



# Metadata for the National Digital Archives Program (NDAP) of Taiwan

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National Digital Archives Program  
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*The Meeting at the Getty Center*



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# Outline

- Background Introduction
  - MAAT
  - collection projects of NDAP
- Metadata for Museum Community
  - The applications of CDWA in NDAP
- Future Work



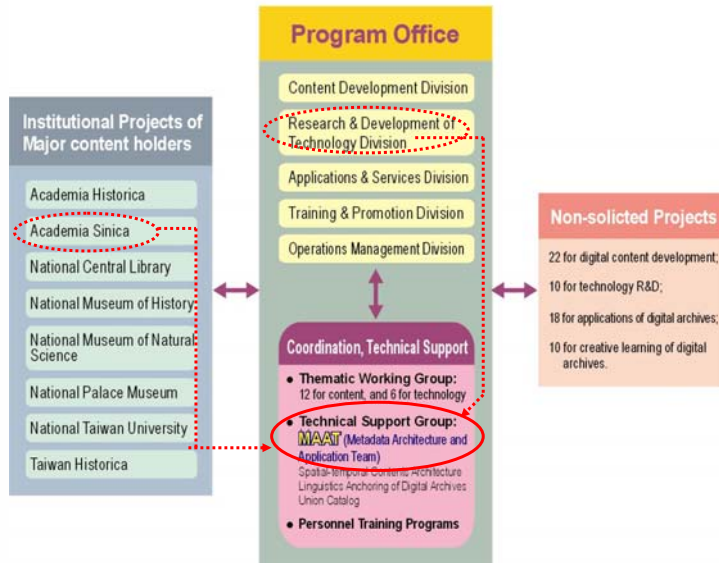
## Introduction

### Metadata Task Force in NDAP

- **1995** Starting metadata research
- **1998** SMART (Sinica Metadata Architecture and Research Team) to support Digital Library and Museum Projects
- **2002** MAAT (Metadata Architecture and Application Team) for promoting metadata research and provisions in NDAP



## MAAT and the NDAP : Organization Chart



## Introduction Objectives of MAAT

- **Service**
  - Collection Projects (70+)
  - Strategic planning and application of metadata standards
  - Metadata application profiles/best practices
  - Metadata consultant services
- **Research**
  - Metadata methodology
    - Metadata Lifecycle Model
    - Domain Analysis
    - Metadata registry
  - Knowledge organization
    - Domain ontology
    - Thesaurus
    - Authority Reference Files



## Layers of Knowledge Management for Metadata in the NDAP

### Data Type Layer

Rubbings, Files, Rare Books, **Full Text**, Specimens, Corpus, **Maps**, Photos, Painting and Calligraphy, **Audio-Visual**, Score, Dress, Reports, Investigation, etc.

### Discipline Layer

**Arts History**, Politics, Humanities, **Archeology**, **Ethnology**, Diplomacy, Zoology, Botany, Genomics, Linguistics, Geology, Geography, etc.

### Functionality Layer

**Resource Discovery**, Description, Exhibition, **Preservation**, Rights Management for e-Commerce, **e-Learning**, etc.

### Community Layer

Museum, Archives, Library, Herbarium, etc.



## Standards Used

- CDWA
- VRA Core
- EAD
- TEI Lite
- Species 2000
- HISPID
- Darwin Core
- CSDGM (FGDC)
- ADL Gazetteer
- OLAC
- ECHO – an FRBR-based
- MARC21-based
- LOM
- **DC - All projects**



Projects	Attributes			
	Data Types	Subjects	Communities	Metadata Standards
<a href="#">The Digital Archives of Rubbings and Archaic Texts</a>	Rubbings	History	Museum	CDWA
<a href="#">Digital archives for the Grand Secretariat Archives</a>	Archives	Politics/History	Archives	EAD
<a href="#">Digital Archives of Chinese Archaeological Data</a>	Artifacts	Archaeology	Museum	CDWA, MIDAS
<a href="#">Digital Archive for Rare Books of Fu Ssu-Nien Library</a>	Rare Books	History	Archives	TEI
<a href="#">Digital Library Project for Official Economic Archives and Diplomatic Archives</a>	Archives	Diplomacy	Archives	EAD
<a href="#">Zoological Research of Taiwan: Fish and Mollusks</a>	Specimen	Herbarium	Herbarium	SPECIES 2000 Standard Data
<a href="#">Digital Library of Taiwan Herbarium</a>	Specimen	Herbarium	Herbarium	HISPID
<a href="#">Linguistics Anchoring and Language Archive of Digital Archives</a>	Corpus	Language	N/A	OLAC
<a href="#">GIS Archive for Modern Chinese Historic Atlas and Aerial Photos</a>	Map, Photography	GIS	N/A	FGDC
<a href="#">Taiwan Aborigine: Ping-pu</a>	Video, Costume	Race/Aborigine	Museum	DC
<a href="#">Digital Archives for Ethnological Specimen, Photo and Archives</a>	Report	Race/Aborigine	Museum	CDWA



<a href="#">Digital Archives for Ethnological Specimen, Photo and Archives</a>	Report	Race/Aborigine	Museum	CDWA
<a href="#">Knowledge Base of Taiwan's Earthquake</a>	Report, Photo	Earthquake	N/A	DC
<a href="#">Digital Archives Project of the Office of Governor-General in Taiwan</a>	Archives	Politics/History	Archives	EAD
<a href="#">Digital Archives Project of Chinese Antiquities at the National Palace Museum</a>	Artifacts	Arts	Museum	CDWA
<a href="#">Digital Archives Project of Chinese Painting and Calligraphy at the National Palace Museum</a>	Painting and Calligraphy	Arts	Museum	CDWA
<a href="#">Digital Library Project of National Museum of History</a>	Artifacts/Painting	Arts	Museum	CDWA
<a href="#">Digital Video Library Project</a>	Video Tape	Multimedia	Museum	IFLA FRBR /ECHO
<a href="#">Taiwan Momery: Digital Photo Museum</a>	Photography	Multimedia	Museum	DC/CDWA
<a href="#">National Digital Archives Program (2002-2006): Academia Historica (Taiwan, ROC)</a>	Archives/Photo	Politics/History	Archives	EAD



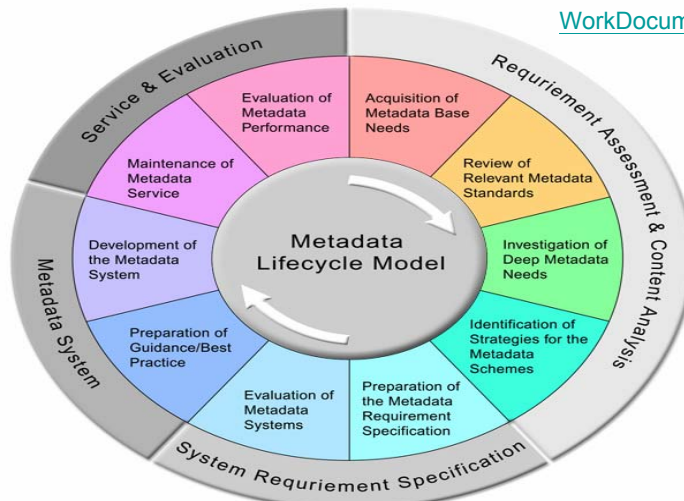
# The Metadata Approaches

- User-centered approaches
- The Metadata Lifecycle Model
- Domain analysis methodology
- Generic & Domain-specific Parallel Strategy
- Application profiles
- Domain-specific Common Core
- Translation of Metadata Standards



# The Metadata Lifecycle Model

[WorkDocuments.doc](#)

