</td>
<td>Guardi, Francesco</td>
<td>Venetian painter, 1712-1793</td>
<td>artist painter landscapist</td>
<td>Venetian Italian</td>
<td>1712</td>
<td>1793</td>
</tr>
<tr>
<td>500312969</td>
<td>Guardi, Francesco</td>
<td>Italian noble, born 1514</td>
<td>noble</td>
<td>Italian</td>
<td>1514</td>
<td>1614</td>
</tr>
<tr>
<td>500412666</td>
<td>Guardi, Francesco</td>
<td>Italian artist, ca. 1712-1793</td>
<td>artist</td>
<td>Italian</td>
<td>1707</td>
<td>1793</td>
</tr>
</tbody>
</table>

A name matches exactly; role matches; a nationality matches; dates within range?
Merging data in one record

Relationships and linking are built into and among the Getty vocabularies. The ULAN record is a merged, homogenous entity. Merged in one record

Attribution to contributor and source is maintained, but merged and unified, and various “preferred” data is flagged.

**Contributors**

- AVERY, BHA, GRISC, GRL, GRLPA, PROV, VP, WCI, WCP, WL-Courtauld

**Sources**

- Avery Authority files (1963-)
- Harald Szeemann papers, Finding Aid, GRI Special Collections (2011-)
- J. Paul Getty Museum, collections online (2000-)
- Library of Congress Authorities database (n.d.) n 50074509
- M. Knoedler & Co. records, Finding Aid, GRI Special Collections (2012-)
- Provenance Index Databases, Authority file (1985-)
- RILA/BHA (1975-2000)
- Witt Library, Authority files

**Guardi, Francesco** (Italian painter, 1712-1793)

**Note:** Venetian painter, during the first half of his career he specialized in portraits, still lives and genre paintings; later became well-known for his vedutista (view painter) of Venetian urban life.

**Names:**

- Guardi, Francesco (preferred, personal, LC)
- Francesco Guardi (V, display)
- Gardi, Francesco (V)
- Garde, Francesco (V)
- Gardis, Francesco (V)
- Gauda, Francesco (V)
- Guada, Francesco (V)
- Guarde, Francesco (V)
- Guardet, Francesco (V)
- Gvardi, Francesko (V)
- Guardi, Francois (V)
- Guardi, Francisco (V)
ULAN record is a merged, homogenous entity

Nationalities: Italian (preferred) Venetian

Roles: artist (preferred) painter landscapist

Gender: male

Birth and Death Places:
Born: Venice (Venezia province, Veneto, Italy) (inhabited place)
Died: Venice (Venezia province, Veneto, Italy) (inhabited place)

Related People or Corporate Bodies:
member of .... Guardi family (Italian painters, active 18th century) [500060865]
parent of .... Guardi, Giacomo (Italian painter, 1764-1835) [500023608]
sibling by marriage (in-law) of .... Tiepolo, Giovanni Battista (Venetian painter, 1696-1770) [500018523]

Merged information, redundancy eliminated
Note links to other ULAN records, to AAT and TGN

Contributors
AVERY, BHA, GRISC, GRL, GRLPA, PROV, VP, WCI, WCP, WL-Courtauld

Sources
Avery Authority files (1963-)
Harald Szeemann papers, Finding Aid, GRI Special Collections (2011-)
J. Paul Getty Museum, collections online (2000-)
Library of Congress Authorities database (n.d.) n 50074509
M. Knoedler & Co. records, Finding Aid, GRI Special Collections (2012-)
Provenance Index Databases, Authority file (1985-)
RILA/BHA (1975-2000)
Witt Library, Authority files

Merged information, redundancy eliminated
Note links to other ULAN records, to AAT and TGN

Note: Venetian painter, during the first half of his life he decorated and church paintings; later became vedutista (view painter) of Venetian urban life.

Names:
Guardi, Francesco (preferred, V, index, LC)
Francesco Guardi (V, display)
Gardi, Francesco (V)
Garde, Francesco (V)
Gardis, Francesco (V)
Gauda, Francesco (V)
Guada, Francesco (V)
Guardè, Francesco (V)
Guardet, Francesco (V)
Gvardi, Franchesko (V)
Guardi, François (V)
Guardi, Francesco (V)
### Using data

- Online Web searches
- Access to training materials and editorial guidelines
- Highest number of pages accessed at GRI every month (17,000 page views, 200,000 queries)
- Among the highest at Getty overall
- Demonstrating usefulness is important to proving the value of the project, re. budgets, etc.

