The CLiMB Toolkit

- Image cataloging toolkit
- For large image collections
- Semi-automated metadata
  - Subject access terms
  - Human intervention at all steps
- Metadata added to existing catalog records
- Iterative development
Prerequisites and Resources

• Image collection
• Minimal-level catalog records
• Text about the images (associated texts)
  • Scholarly monographs
  • Museum catalog
• TOI list of images
  • Now: CLiMB format
  • Future: Authoritative list in your format
• [Controlled vocabularies]
The Visible CLiMB ToolKit

A graphical user interface (GUI)

- Help Menus
- Projects
- Web Browser
The Invisible CLiMB ToolKit

Tools and Resources:

- TOI List
- Texts
- Text analysis tools to find terms for TOIs
- Controlled vocabularies
- Rulesets
CLiMB TOOLKIT: Process Flow

1. Load Text
2. Load TOI List
3. Analyze Text
4. Select Subject Access Terms
5. Review
Process Model

- **Load text.**
- Load TOI list.
- Analyze text.
- Select subject access terms.
- Review and export data.
The CLiMB Toolkit: Computational Linguistics for Metadata Building

You are working on project "NCMA Records."

You can view texts, manipulate texts, and upload new texts from the "Texts" menu.

CLiMB is a Mellon Foundation grant-funded project with six participating institutions: Harvard University, University of Pennsylvania, University of Chicago, University of California at Los Angeles, University of California at Berkeley, and University of Illinois at Urbana-Champaign.

The CLiMB Toolkit is a collection of tools for computational linguistics. For those new to the field, the semi-automatic functions can be a great place to start.

You must first add a new text to your project. Click the "Add a new text to the project" button and enter the file name and file type:

- Enter file name:
- What kind of file is it?
  - Raw text
  - Upload text

[close this window]
### Text Details: "NCMA Handbook"

**Basic Information About the Text**

<table>
<thead>
<tr>
<th>Name</th>
<th>NCMA Handbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bibliographic reference</td>
<td>Courtesy of the North Carolina Museum of Art</td>
</tr>
<tr>
<td>Comment</td>
<td>portion of handbook</td>
</tr>
<tr>
<td>Status</td>
<td>Ready. This file can now be used in a Ruleset for extracting metadata. You may also enrich the text by supplying more information about particular noun phrases using the tools below.</td>
</tr>
</tbody>
</table>

**Operations On the Text**

- [View Text](#) (note: opens in a new window)
- [Delete Text](#)

**Connections to TOIs Found in the Text**

No connections to TOIs have been identified in this text. (Run the TOI-Finder if there should be.)

**References to Controlled Vocabularies Found in the Text**

No terms from Controlled Vocabularies (CVs) have been found in this text. If there should be, go to the CV Details screen of the CV, and select the operation to "Find terms in texts."

[Back to Text Menu](#)
Paragraph #12
24 The Cyclades, small islands in the Aegean Sea between Greece and Turkey, had a flourishing Early Bronze Age culture, dating from about 3200 to 2000 B.C. Among the most memorable artifacts of that culture are the marble figurines that were placed in many graves. Most are female, like this one, holding her arms folded beneath the breasts, and reclining rather than standing, indicated by the extended position of the feet. The addition of painted details, such as the eyes, is attested in the ghost of an outline visible in certain light. The simple geometry of the forms struck a responsive chord in modern artists and accounts for the great appeal of the figurines in the twentieth century. Unfortunately, this popularity led to the plundering of many Cycladic cemeteries in search of the figurines. With the resulting destruction of information on their contexts and the lack of any written documentation from this prehistoric period, interpretation of the meaning and function of the figurines is uncertain. Scholars now group figurines according to elements of their style. Thus, the broad U-shaped head with its small, high-placed nose, and the distinctive profile with a thick torso and slender legs link our figure to an artist known as the Steiner Master, after the owners of the first figurine to be identified with this style. MES