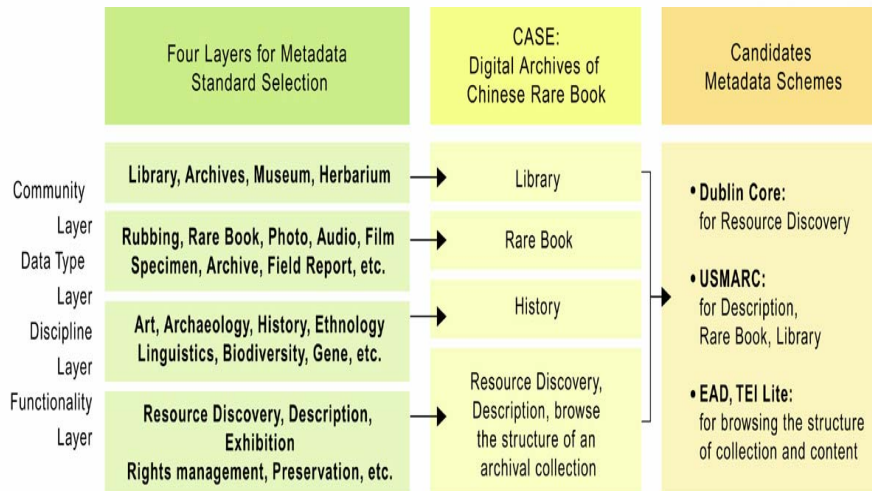


Chen, Y.-N., Chen, S.-J., & S.C. Lin. (2003). A metadata lifecycle model for digital libraries: Methodology and application. Paper presented at *The World Library and Information Congress: 69th IFLA General Conference and Council*, 1-9 Aug. 2003





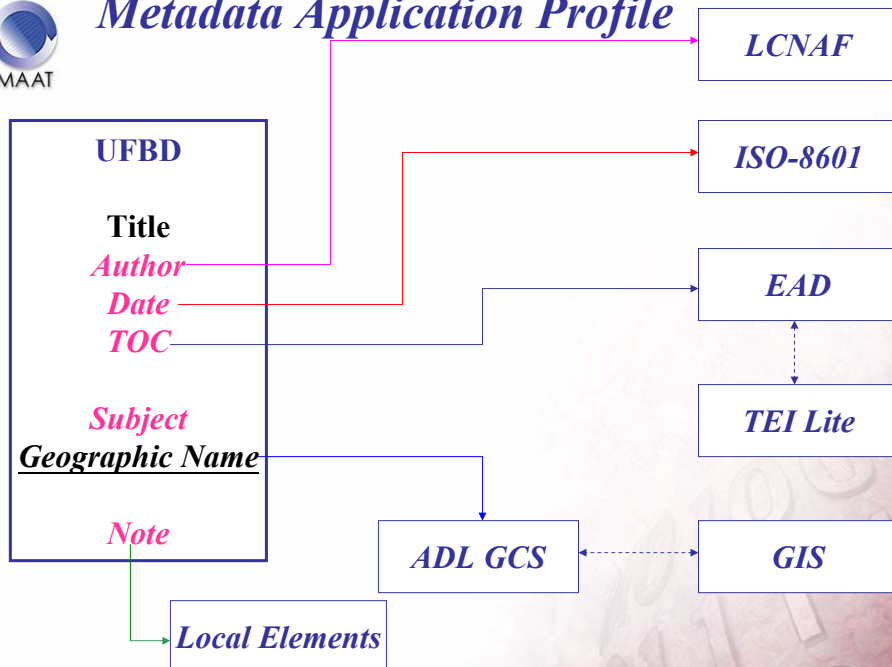
# The Four Layers and Exemplar for Selection of Metadata Standards



Chen, Y.-N., Chen, S.-J., & S.C. Lin. (2003). A metadata lifecycle model for digital libraries: Methodology and application. Paper presented at *The World Library and Information Congress: 69th IFLA General Conference and Council*, 1-9 Aug. 2003.

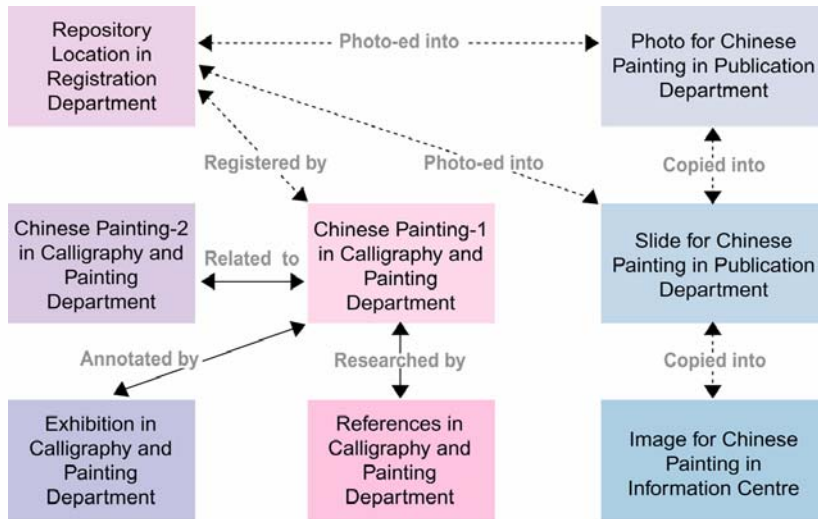


## Metadata Application Profile





# A re-examination of workflow for the digital library



Chen, Y.N. & Chen, S.J. (2004). A metadata practice of the IFLA FRBR model: A case study for the National Palace Museum in *Journal of Documentation*, 60(2), 128-143.



# A FRBR-based Metadata format (CDWA) for the case of NPM

IFLA FRBR model

135

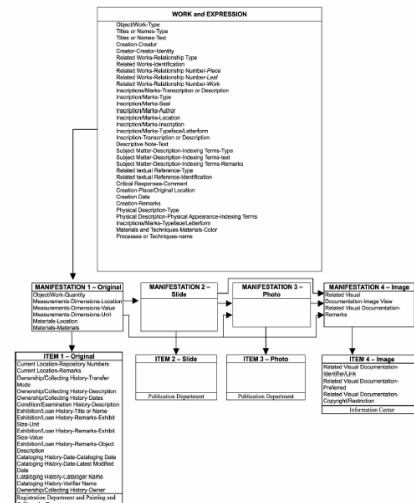


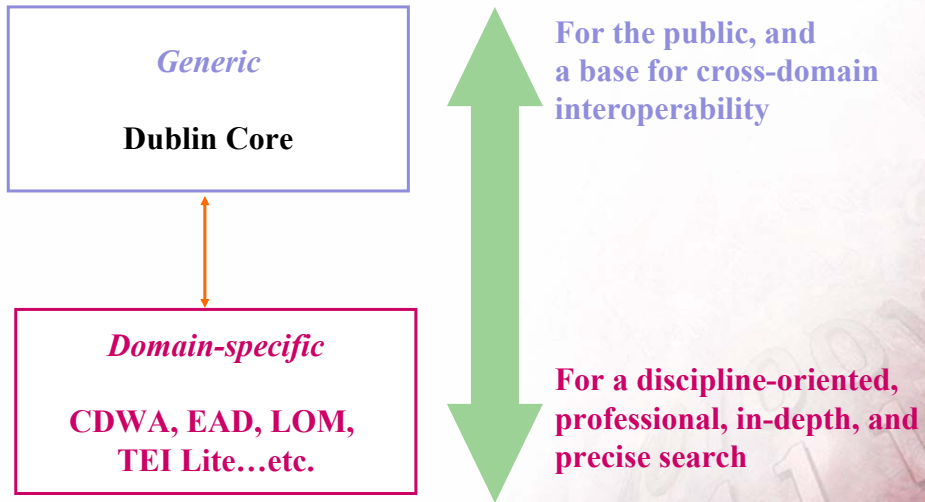
Figure 1. A FRBR-based metadata format (CDWA) for the NPM

Chen, Y.N. & Chen, S.J. (2004). A metadata practice of the IFLA FRBR model: A case study for the National Palace Museum in *Journal of Documentation*, 60(2), 128-143.