- In addition, Getty Vocabularies released as LOD with very high use
- AAT and other vocabs available at satellite sites and in vendor systems

### Top 15 GRI-wide page views per month (March 2019)

<table>
<thead>
<tr>
<th>No.</th>
<th>Page</th>
<th>Views</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vocabs: AAT</td>
<td>16,106</td>
</tr>
<tr>
<td>2</td>
<td>Vocabs: ULAN</td>
<td>11,826</td>
</tr>
<tr>
<td>3</td>
<td>Vocabs: TGN</td>
<td>9,479</td>
</tr>
<tr>
<td>4</td>
<td>GRI landing page</td>
<td>5,676</td>
</tr>
<tr>
<td>5</td>
<td>GRI list of resources</td>
<td>5,171</td>
</tr>
<tr>
<td>6</td>
<td>Exhibition: monumentality</td>
<td>4,273</td>
</tr>
<tr>
<td>7</td>
<td>Vocabs: general information</td>
<td>4,245</td>
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<tr>
<td>8</td>
<td>Provenance: search</td>
<td>3,895</td>
</tr>
<tr>
<td>9</td>
<td>Library</td>
<td>3,345</td>
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<tr>
<td>10</td>
<td>Provenance: general information</td>
<td>2,690</td>
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<tr>
<td>11</td>
<td>BHA (Bibliography for History of Art)</td>
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<tr>
<td>12</td>
<td>Photo Archive</td>
<td>1,759</td>
</tr>
<tr>
<td>13</td>
<td>GRI: Digital Collections: Turkey photos</td>
<td>1,673</td>
</tr>
<tr>
<td>14</td>
<td>Vocabs: CONA</td>
<td>1,489</td>
</tr>
<tr>
<td>15</td>
<td>Vocabs: CDWA (cataloging rules for art)</td>
<td>1,143</td>
</tr>
</tbody>
</table>
Using data

- Vocabulary data is licensed and used by hundreds of institutions and vendors
- Collections management systems (e.g., TMS)
- We contribute to VIAF
- Now linking vocabulary data in LOD in hundreds or thousands of new ways

GRI (with ULAN and TGN) contributes to VIAF, the Virtual International Authority File.

- Link to other sources in Linked Open Data

http://viaf.org/
Getty Vocabularies and LOD

AAT    TGN    ULAN    CONA    IA
How are vocabularies used?

- Traditional use of vocabularies for retrieval focuses on the names
- If a user asks for one name/term, all of the synonyms can be used for retrieval
- For example, if a user searches on “Giovanni da Bologna”...

From ULAN
- Giambologna
- Giovanni da Bologna
- Giovanni Bologna
- Jean Boulogne
- Jean de Boulogne
- Bologna, Giovanni da

“giambologna” OR “giovanni da bologna” OR “giovanni bologna” OR “jean boulogne” OR “bologna, giovanni da”
How are vocabularies used?

New methods and LOD can incorporate hierarchical and associative relationships, and other links or inferred relationships to answer more complex questions and aid serendipitous discovery.

Giambologna (Flemish sculptor and architect, 1529-1608, active in Italy)

Marie de Medici (French queen, patron, 1573-1642)

Tacca, Pietro (Italian sculptor and architect, 1577-1640)

Display Date: from 1592
Start Date: 1592 End Date: 1608
What is Linked Open Data (LOD)?

- The AAT, TGN, and ULAN are now available as LOD
- They are published under the Open Data Commons Attribution License (ODC-By) 1.0

- When data is linked and open, it means that data is structured and published according to the principles of Linked Data, so that it can be both interlinked and made openly accessible and shareable on the Semantic Web. The goal of linked open data is to allow data from different resources to be interconnected and queried.

- In order for data to be understood and processed automatically by computers, data in records or about resources must be expressed in a standard format. Each thing (for example, a museum object, a place, or a person) must be represented by a persistent identifier (known as a Uniform Resource Identifier (URI)). A Resource Description Framework (RDF) is a language or format for describing things as well as the relationships between things as simple properties and values (known as 'triples'), while things are represented using URIs.
Getty Vocabularies are linked to each other
Getty Vocabularies providing conduits to links in the cloud
What Are CDWA and CCO?

CONA is compliant with CDWA and CCO
What is CDWA?

Categories for the Description of Works of Art

- CDWA includes both a **conceptual framework** of elements and relationships, and cataloging **rules** for describing, documenting, and cataloging cultural works and related images
- Includes 540 elements
- Agreed upon best practice based on consensus of expert group who met for years
- **Primary focus** is art and architecture, including but not limited to prints, manuscripts, paintings, sculpture, photographs, built works, and other visual media
- **Also covers** many other types of cultural objects, including artifacts and functional objects from the realm of material culture

CONA is based on CDWA
• For the Work
• For Images of the Work
• Authorities

• Comprehensive set of 540 elements
• 9 core elements

http://www.getty.edu/research/publications/electronic_publications/cdwa/
What is CCO?

Cataloging Cultural Objects

• Subset of CDWA
• Manual for describing, documenting, and cataloging cultural works and their visual surrogates
• Primary focus is art and architecture, including but not limited to prints, manuscripts, paintings, sculpture, photographs, built works, and other visual media
• Also covers many other types of cultural objects, including artifacts and functional objects from the realm of material culture

Published by the American Library Association
Available at the ALA site, Amazon.com, etc.
### What is CCO?