Paragraph #13
The figural scenes on this vase come from a rich mythological context. On one side, the hero Herakles is shown standing in a chariot, its four horses steadied by a groom. He wears an elaborate cloak and a lion skin draped protectively around his head. The skin is a trophy from the first of Herakles twelve labors, the killing of the Nemean lion. His weapon in this exploit was the club, here carried on his shoulder. The goddess Athena gestures toward Herakles as she turns toward Hermes, the divine messenger and guide, who will lead the chariot to Olympus. There Herakles will claim immortality as the prize for the successful completion of his twelve labors. On the other side, two men turn to one of the two horsemen flanking them. The central warrior armed with helmet, white shield, greaves, and long spear is the king of Ethiopia, Memnon, who went to the aid of his uncle Priam of Troy in his war with the Greeks. He is accompanied by a squire. The name of the painter of this vase is unknown. The three lines that separate the bands of decoration under the figural scenes are characteristic of the otherwise anonymous painters of the Three Line Group, to whom this vase is attributed. These bands, the palmette and lotus chain on the neck, and the floral motifs by the handles form a rich decorative scheme that articulates the elements of the vase while focusing the viewer's eye on the drama of the figures.
Suzy's Sun (For Judy Tyler), 1957
Mixed media construction, 10 3/4 x 15 x 4 in. (27.3 x 38.1 x 10.2 cm.)
Purchased with funds from the State of North Carolina, 78.1.1

Joseph Cornell fabricated shadow boxes and filled them with objects collected both by chance and choice. In Suzy's Sun (for Judy Tyler), the sun (a cutout from an antipasto tin) and the sea (an implied presence) speak eloquently of life cycles and passing time. Equally potent symbols, driftwood and the infinitely spiraling seashell readily bring to mind the tides on which they ride, summoning a universal metaphor for the ebb and flow of life itself. In small details—a postage stamp showing a multi-masted schooner, the collaged word "hotel"—Cornell uses the romantic notion of travel to far-off lands as additional commentary on one’s passage through life.

Cornell dedicated this box to an actress, Judy Tyler had just achieved a certain celebrity when she was killed in an automobile accident. "Suzy" probably refers to the artist’s assistant, Suzanne Miller. The sun, designated as Suzy’s, presides over the box, as a life-sustaining force counteracting the finality of death.
Process Model

- Load text.
- Load TOI list.
- Analyze text.
- Select subject access terms.
- Review and export data.
Below is a list of all the TOIs associated with this project. You can learn more about a TOI, and perform operations on it, by clicking its "Details" button.

<table>
<thead>
<tr>
<th>Catalogue ID</th>
<th>TOI</th>
<th># Variations</th>
<th># Referent Texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>97.2</td>
<td>Edward Ruscha</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>93.3</td>
<td>Guillermo Kuitca</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>92.3</td>
<td>Elizabeth Murray</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>97.3</td>
<td>Donald Sultan</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>90.3</td>
<td>Joel Shapiro</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>91.19</td>
<td>Tom Phillips</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>96.2</td>
<td>Gerhard Richter</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>91.9</td>
<td>William T. Williams</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>84.2</td>
<td>Roger Brown</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>84.5</td>
<td>Gilbert and George</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>94.3/a-c</td>
<td>Anselm Kiefer</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>79-2-6</td>
<td>Robert Rauschenberg</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>97.4</td>
<td>Georg Baselitz</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>91.15</td>
<td>Alex Katz</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>95.3</td>
<td>Romare Bearden</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Process Model

- Load text.
- Load TOI list.
- **Analyze text.**
- Select subject access terms.
- Review and export data.
Possible controlled vocabularies

- **AAT**
  Getty Art & Architecture Thesaurus

- **TGN**
  Getty Thesaurus of Geographic Names

- **ULAN**
  Union List of Artist Names

- **LC NAF**
  Library of Congress Name Authority File

- **LCSH**
  Library of Congress Subject Headings

- **TGM I**
  Thesaurus for Graphic Materials: Subject Terms

- **TGM II**
  Thesaurus for Graphic Materials: Genre and Physical Characteristic Terms
Check the boxes of the AAT hierarchies you wish to include, then click "Make AAT CV":

- **Associated Concepts Facet**
  - Associated Concepts

- **Physical Attributes Facet**
  - Attributes and Properties
  - Conditions and Effects
  - Design Elements
  - Color