## Parallel Strategy



Chen, Y.-N., Chen, S.-J., Sum, H.-C., & S.C. Lin. (2003). Functional requirements of metadata system: From user needs perspective. Paper presented at 2003 Dublin Core: Supporting Communities of Discourse and Practice: Metadata Research and Application, 28 Sep. – 2 Oct. 2003.



## Metadata for Museum-wide Community in the NDAP

- Projects List
- Types of Standards
  - Data structure standards
  - Data content standards
  - Vocabulary or authority standards



# Projects List

Types	Institutions	Project Titles in English	Project Titles in Chinese
Artifacts	National Palace Museum	Digital Archives Project of Chinese Antiquities at the National Palace Museum	故宮器物數位典藏計畫
	National Museum of History	National Historical and Cultural Artifacts Digital Collection Project—Bronze	國家歷史文物數位典藏計畫—青銅器
		National Historical and Cultural Artifacts Digital Collection Project—Lacquer ware	國家歷史文物數位典藏計畫—漆器
		National Historical and Cultural Artifacts Digital Collection Project—Bamboo & Wood	國家歷史文物數位典藏計畫—竹木
		National Historical and Cultural Artifacts Digital Collection Project—Jade & Stone	國家歷史文物數位典藏計畫—玉石
		National Historical and Cultural Artifacts Digital Collection Project—Seal	國家歷史文物數位典藏計畫—印章
	National Pingtung University of Science and Technology	Cyber Display and Information Searching System for Taiwanese Antique Agricultural Implements	臺灣傳統農耕機具資訊檢索及網路展示設計
Painting & Calligraphy	National Palace Museum	Digital Archives Project of Chinese Painting and Calligraphy at the National Palace Museum	故宮書畫數位典藏計畫
	National Museum of History	National Historical and Cultural Artifacts Digital Collection Project—Prints	國家歷史文物數位典藏計畫—版畫
		National Historical and Cultural Artifacts Digital Collection Project—Calligraphy	國家歷史文物數位典藏計畫—法書

Types	Institutions	Project Titles in English	Project Titles in Chinese
		National Historical and Cultural Artifacts Digital Collection Project—Western Painting	國家歷史文物數位典藏計畫—西畫
	Department of Information Communications, Chinese Culture University & Hwa-Kang Museum	The Development of Digital Archives for Modern Treasure of Art Works	近現代珍貴數位典藏系統之研製
Chinese Rubbings & Archaic Texts	Academia Sinica	Digital Archives of Historical and Cultural Relics collected in the Institute of History and Philology—Rubbings and Archaic Texts—Bronze Rubbings-Image Rubbings	珍藏文物數位化典藏計畫—拓片與古文書數位典藏計畫—青銅器拓片-全形拓
		Digital Archives of Historical and Cultural Relics collected in the Institute of History and Philology—Rubbings and Archaic Texts—Bronze Rubbings-Inscription Rubbings	珍藏文物數位化典藏計畫—拓片與古文書數位典藏計畫—青銅器拓片-銘文拓片
		Digital Archives of Historical and Cultural Relics collected in the Institute of History and Philology—Rubbings and Archaic Texts—Buddhism Rubbings	珍藏文物數位化典藏計畫—拓片與古文書數位典藏計畫—佛教石刻造像拓本
		Digital Archives of Historical and Cultural Relics collected in the Institute of History and Philology—Rubbings and Archaic Texts—Han Dynasty Wooden Slips	珍藏文物數位化典藏計畫—拓片與古文書數位典藏計畫—漢代簡牘
		Digital Archives of Historical and Cultural Relics collected in the Institute of History and Philology—Rubbings and Archaic Texts—Management System of Rubbings	珍藏文物數位化典藏計畫—拓片與古文書數位典藏計畫—拓片後設資料整合計畫子計畫



Types	Institutions	Project Titles in English	Project Titles in Chinese
Archaeology	Academia Sinica	Digital Archives of Historical and Cultural Relics collected in the Institute of History and Philology— Digital Archives of Archaeological Data	珍藏文物數位化典藏計畫— 考古發掘遺物、照片、記錄與檔案數位典藏計畫
	National Museum of Prehistory	The Creative and Value-Adding Digital Project for the Education and Promotion of Taiwan's Prehistoric Culture(I): The Pei-nan Site and the Pei-nan Culture	臺灣史前文化教育推廣數位創意加值計畫(I): 卑南遺址與卑南文化
Architecture	National Taiwan University of Science and Technology	Digital Preservation of Large-scale Historical Buildings and Components	大型歷史建築物數位保存

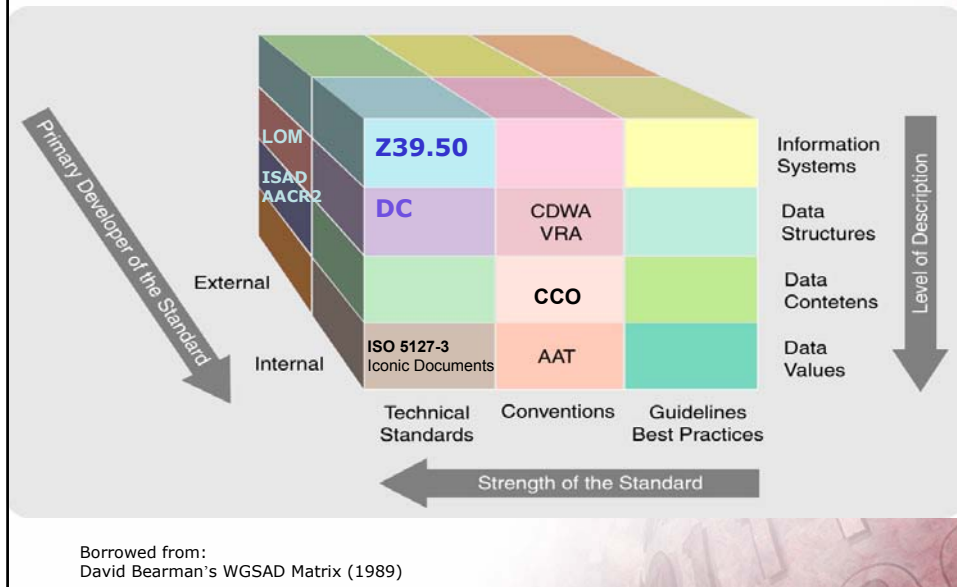


## The List of CDWA Application Profiles

Institutions \ Types	Academia Sinica	National Palace Museum	National Museum of History	Others	Total
Artifacts		1.Chinese Antiquities	1.Bronze 2.Lacquer ware 3.Bamboo & Wood 4.Jade & Stone 5.sigil		6
Painting & calligraphy		1.Chinese Painting and Calligraphy	1. Prints 2.Calligraphy		3
Chinese Rubbings & Archaic Texts	1.Buddhism rubbings 2.Bronze image rubbings 3.Bronze inscription rubbings 4.Management system of Rubbings 5.Han Dynasty Wooden Slips				5
Archaeology	1..Archaeological data			1.Peinan Site and Culture	2
Architecture				1.Large-scale historical Buildings	1
<b>Total</b>	<b>6</b>	<b>2</b>	<b>7</b>	<b>2</b>	<b>17</b>



# Types of Standards



## Factual Data of CDWA Applications

- More than 17 projects based on CDWA (*Categories for the Description of Works of Art*) as their metadata provisions within the NDAP
- Some figures of the applications:
  - **Main Categories** (CDWA-based)  
NDAP: CDWA= 26:27= **96%**
  - **Sub Categories**  
NDAP:CDWA= 151:233= **64%**
  - **5 categories** are fully adopted (main & subcategories)
    - 「7.Measurements」
    - 「11.Inscriptions/Marks」
    - 「15.Ownership/Collecting History」
    - 「23.Related Textual References」
    - 「25.Cataloging History」