- **Chapter 1: Object Naming**
  - Work Type / Title

- **Chapter 2: Creator Information**
  - Creator / Creator Role

- **Chapter 3: Physical Characteristics**
  - Dimensions / Materials and Techniques /
  - State and Edition/ Additional Physical Characteristics

- **Chapter 4: Stylistic and Chronological Information**
  - Style / Culture / Date

- **Chapter 5: Location and Geography**
  - Current Location / Creation Location / Discovery Location / Former Location

- **Chapter 6: Subject**
  - Subject

- **Chapter 7: Class**
  - Class

- **Chapter 8: Description**
  - Description / Other Descriptive Notes

- **Chapter 9. View Information**
  - View Description / View Type / View Subject / View Date

- **Authority 1: Personal and Corporate Names**
- **Authority 2: Geographic Places**
- **Authority 3: Concept Authority**
- **Authority 4: Subject Authority**

---

**Overview of Getty Vocabularies**

- For the Work
- For Images of the Work
- Authorities

- 116 elements total
- 9 core elements

---

**What is CCO?**

- **Chapter 1: Object Naming**
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**Overview of Getty Vocabularies**

- For the Work
- For Images of the Work
- Authorities

- 116 elements total
- 9 core elements
- CDWA and CCO are mapped to 13 other standards
- You should be able to express your data in multiple formats and multiple standards
http://www.getty.edu/research/publications/electronic_publications/intrometadata/crosswalks.html

- CDWA and CCO are mapped to 13 other standards
- A project should be able to express data in multiple formats and multiple standards

<table>
<thead>
<tr>
<th>Vocabularies Overview</th>
<th>CDWA: The Categories for the Description of Works of Art</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>CCO: Cataloging Cultural Objects</td>
</tr>
<tr>
<td></td>
<td>CONA: Cultural Objects Name Authority</td>
</tr>
<tr>
<td></td>
<td>CIDOC CRM: The International Committee for Documentation, Conceptual Reference Model (CRM)</td>
</tr>
<tr>
<td></td>
<td>LIDO: Lightweight Information Describing Objects</td>
</tr>
<tr>
<td></td>
<td>CDWA Lite: CDWA Lite XML schema</td>
</tr>
<tr>
<td></td>
<td>VRA Core: The Visual Resources Association Core categories 4.0</td>
</tr>
<tr>
<td></td>
<td>MODS: Metadata Object Description Schema</td>
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<tr>
<td></td>
<td>Dublin Core: Dublin Core Metadata Initiative</td>
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<td></td>
<td>DACS: Describing Archives Content Standard</td>
</tr>
<tr>
<td></td>
<td>EAD: Encoded Archival Description Document Type Definition (DTD)</td>
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<tr>
<td></td>
<td>Object ID: Object ID international standard for police and customs agencies</td>
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<tr>
<td></td>
<td>CIMI: Consortium for the Computer Interchange of Museum Information attribute set, Z39.50 Profile</td>
</tr>
<tr>
<td></td>
<td>FDA Guide: Guide to the Description of Architectural Drawings</td>
</tr>
</tbody>
</table>
Common practice and Best practice

- **CCO/CDWA are based on best practice**
- **Both CCO and CWDA are the result of consensus** reached by groups representing a broad spectrum of prominent professionals in the museum, art library, visual resources, special collection, and archives communities
- Both CCO and CDWA committees agreed on sets of elements and rules for cataloging based on existing common practice in their professions
- But going further, to advise best practice for documenting cultural heritage works
- To both **uniquely identify the works** for maintenance by the responsible institution and to researchers
- And to provide enough additional information to **allow scholarly research and retrieval**
Key principles of good cataloging

- **What is the focus?** Establish the logical focus of each Record:
  - a single item
  - a work made up of several parts
  - a physical group or collection of works
  - an image of a work

- **Core elements:** Include all of the core required CCO/CDWA elements

- **Cataloging rules:** Follow the CCO/CDWA rules; make and enforce additional local rules to allow effective retrieval, re-purposing, exchange, and linking of information

- **Terminology:** Use published controlled vocabularies, such as the Getty vocabularies. Use local controlled lists as necessary

- **Consistency:** Be consistent in all aspects of entering data and in establishing relationships between entities

- **Metadata standards:** Ensure that your underlying data structure, including relationships, is compliant with (or mappable to) established metadata standards

- **Your system:** As far as is possible, do not allow limitations of a cataloging system to cause distortion of the data
  - E.g., do not put two values into one field due to system limitations. Your system will change in the future; your data should survive migration
Thank you.

Patricia Harpring
Managing Editor
Getty Vocabulary Program

pharpring@getty.edu
vocab@getty.edu

Overview of Getty Vocabularies