- **Styles and Periods Facet**
  - Styles and Periods

- **Agents Facet**
  - People
  - Organizations

- **Activities Facet**
  - Disciplines
  - Functions
  - Events
  - Physical Activities
  - Processes and Techniques

- **Materials Facet**
  - Materials

- **Objects Facet**
  - Object Groupings and Systems
  - Object Genres
  - Components
  - Settlements and Landscapes
  - Built Complexes and Districts
  - Single Built Works
  - Open Spaces and Site Elements
  - Furnishings
  - Costume
  - Tools and Equipment
  - Weapons and Ammunition
  - Measuring Devices
  - Containers
  - Sound Devices
  - Recreational Artifacts
  - Transportation Vehicles
  - Visual Works
  - Exchange Media
  - Information Forms

- **Make AAT CV**
and its use was a prerogative of the Oba. The creature was seen as terrifying and ferocious, but also as cunning and intelligent, a leader in the animal kingdom. Leopard hip ornaments were bestowed on the Oba’s military chiefs as badges of honor. The symbol provided protection to the wearer, while announcing the Oba’s omnipresence. It also gave the wearer the authority to act in the king’s name.

Paragraph #13, Associated TOI(s): Georgia O’Keeffe. Cebolla Church

Georgia O’Keeffe (American, 1887) Cebolla Church, 1945 Oil on canvas, 20 116 x 36 14 in. (51.1 x 92.0 cm) Purchased with funds from the North Carolina Art Society (Robert F. Phifer Bequest), in honor of Joseph C. Sloane, 72.18

Paragraph #14, Associated TOI(s): Georgia O’Keeffe. Cebolla Church

Driving through the New Mexican highlands near her home, Georgia O’Keeffe would often pass through the village of Cebolla with its rude adobe Church of Santo Niño. The artist was moved by the poverty of the little building: its ragged, sun-bleached walls and rusted tin roof seemed so typical of the difficult life of the people.

Paragraph #15, Associated TOI(s): Georgia O’Keeffe. Cebolla Church

When O’Keeffe came to paint the church she addressed it directly, emphasizing its isolation and stark simplicity. Literally formed out of the earth, the building affirms the permanence and the hard, defiant patience of the people. For O’Keeffe, it symbolized human endurance and aspiration. “I have always thought it one of my very good pictures”, she wrote, “though its message is not as pleasant as many others”. 

its rude adobe Church

NP # 293
Proper Noun? No
Head adobe
Vocabulary term adobe
Vocabulary term church
Vocabulary term

Sources and Contributions:

adobe... [IP: Preferred]
Paragraph #335: Associated TOI(s): Franz Kline

The story goes that Franz Kline first awakened to the expressive potential of abstract art when he projected several small ink drawings upon the wall. Greatly enlarged, the images acquired grandeur and aggressive authority while still retaining the spontaneity and verve of the sketches. For the artist, they pointed the way to making big, ambitious paintings that capitalized on his strength as a draftsman. He rapidly developed a muscular, almost swaggering style of painting that has become one of the great achievements of Abstract Expressionism. Though known primarily for starkly black-and-white paintings, Kline never shied from color. Orange Outline began with color: warm earth tones, which the artist then overlaid with white and black. Kline sought to fix in paint a moment's living and breathing. He insisted that his most successful paintings were visual translations of a specific emotional state. Describing his images as "painting experiences," he explained that "I don't decide in advance that I'm going to paint a definite experience, but in the act of painting, it becomes a genuine experience for me." Kline's brash and exuberant art wells from a distinctively urban, specifically New York sensibility. (He once professed a preference for the roar of city traffic to the peace and quiet of Thoreau's Walden Pond.) Each of his works is a clamorous construction site, built stroke by stroke, revised and reworked. In Orange Outline, the seemingly haphazard swaths of tar-black paint suggest a truss spanning and shoring the composition. The painting contains but barely the energies of its making. Orange Outline also gains a gritty honesty by the deliberate, blatant roughness of its execution and the poverty of materials: cheap, commercial house paint slathered on a flimsy sheet of paperboard. JWC 227