# The List of Adopted Categories<sup>1</sup>

✓ Union

★ Intersection

▣ CDWA CORE

CDWA Elements	NDAP Common Core
<b>1. Object/Work</b> ▣	
Object/Work- Catalog level	✓
Object/Work- Quantity	✓
<b>Object/Work- Type</b> ▣	✓
Object/Work- Components	✓
Object/Work- Components-Quantity	✓
Object/Work- Components-Type ▣	
Object/Work- Remarks	✓
Object/Work- Citation	
<b>2. Classification</b> ▣	
<b>Classification- Term</b> ▣	✓
Classification- Remarks	
Classification- Citations	

CDWA Elements	NDAP Common Core
<b>3. Orientation/Arrangement</b>	
Orientation/Arrangement-Description	✓
Orientation/Arrangement-Remarks	
Orientation/Arrangement-Citations	
<b>4. Titles or Names</b> ▣	
<b>Titles or Names- Text</b> ▣	✓ ★
Titles or Names- Type	✓
Titles or Names- Date	✓
Titles or Names- Remarks	✓
Titles or Names- Citations	
<b>5. State</b>	
State- Identification	

CDWA Elements	NDAP Common Core
State- Remarks	
State- Citations	
<b>6. Edition</b>	
Edition –Number of Name	✓
Edition- Impression Number	✓
Edition- Size	
Edition- Remarks	
Edition- Citations	
<b>7. Measurements</b> ▣	
<b>Measurements- Dimensions</b> ▣	✓
<b>Measurements- Dimensions-Extent</b>	✓



# The List of Adopted Categories<sup>2</sup>

✓ Union

★ Intersection

▣ CDWA CORE

CDWA Elements	NDAP Common Core
Measurements- Dimensions-Type	✓
Measurements- Dimensions-Value	✓
Measurements- Dimensions-Unit	✓
Measurements- Dimensions-Qualifier	✓
Measurements- Dimensions-Date	✓
Measurements- Shape	✓
Measurements- Size	✓
Measurements- Scale	✓
Measurements- Format	✓
Measurements- Remarks	✓
Measurements- Citations	✓
<b>8. Materials and Techniques</b> ▣	
<b>Materials and Techniques-Description</b> ▣	✓
Materials and Techniques-Extent	✓

CDWA Elements	NDAP Common Core
Materials and Techniques-Extent	✓
Materials and Techniques-Processes or Techniques	✓
Materials and Techniques-Processes or Techniques- Name	✓
Materials and Techniques-Processes or Techniques-Implement	
Materials and Techniques-Materials	✓
Materials and Techniques-Materials-Role	✓
Materials and Techniques-Materials-Name	✓
Materials and Techniques-Materials-Color	✓
Materials and Techniques-Materials-Source	
Materials and Techniques-Materials-Marks	

CDWA Elements	NDAP Common Core
Materials and Techniques-Materials-Marks-Date	
Materials and Techniques-Actions	
Materials and Techniques-Remarks	✓
Materials and Techniques-Citations	
<b>9. Facture</b>	
Facture-Description	✓
Facture-Remarks	
Facture-Citations	
<b>10. Physical Description</b>	
Physical Description-Physical Appearance	✓



# The List of Adopted Categories<sup>3</sup>

✓ Union

★ Intersection

▣ CDWA CORE

CDWA Elements	NDAP Common Core
Physical Description-Physical Appearance-Indexing terms	✓
Physical Description-Remarks	✓
Physical Description-Citations	
11. Inscriptions/Marks	
Inscriptions/Marks-Transcription or Description	✓
Inscriptions/Marks-Type	✓
Inscriptions/Marks-Author	✓
Inscriptions/Marks-Location	✓
Inscriptions/Marks-Typeface/Letterform	✓
Inscriptions/Marks-Date	✓
Inscriptions/Marks-Remarks	✓
Inscriptions/Marks-Citations	✓

CDWA Elements	NDAP Common Core
12. Condition/Examination History	
Condition/Examination History-Description	✓
Condition/Examination History-Type	✓
Condition/Examination History-Agent	✓
Condition/Examination History-Date	✓
Condition/Examination History-Place	
Condition/Examination History-Remarks	✓
Condition/Examination History-Citations	✓
13. Conservation/Treatment History	
Conservation/Treatment History-Description	✓
Conservation/Treatment History-Type	✓

CDWA Elements	NDAP Common Core
Conservation/Treatment History-Agent	✓
Conservation/Treatment History-Date	✓
Conservation/Treatment History-Place	
Conservation/Treatment History-Remarks	✓
Conservation/Treatment History-Citations	✓
14. Creation ▣	
Creation-Creator ▣	✓
Creation-Creator-Extent	
Creation-Creator-Qualifier	
Creation-Creator-Identity ▣	✓
Creation-Creator-Role ▣	



# The List of Adopted Categories<sup>4</sup>

✓ Union

★ Intersection

▣ CDWA CORE

CDWA Elements	NDAP Common Core
Creation-Creator-Statement	
Creation-Date ▣	✓
Creation-Date-Earliest Date	✓
Creation-Date-Latest Date	✓
Creation-Place/Original Location	✓
Creation-Commission	
Creation-Commission-Commissioner	
Creation-Commission-Commissioner-Type	
Creation-Commission-Commission-Date	
Creation-Commission-Commission-Place	
Creation-Commission-Commission-Cost	

CDWA Elements	NDAP Common Core
Creation-Numbers	
Creation-Remarks	✓
Creation-Citations	
15. Ownership/Collecting History	
Ownership/Collecting History-Description	✓
Ownership/Collecting History-Transfer Mode	✓
Ownership/Collecting History-Cost of Value	✓
Ownership/Collecting History-Legal Status	✓
Ownership/Collecting History-Owner	✓
Ownership/Collecting History-Owner-Role	✓
Ownership/Collecting History-Place	✓

CDWA Elements	NDAP Common Core
Ownership/Collecting History-Dates	✓
Ownership/Collecting History-Owner's Numbers	✓
Ownership/Collecting History-Credit Line	✓
Ownership/Collecting History-Remarks	✓
Ownership/Collecting History-Citations	✓
16. Copyright/Restrictions	
Copyright/Restrictions-Holder Name	✓
Copyright/Restrictions-Place	
Copyright/Restrictions-Date	
Copyright/Restrictions-Statement	✓
Copyright/Restrictions-Remarks	





# The List of Adopted Categories<sup>5</sup>

✓ Union

★ Intersection

▣ CDWA CORE

CDWA Elements	NDAP Common Core
Copyright/Restrictions-Citations	
17.Styles/Periods/Groups/Movements	
Styles/Periods/Groups/Movements-Descriptions	✓
Styles/Periods/Groups/Movements-Indexing terms	✓
Styles/Periods/Groups/Movements-Remarks	✓
Styles/Periods/Groups/Movements-Citations	
18. Subject Matter ▣	
Subject Matter- Description	✓
Subject Matter- Description-Indexing terms ▣	✓
Subject Matter- Identification	
Subject Matter- Identification-Indexing terms ▣	✓

CDWA Elements	NDAP Common Core
Subject Matter- Interpretation	
Subject Matter- Interpretation-Indexing terms ▣	
Subject Matter- Interpretive History	
Subject Matter- Remarks	✓
Subject Matter- Citations	
19. Context	
Context- Historical/Cultural	✓
Context- Historical/Cultural- Event Type	
Context- Historical/Cultural- Event Name	
Context- Historical/Cultural- Date	

CDWA Elements	NDAP Common Core
Context- Historical/Cultural- Place	
Context- Historical/Cultural- Agent	
Context- Historical/Cultural- Agent- Identity	
Context-Historical/Cultural-Agent-Role	
Context-Historical/Cultural-Cost or Value	
Context-Architectural	
Context-Architectural-Building/Site	
Context-Architectural-Building/Site-Name	
Context-Architectural-Building/Site-Part	



# The List of Adopted Categories<sup>6</sup>

✓ Union

★ Intersection

▣ CDWA CORE

CDWA Elements	NDAP Common Core
Context-Architectural-Building/Site-Type	
Context-Architectural-Building/Site-Place	
Context-Architectural-Placement	
Context-Architectural-Date	
Context-Archaeological	✓
Context-Archaeological-Excavation Place	✓
Context-Archaeological-Excavation Place-Site	✓
Context-Archaeological-Excavation Place-Site Part	✓
Context-Archaeological-Excavation Place-Site Part Date	✓
Context-Archaeological-Excavator	✓
Context-Archaeological-Excavation Date	✓

CDWA Elements	NDAP Common Core
Context-Remarks	✓
Context-Citations	
20. Exhibition/Loan History	
Exhibition/Loan History-Title or Name	✓
Exhibition/Loan History-Curator	✓
Exhibition/Loan History-Organizer	✓
Exhibition/Loan History-Sponsor	✓
Exhibition/Loan History-Venue	
Exhibition/Loan History-Venue-Name	✓
Exhibition/Loan History-Venue-Place	✓
Exhibition/Loan History-Venue-Type	

CDWA Elements	NDAP Common Core
Exhibition/Loan History- Venue-Dates	✓
Exhibition/Loan History- Object Number	
21. Exhibition/Loan History-Remarks	✓
Exhibition/Loan History-Citations	
21.Related Works	
Related Works- Relationship Type	✓
Related Works-Relationship Number	✓
Related Works- Identification	✓
Related Works- Identification-Creator	
Related Works- Identification-Creator- Qualifier	
Related Works- Identification-Creator- Identity	



# The List of Adopted Categories<sup>7</sup>

✓ Union

★ Intersection

▣ CDWA CORE

CDWA Elements	NDAP Common Core
Related Works- Identification- Creator- Role	
Related Works- Identification- Titles or Names	✓
Related Works- Identification- Creation Date	✓
Related Works- Identification- Creation Date- Earliest Date	✓
Related Works- Identification- Creation Date- Latest Date	✓
Related Works- Identification- Repository Name	✓
Related Works- Identification- Geographic Location	✓
Related Works- Identification- Repository Numbers	✓
Related Works- Identification- Object/Work Type	✓

CDWA Elements	NDAP Common Core
Related Works- Remarks	✓
Related Works- Citations	
22. Related Visual Documentation	
Related Visual Documentation- Relationship Type	✓
Related Visual Documentation- image Type	✓
Related Visual Documentation- Measurements	✓
Related Visual Documentation- Measurements- Value	
Related Visual Documentation- Measurements- Unit	
Related Visual Documentation- Image Format	✓
Related Visual Documentation- Image Date	✓

CDWA Elements	NDAP Common Core
Related Visual Documentation- Image Color	
Related Visual Documentation- Image View	✓
Related Visual Documentation- Image View- Indexing terms	✓
Related Visual Documentation- Image Ownership	✓
Related Visual Documentation- Image Ownership- Owner's Name	✓
Related Visual Documentation- Image Ownership- Owner's Number	✓
Related Visual Documentation- Image Source	✓
Related Visual Documentation- Image Source- Name	
Related Visual Documentation- Image Source- Numbers	✓



# The List of Adopted Categories<sup>8</sup>

✓ Union

★ Intersection

▣ CDWA CORE

CDWA Elements	NDAP Common Core
Related Visual Documentation- Copyright/ Restrictions	✓
Related Visual Documentation- Remarks	✓
Related Visual Documentation- Citations	✓
23. Related Textual References	
Related Textual References- Identification	✓
Related Textual References- Type	✓
Related Textual References- Work Cited	✓
Related Textual References- Work Illustrated	✓
Related Textual References- Object/Work Number	✓
Related Textual References- Remarks	✓

CDWA Elements	NDAP Common Core
24. Critical Responses	
Critical Responses- Comment	✓
Critical Responses- Document Type	
Critical Responses- Author	✓
Critical Responses- Date	
Critical Responses- Circumstance	
Critical Responses- Remarks	
Critical Responses- Citations	✓
25. Cataloging History	
Cataloging History- Cataloger Name	✓
Cataloging History- Cataloger Institution	✓

CDWA Elements	NDAP Common Core
Cataloging History- Date	✓
Cataloging History- Remarks	✓
26. Current Location ▣	
Current Location- Repository Names ▣	✓ ★
Current Location- Geographic Location ▣	✓
Current Location- Repository Numbers ▣	✓
Current Location- Remarks	✓
Current Location- Citations	
27. Descriptive Note	
Descriptive Note- Text	✓
Descriptive Note- Remarks	
Descriptive Note- Citations	



# The List of None Adopted Categories

CDWA Elements	
5. State	
State- Identification	
State- Remarks	
State- Citations	



## A Metadata Example Cloisonné box with lotus-spray decoration<sup>1</sup>



1. Object/Work	single item, metalwork, container
2. Classification	[Artifact]
4. Titles or Names	Object title: 明 景泰 招絲琺瑯番蓮紋 盒 (1450-1456) Original title: 銅琺瑯盒 (景泰年製) English title: Cloisonné box with lotus-spray decoration , Ching-t'ai reign (1450-1456), Ming dynasty
7. Measurement	Height: 6.3cm diameter: 12.4cm weight: 634.6 gram
8. Materials and Techniques	Ware: copperware Glaze color: multi-color glaze - Cloisonné (technique)
10. Physical Description	<i>Patterns:</i> Overall, plant-flower-passionflower (Indian-lotus) <i>Physical Description:</i> Lid - flat-lid; Base - flat base; Foot - ring foot; Mouth



## A Metadata Example Cloisonné box with lotus-spray decoration<sup>2</sup>



<http://www.npm.gov.tw/dm/enamel/selection/image/s/C1E000714N000000000AB.jpg>

11. Inscriptions/Mark	<p><i>Content</i> : Made during Ching-t'ai reign, Ming dynasty</p> <p><i>Location</i>: on underside of base</p> <p><i>Date</i>: Ching-t'ai reign, Ming dynasty</p> <p><i>Transcription or description</i>: incision in a horizontal row, from right to left - semi-cursive script, carved with knife, a reign title, Chinese character, standard script</p>
12. Condition/Examination History	Good condition
14. Creation	<p>Ming Dynasty, Ching-t'ai reign (A. D. 1450-1456)</p> <p><i>Begin</i>: 1450AD (Ching-t'ai Period)</p> <p><i>End</i>: 1456AD (Ching-t'ai reign)</p>
15. Ownership/Collecting History	<p><i>Acquisition Method</i>: original collection</p> <p><i>Legal status</i>: antique</p> <p><i>Source</i> : The Palace Museum, China</p>



## A Metadata Example Cloisonné box with lotus-spray decoration<sup>3</sup>



16. Copyright/Restrictions	National Palace Museum, Taipei, R.O.C.
18. Subject Matter	Plant – flower - passionflower (Indian-lotus)
20. Exhibition/Load History	<ol style="list-style-type: none"> <li>1.Possessing the past : treasures from the National Palace Museum, Taipei (1996)</li> <li>2.Memoire d'empire : tresors du Musee National du Palais, Taipei,(1998)</li> <li>3.The exhibition of enamel ware in the Ming and Ch'ing dynasties ( 1999 )</li> <li>4.Schätze der Himmelssöhne : die kaiserliche sammlung aus dem Nationalen Palastmuseum Taipeh (2003)</li> </ol>
22. Related Visual Documentation	<p><i>Original Type/Format</i>: 4 x 5 positives</p> <p><i>File name</i>: C1E000714N000000000AA</p> <p><i>Whole/Part</i>: Whole</p> <p><i>Preferred</i>: preferred</p> <p><i>Restrictions</i>: open to the public</p>



## A Metadata Example Cloisonné box with lotus-spray decoration<sup>4</sup>



### 23. Related Textual References

Book Title:

*Enamel Ware In The Ming And Ch'ing Dynasties*

Page number: 66

Plate number: 1

Description:

Carved in low relief, this copper body box and its lid were cast in the shape of a lotus blossom. The outer part of the box is painted in light blue, while the flat part of the lid resembles the heart of a lotus blossom. Each petal of lotus blossom inside the box and the lid is decorated with one multi-colored passionflower (Indian-lotus). The box has a short ring foot. The bottom and the interior of the box are plated with gold, and the bottom of the interior is incised with six characters 大明景泰年製 (Manufactured during the Ching-t'ai reign of the great Ming dynasty) arranged in a horizontal row. The petals of the lotus blossoms in the box are plump and each of which is painted with two to three colors. It presents the characteristics of early-stage Cloisonné enamel wares by having a heavy body, a thick layer of glaze, and hidden tips of Cloisonné. In addition, the way the characters are incised is the same as that of lacquer and ceramic works at the time, which proves its authenticity as a work during Ching-t'ai reign, Ming dynasty. This object was exhibited in the United States in the tour exhibition "Possessing the Past: Treasures from the National Palace Museum, Taipei" in 1996 and Memoire d'empire: tresors du Musee National du Palais, in 1998.