Paragraph #336: Associated TOI(s): Joseph Cornell

Joseph Cornell, an autodidact with an associative mind, is identified with the enthralling shadow boxes he fabricated and filled with disparate objects — collected both by chance and by choice. Time and memory, themes central to Cornell, are pointedly addressed in Susy's Sun (for Judy Tyler). The sun (a cutout from an antipasto tin) and the sea (an implied presence) speak with eloquent authority of life cycles and passing time. Equally potent symbols, driftwood and the infinitely spiraling seashell readily bring to mind the tides on which they ride, summoning a universal metaphor for the ebb and flow of life itself. The assembled elements oddly poetically? lead to a sense of irrevocable loss: Cornell equates the human condition with a state of permanent longing. Perhaps that outlook explains his attraction to the theater, a world where dreams become real, if only temporarily. Cornell dedicated
## Controlled vocabulary matches

<table>
<thead>
<tr>
<th>CLiMB terms</th>
<th>Controlled vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Mexican highlands</strong></td>
<td>uplands (LCSH)</td>
</tr>
<tr>
<td></td>
<td><em>used for highlands</em></td>
</tr>
<tr>
<td></td>
<td>New Mexico (LCSH / TGN)</td>
</tr>
<tr>
<td><strong>village of Cebolla</strong></td>
<td>villages (AAT / LCSH / TGM I)</td>
</tr>
<tr>
<td></td>
<td>Cebolla (TGN)</td>
</tr>
<tr>
<td><strong>adobe Church of Santo Niño</strong></td>
<td>adobe (AAT)</td>
</tr>
<tr>
<td></td>
<td>churches (AAT)</td>
</tr>
<tr>
<td></td>
<td>adobe churches (LCSH)</td>
</tr>
<tr>
<td></td>
<td>Santo Niño (TGN)</td>
</tr>
<tr>
<td><strong>sagging, sun-bleached walls</strong></td>
<td>walls (AAT / LCSH / TGM I)</td>
</tr>
<tr>
<td><strong>rusted tin roof</strong></td>
<td>roofs (AAT / LCSH / TGM I)</td>
</tr>
<tr>
<td></td>
<td>rust (AAT)</td>
</tr>
<tr>
<td></td>
<td>tin (AAT)</td>
</tr>
<tr>
<td><strong>isolation</strong></td>
<td>solitude (TGM I)</td>
</tr>
<tr>
<td></td>
<td><em>used for isolation</em></td>
</tr>
<tr>
<td><strong>human endurance</strong></td>
<td>[no matches]</td>
</tr>
<tr>
<td><strong>window</strong></td>
<td>windows (AAT / LCSH / TGM I)</td>
</tr>
</tbody>
</table>
Process Model

- Load text.
- Load TOI list.
- Analyze text.
- Select subject access terms.
- Review and export data.
The consequence of a rule is an action to take if a noun phrase satisfies the rule’s condition.

Consequences give rules their discriminatory power to allow the Toolkit to choose good terms for extraction over bad ones. That is, they either raise or lower the noun phrase’s score.

There are eight possible consequences:

1. **Guarantee**. If a noun phrase satisfies the condition of a rule whose consequence is Guarantee, the noun phrase will always be selected as descriptive metadata, even if it does as poorly as possible on the other rules in the Ruleset. (The only exception is if you ask to extract fewer noun phrases than become Guaranteed) All noun phrases that satisfy a Guarantee rule will be selected before any noun phrases that do not satisfy a Guarantee rule, no matter how well they satisfy the other rules. If you choose to limit the number of noun phrases you extract to a certain quota (see the Run Ruleset screen for details), then it is possible that you will only extract noun phrases that satisfy a Guarantee rule. For that reason, take care when using Guarantee, for you may accidentally preclude other, high-quality words.

If a noun phrase is not within a section about any TOI, then it should be much less likely to be extracted as descriptive metadata. If a noun phrase is inclusive of numbers, then it should be forbidden to be extracted as descriptive metadata.
Process Model

- Load text.
- Load TOI list.
- Analyze text.
- Select subject access terms.
- **Review and export data.**
MARC format with CLiMB subject terms

100  O’Keeffe, Georgia, ≠d 1887 -1986.
245  Cebolla church ≠ h [slide] / ≠ c Georgia O’Keeffe.
260  ≠c2003
300  1 slide : ≠ b col.
500  Object date: 1945.
500  Oil on canvas.
500  20 x 36 in.
535  North Carolina Museum of Art ≠ b Raleigh, N.C.
650  Painting, American ≠ y 20th century.
650  Women artist ≠ z United States
650  Church buildings in art.