國立故宮博物院  
NATIONAL PALACE MUSEUM



## A Metadata Example Cloisonné box with lotus-spray decoration<sup>5</sup>



國立故宮博物院  
NATIONAL PALACE MUSEUM

### 25. Cataloging History

Cataloger name: b251

Verified name: morris

Reviser name: dave

Cataloging date: 2003-06-16

Revising date: 2004-02-16

State: proofreading

### 26. Current Location

Storage Department:  
Antiquities Department of the  
National Palace Museum

Accession number: 中琺  
000714N000000000

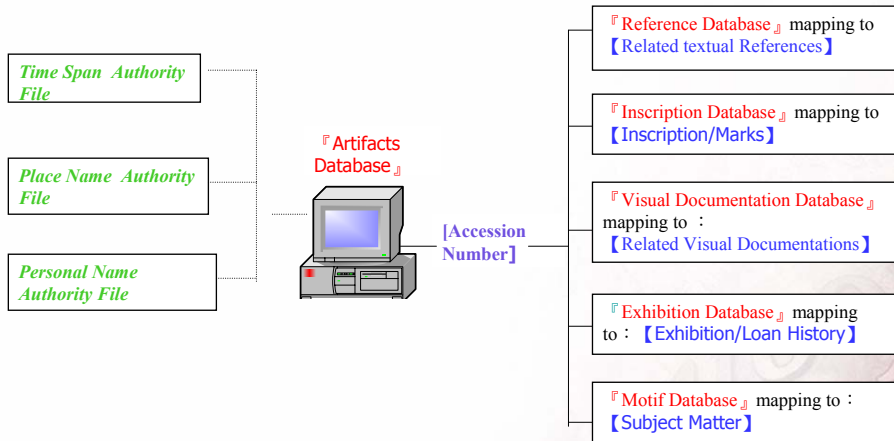
Entry number: JW-265

Current Storage Box Code: 中  
Box No. 1173

N.P.M. Storage Box Code: 中  
Box No. 1173



## The Diagram of Chinese Antiquities Database & Applied Categories



『』 NPM ; 【】 CDWA; proceeding; *in progress*



## Controlled Vocabularies

An example of 'Styles/Periods/Groups/Movements-Indexing Terms'

- Mapping

the kiln system in each period became distinguished by a particular style

CDWA	NPM	
Category name	Category name & Example	Terminology/ Format
Styles/Periods/Groups/Movements <b>-Description</b>		
Styles/Periods/Groups/Movements <b>-Indexing Terms</b>	<b>Kiln System-name</b> Ex: Shufu kiln( 樞府窯)	Control vocabularies
Styles/Periods/Groups/Movements <b>-Remarks</b>	<b>Kiln System-place</b> Ex: Kiangsi(江西)	Control vocabularies







# Controlled Vocabularies

## An example of 'Styles/Periods/Groups/Movements-Indexing Terms'

### 『AAT: Shufu』

Styles and Periods Facet	
Styles and Periods	
<styles and periods by region>	
Asian	
East Asian	
Chinese	
<Chinese styles and periods>	
<Chinese styles>	
<Chinese ceramics styles>	
<b>Shufu</b>	

### NPM: Kiln System – Name (control vocabularies)

- 越窯系 | 邢窯系 | 汝窯系 | 哥窯系 |
- 樞府窯系** | Sung Imperial Kiln System |
- Ming Imperial Kiln System |
- Ch'ing Imperial Kiln System |
- 定窯系 | 磁州窯系 | 耀州窯系 |
- Ching-te Chen | 龍泉窯系 | 鈞窯系 |
- 遼窯系 | 建窯系 | 吉州窯系 |
- 霍窯系 | 德化窯系 | others

AAT (*The Art & Architecture Thesaurus*)

A Vocabulary List



# CDWA Application Profile

## Extending 'Materials and techniques- Materials-Name' for more levels in a structuring way

CDWA		
Categories	Definition	Examples
<b>Materials and techniques – Materials - Role</b>	The role that a material plays in the composition of the work.  <i>For three-dimensional works, any material of which the work is made is typically called <b>medium</b>.</i>	support medium <ul style="list-style-type: none"> <li>— material</li> <li>— ware</li> <li>— glaze</li> <li>— color</li> <li>— hardness!</li> </ul>
<b>Materials and techniques – Materials - Name</b>	The Type of material of which a work is composed.	Wood/glass/marble/ gold/ deer bone

While applying, NPM extends the subcategory 'Materials and techniques- Materials- Name' for more levels by using a vocabulary list.



# CDWA Application Profile

## A Vocabulary List of Material 1

NPM- Material		
Layer 1	Layer 2	Layer 3
<b>Animal 動物</b>	Shell貝	砗磲   蚌殼
	Teeth牙	Ivory象牙   野豬牙
	甲	玳瑁
	Bone骨	染骨
	Horn角	犀角   牛角   鹿角
	Leather皮	
	毛 羽	貂皮
<b>Plant 植物</b>	Wood木	沉香木   伽楠木   padauk 紫檀木   boxwood黃楊木   birch樺木   mahogany紅木   sandal wood檀香木   vine藤
	Bamboo竹	
	Lacquer漆	
	Cling果實	gourd葫蘆   椰殼   coconut椰子
	Nutlet果核	橄欖核   桃核   核桃核
	Paper紙	粉紙   臘箋紙   藏經紙
	Incense香	
	Ink墨	



# CDWA Application Profile

## A Vocabulary List of Material 2



NPM- Material		
Layer 1	Layer 2	Layer 3
<b>Mineral 礦物</b>	Metal金屬	gold金   silver銀   cooper銅   bronze青銅   brass黃銅   iron鐵   tin錫   alloy合金   gilding鍍金   silver plate鍍銀   others其他金屬
	Gem and Jewelry 玉石珠寶	輝石玉   角閃玉   jade玉石   蛇紋石   松花石   端石   歙石   marble大理石   壽山石   青田石   昌化石(雞血)   礦綠石   楚石   房山石   洮河石   護村石   fossil化石   ruby紅色寶石   sapphire藍色寶石   quartz石英   crystal水晶   amethyst紫晶   茶晶   玫瑰水晶(芙蓉石)   髮晶   agate瑪瑙   jasper碧玉   chalcedony玉髓   碧璽   pearl珍珠   彩米珠   白米珠   coral珊瑚   amber琥珀   蜜腊   金珀   lapis lazuli青金石   松綠石   diamond鑽石   emerald祖母綠   chatoyant貓眼石   malachite   spinel孔雀石   石榴子石   vermeil硃砂
	Ceramics陶瓷	
	Glass玻璃	單色玻璃   套色玻璃   金星玻璃   其他玻璃
<b>Others 其他材質</b>		
<b>Unknown 材質不明</b>		



# CDWA Application Profile *Examples*

Sèvres Bowl

Jade pi-hsieh chimera

CDWA		NPM		
Categories	Example 1	Example 1		
Materials and techniques – Materials - Role	medium	medium		
Materials and techniques – Materials - Name	gold	Mineral	Gem and Jewelry	Jade
				



# CDWA Application Profile

‘Exhibition/ Loan History – Remarks’

CDWA	NPM (National Palace Museum)	NMH (National Museum of History)
◆ Exhibition/ Loan History - Remarks	<ul style="list-style-type: none"> <li>◇ 「Exhibition Database」 Introduction- Chinese</li> <li>◇ 「Exhibition Database」 Introduction- English</li> </ul>	<ul style="list-style-type: none"> <li>◇ Exhibition- Exhibition Introduction- Exhibition Chinese Label Text</li> <li>◇ Exhibition- Exhibition Introduction- Exhibition English Label Text</li> <li>◇ Exhibition- Object Description- Object Chinese Label Text</li> <li>◇ Exhibition- Object Description- Object Chinese Label Text</li> </ul>

Introduction of the exhibition

Object label of the exhibition



# CDWA Application Profile

'Creation- Date'

CDWA	NPM (National Palace Museum)	Examples
◆Creation – Date	<ul style="list-style-type: none"> <li>◆ 「Artifact Database」 Time- Table of the Chinese Dynasties- Display</li> <li>◆ 「Artifact Database」 Time- Chronology- Display</li> </ul>	<ul style="list-style-type: none"> <li>◆明成祖永樂2年( Ming, Chengzu, the second year of Yongle)</li> <li>◆西元1404(1404AD)</li> </ul>
◆Creation – Date- Earliest Date	<ul style="list-style-type: none"> <li>◆ 「Artifact Database」 Time- Table of the Chinese Dynasties- Search- <b>Begin- Dynasty- Dynasty</b></li> <li>◆ 「Artifact Database」 Time- Table of the Chinese Dynasties- Search- <b>Begin- Dynasty- Period</b></li> <li>◆ 「Artifact Database」 Time- Table of the Chinese Dynasties- Search- <b>Begin- Dynasty- Emperor</b></li> <li>◆ 「Artifact Database」 Time- Table of the Chinese Dynasties- Search- <b>Begin- Dynasty- Reign</b></li> <li>◆ 「Artifact Database」 Time- Table of the Chinese Dynasties- Search- <b>Begin- Dynasty- Date</b></li> </ul>	<ul style="list-style-type: none"> <li>◆明(Ming)</li> <li>◆早期(early Period)</li> <li>◆成祖(Chengzu)</li> <li>◆永樂(Yongle)</li> <li>◆2(the second year)</li> </ul>



# CDWA and the Union Catalog of NDAP



# CDWA and the Union Catalog of NDAP

數位典藏聯合目錄  
Union Catalog of National Digital Archives Program

DC進階搜尋

題名 Title	貢獻者 Contributor	來源 Source
作者 Creator	日期 Date	語言 Language
主題與關鍵字 Subject & Keywords	資料類型 Type	關聯 Relation
描述 Description	格式 Format	範圍 Coverage
出版者 Publisher	資源標別 Resource Identifier	管理權 Rights

查詢送出      清除重填



# CDWA and the Union Catalog of NDAP

數位典藏聯合目錄  
Union Catalog of National Digital Archives Program

分類架構

- 內容主題

動物主題 Zoology	植物主題 Botany
地質主題 Geology	人類學主題 Anthropology
檔案主題 Archives	器物主題 Artifacts
書畫主題 Calligraphy/Painting	地圖與遙測影像主題 Map & Remote Imaging
金石拓片主題 Stone & Bronze Rubbing	善本古籍主題 Rare Books
考古主題 Archaeology	新聞主題 Journalism & Mass Media



# CDWA and the Union Catalog of NDAP

數位典藏國家型科技計畫 聯合目錄系統建置計畫

數位典藏聯合目錄  
Union Catalog of National Digital Archivers Program

分類架構

- 內容主題
  - 動物主題
  - 植物主題
  - 地質主題
  - 人類學主題
  - 建築主題
  - 器物主題
  - 書畫主題
  - 地圖與遙測影像主題
  - 拓片主題
  - 善本主題
  - 考古主題
  - 新聞主題

現在位置: 首頁 / CC 應用服務 / 內容主題 / 動物 / 金屬類 / 器物主題

北公鼎

資料識別: 中編000051B000000000

資料類型: 金屬類

描述: 口緣重環狀一週，敞口，雙立耳，三蹄足。

日期: 西元前9世紀中葉-前71年

格式: 通高33.8、腹深27.2、口徑49公分、重34700公克

關聯: 故宫南院主文錄

管理權: 國立故宮博物院

2004 數位典藏國家型科技計畫 聯合目錄系統建置計畫

正在下載圖片 http://www.nps.gov/br/9990/nc/1A000051B000000000AAA.jpg

Microsoft Internet Explorer



# CDWA Metadata Standards Crosswalk

From: [http://www.getty.edu/research/conducting\\_research/standards/intrometadata/3\\_crosswalks/index.html](http://www.getty.edu/research/conducting_research/standards/intrometadata/3_crosswalks/index.html)

Getty Standards Program Crosswalk of Metadata Standards - Microsoft Internet Explorer

Metadata Standards Crosswalk

NOTE: To see the full list of categories for any one of the standards below, click on the name of the standard. To print from your Web browser, use the landscape print format.

CDWA	CCO	YRA 3.0 Core Categories	USMARC	Dublin Core	Object ID	FDA Guide	CIMI
OBJECT/ WORK (core)							
Object/ Work - Catalog Level						Document Classification-Catalogue Level (core)	LEVE
ObjectWork-Type (core)	Work Type	Type	655 Genre-Form	Type	type of Object	Document Classification-Document Type (core)	object NAME
ObjectWork-Components			300a Physical Description-Extent	Format Extent		Purpose-Purpose (Broad) (core)	
						Purpose-Purpose (Narrow)	
						Document Classification-Extent	quantity

Microsoft Internet Explorer





## CDWA Crosswalk & NDAP Union Catalog (DC) Compare 1

CDWA Metadata Standards Crosswalk		NDAP UNION CATALOG-Chinese Antiquities			Compare
CDWA	Dublin Core	CDWA	Dublin Core	Antiquities	
Object/Work-Type(Core)	Type	Object/Work-Type	Type	[Type]	YES
Object/Work-Components	Format.Extent				
CLASSIFICATION (core)	Subject				
ORIENTATION/ ARRANGEMENT	Description				
TITLES OR NAMES (core)	Title	TITLES OR NAMES (core)	Title	[Object Title]	YES
Measurements- Dimensions	Format.Extent (schema)	[Measurements- Dimensions	Format	[Measuremen ts-Dimensions]	YES
Measurements- Scale	Format.Extent (Schema)				
Materials and Techniques- Materials	Format.Medium				
PHYSICAL DESCRIPTION	Format.Medium				
INSCRIPTIONS/ MARKS	Description	INSCRIPTION/MAR KS – AUTHOR	Contributor	[Inscription- Author]	NO
CONDITION/ EXAMINATION HISTORY	Description				
CONSERVATION/ TREATMENT HISTORY	Description				



## CDWA Crosswalk & NDAP Union Catalog (DC) Compare 2

CDWA Metadata Standards Crosswalk		NDAP UNION CATALOG-Chinese Antiquities			Compare
CDWA	Dublin Core	CDWA	Dublin Core	Antiquities	
Creation-Creator - Identity (core)	Creator	CREATION – CREATOR	Creator	[Creation- Creator]	YES
Creation-Creator - Identity-Dates	Creator string				
Creation-Date (core)	Date.Created	CREATION – DATE	Date	[Time- Chronology- Display]	YES
Creation-Place/ Original Location	Subject or Coverage.Spatial				
Creation-Commission- Commissioner	Contributor				
Ownership/Collecting History-Description	Source				
Ownership/Collecting History-Owner	Source				
COPYRIGHT /RESTRICTIONS	Rights	COPYRIGHT/REST RICTIONS – HOLDER NAME	Rights	[Copyright]	YES
STYLES/PERIODS/ GROUPS/ MOVEMENTS	Subject or Coverage.Temporal				
Subject Matter-Description	Description.Abstract				