CLiMB  New Mexican highlands
CLiMB  village of Cebolla
CLiMB  adobe Church of Santo Niño
CLiMB  sagging, sun-bleached walls
CLiMB  rusted tin roof
CLiMB  isolation
CLiMB  human endurance
CLiMB  window
CLiMB Metadata Can Be Employed in Standard Catalog Formats

**USMARC:** MARC 21 Concise Format for Bibliographic Data
(http://lcweb.loc.gov/marc/bibliographic/ecbdhome.html)

- Fields for CLiMB metadata:
  - 650 - SUBJECT ADDED ENTRY--TOPICAL TERM (R)
  - 653 - INDEX TERM--UNCONTROLLED (R)

**VRA Core Categories, Version 3.0:** A project of the Visual Resources Association Data Standards Committee
(http://www.vraweb.org/vracore3.htm)

- Field for CLiMB metadata: SUBJECT

**Dublin Core Metadata Element Set, Version 1.1:** Reference Description
(http://dublincore.org/documents/dces/)

- Field for CLiMB metadata: SUBJECT AND KEYWORDS
New Directions

- Processing unstructured text.
- Improving distinguishing between texts that are “about” the TOI and those that just mention it.
- Characterizing most useful text for metadata extraction.
- Others?
Joseph Cornell (American, 1903-1972)

Suzy’s Sun (For Judy Tyler), 1957

Mixed media construction, 10 3/4 x 15 x 4 in. (27.3 x 38.1 x 10.2 cm.)
Purchased with funds from the State of North Carolina, 78.1.1

North Carolina Museum of Art

Suzy's Sun (For Judy Tyler), 1957
Mixed media construction, 10 3/4 x 15 x 4 in. (27.3 x 38.1 x 10.2 cm.)
Purchased with funds from the State of North Carolina, 78.1.1

Joseph Cornell fabricated shadow boxes and filled them with objects collected both by chance and choice. In Suzy's Sun (for Judy Tyler), the sun (a cutout from an antipasto tin) and the sea (an implied presence) speak eloquently of life cycles and passing time. Equally potent symbols, driftwood and the infinitely spiraling seashell readily bring to mind the tides on which they ride, summoning a universal metaphor for the ebb and flow of life itself. In small details—a postage stamp showing a multi-masted schooner, the collaged word "hotel"—Cornell uses the romantic notion of travel to far-off lands as additional commentary on one’s passage through life.

Cornell dedicated this box to an actress, Judy Tyler had just achieved a certain celebrity when she was killed in an automobile accident. "Suzy" probably refers to the artist's assistant, Suzanne Miller. The sun, designated as Suzy's, presides over the box, as a life-sustaining force counteracting the finality of death.
Record Type=work
Type=shadow box
Title=Suzy's Sun (For Judy Tyler)
Measurements.Dimensions=10 3/4 x 15 x 4 in. (27.3 x 38.1 x 10.2 cm.)
Material.Medium=mixed media
Creator.Personal name=Cornell, Joseph
Creator.Role=artist
Date.Creation=1957
Location.Current Repository=Raleigh (NC, USA), North Carolina Museum of Art
ID Number.Current Accession=78.1.1
Subject=assemblages (sculpture)
Title=Suzy's Sun (For Judy Tyler)
Creator.Personal name=Cornell, Joseph
Subject=assemblages (sculpture)

CLiMB=shadow boxes
CLiMB=sun
CLiMB=cutout
CLiMB=antipasto tin
CLiMB=sea
CLiMB=life cycles
CLiMB=passing time
CLiMB=driftwood
CLiMB=spiraling seashell

CLiMB=tides
CLiMB=metaphor
CLiMB=ebb and flow of life
CLiMB=postage stamp
CLiMB=multi-masted schooner
CLiMB=collaged word hotel
CLiMB=travel
CLiMB=actress
CLiMB=Judy Tyler
CLiMB=Suzanne Miller