### CDWA Crosswalk & NDAP Union Catalog (DC) Compare 3

CDWA Metadata Standards Crosswalk		NDAP UION CATALOG-Chinese Antiquities			Compare
CDWA	Dublin Core	CDWA	Dublin Core	Antiquities	
Subject Matter-Description Indexing Terms (core)	Subject or Coverage.Spatial or Coverage.Temporal				
Subject Matter- Identification-Index Terms (core)	Subject or Coverage.Spatial or Coverage.Temporal				
Context- Architectural	Subject or Coverage.Spatial				
Context- Archaeological	Subject or Coverage.Spatial				
EXHIBITION/ LOAN HISTORY	Description				
RELATED WORKS	Relation				
Related Works-Relationship Type	Relation				
Related Works-Identification	Relation				
Related Visual Documentation-Relationship Type	Relation.IsFormatOf				



### CDWA Crosswalk & NDAP Union Catalog (DC) Compare 4

CDWA Metadata Standards Crosswalk		NDAP UNION CATALOG-Chinese Antiquities			Compare
CDWA	Dublin Core	CDWA	Dublin Core	Antiquities	
Related Visual Documentation- View	Title.Alternative Description. TableOfContents Description.Abstract				
Related Visual Documentation-View-Indexing Terms	Subject				
Related Visual Documentation View-Subject	Subject				
Related Visual Documentation-Image Source- Number	Resource Identifier or Source				
RELATED TEXTUAL REFERENCES	Relation.IsReferencedBy	RELATED TEXTUAL REFERENCES - REMARKS	Description	[Catalog – Description]	NO
		RELATED TEXTUAL REFERNECES – IDENTIFICATION	Relation	[Catalog- Catalog Title]	YES
CRITICAL RESPONSES	Relation.IsReferencedBy				
CATALOGING HISTORY	Relation.IsReferencedBy				
Current Location-Repository Number (core)	Resource Identifier	Current Location-Repository Number	Identifier	[Accession Number]	YES
DESCRIPTIVE NOTE	Description				



## CDWA Application Profile Summary<sup>1</sup>

- Application Profiles derived from CDWA
  - CDWA is very useful for the collection projects to develop a well-structured metadata format
- NDAP extends the use and meaning of some CDWA categories to fit the need of Chinese artworks.
  - Styles/Periods/Groups/Movements-Indexing Terms
  - Materials and Techniques-Materials-Role
  - Creation-Date (*Chinese Dynasty & emperor & Reign*)
  - Some elements of NPM are mapped to the “Remarks” subcategories of CDWA. (*Introduction of the exhibition/Object label of the exhibition*)



## CDWA Application Profile Summary<sup>2</sup>

- The Controlled Vocabulary
  - Each projects has its own designed vocabulary list for different categories.
  - Ex: Glaze color/kiln system/patterns&motifs/rubbings subject.....etc.
- By comparing, some vocabularies (or terms) of NDAP are also collected by AAT under different facets.
  - Ex: 樞府窯 (shufu kiln) V.S. shufu (*AAT-styles and periods facets*)
  - Ex: 皴法(texture stroke) V.S. ts'un (*AAT-activities facets*)

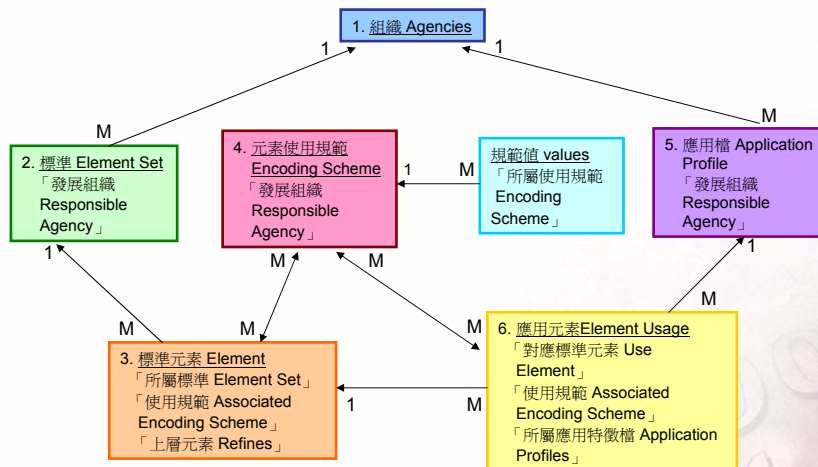


# Ongoing and Future Work

- Knowledge Organization System
  - Thesaurus development
  - Ontology (Conceptual Model)
    - IFLA FRBR (Functional Requirement of Bibliographical Record)
    - CIDOC CRM (Conceptual Reference Model)
- Publish metadata standards in Chinese
  - CDWA, LOM, EAD...etc. (13+)
- Interoperability
  - NDAP-based CDWA XML DTD
  - Metadata Registry



## MAAT Registry



Note1 : M-multiple : 1-single

Note2 : 「」 linkage element



## Metadata Registry at MAAT

[Chinese](#)

Index

1. Agency (Ex: GettyInstitution ∙ National Palace Museum)		
Agency	<a href="#">Browse</a>	<a href="#">Search</a>
2. Encoding Scheme (Ex: Value list)		
Encoding Scheme	<a href="#">Browse</a>	<a href="#">Search</a>
3. Element Set (Ex: CDWA ∙ EAD)		
Element Set	<a href="#">Browse</a>	<a href="#">Search</a>
Element	<a href="#">Browse</a>	<a href="#">Search</a>
4. Application Profile (Ex: NPM Digital Archive Project, Academia Historica Government Archive)		
Application Profile	<a href="#">Browse</a>	<a href="#">Search</a>
Element Usage	<a href="#">Browse</a>	<a href="#">Search</a>

[Catalogue Interface](#)



## Selected Publication<sup>1</sup>

- Chen, Y.-N., Chen, S.-J., Chiang, H.-Y., & Liu, C.-H. (2000). A case study in designing Chinese metadata. *Online Information Review*, 24(3), 229-233.
- Chen, Y.-N., & Chen, S.-J. (2001). A practical metadata approach towards Chinese rubbings. Paper presented at *The Digital Resources for the Humanities*, 8-10 Jul. 2001.
- Lin, S.C., Chen, Y.-N., & Chen, S.-J. (2001). A Metadata Case Study for the FRBR model based on Chinese painting and calligraphy at the National Palace Museum in Taipei. Paper presented at *2001 Dublin Core: International Conference on Dublin Core and Metadata Applications*, 22-26 Oct. 2001.
- Chen, Y.-N., Lin, S.C., & Chen, S.-J. (2002). An application practice of the IFLA FRBR model: A metadata case study at the National Palace Museum in Taipei. In *Proceedings of the 65th Annual Meeting of the American Society for Information Science & Technology* (pp. 181-193), 18-21 Nov. 2002.



## Selected Publication<sup>2</sup>

- Chen, Y.-N., Chen, S.-J., & S.C. Lin. (2003). A metadata lifecycle model for digital libraries: Methodology and application. Paper presented at *The World Library and Information Congress: 69th IFLA General Conference and Council*, 1-9 Aug. 2003.
- Chen, Y.-N., Chen, S.-J., Sum, H.-C., & S.C. Lin. (2003). Functional requirements of metadata system: From user needs perspective. Paper presented at *2003 Dublin Core: Supporting Communities of Discourse and Practice: Metadata Research and Application*, 28 Sep. – 2 Oct. 2003.
- Chen, Y.N. & Chen, S.J. (2004). A metadata practice of the IFLA FRBR model: A case study for the National Palace Museum in Taipei. *Journal of Documentation*, 60(2), 128-143.



MAAT - Microsoft Internet Explorer

檔案(F) 編輯(E) 檢視(V) 我的最愛(S) 工具(T) 說明(H)

地址(O) <http://www.nmca.edu.tw/~metadata/eng.html> 移至 連結

MAAT Metadata Architecture and Application Team

- News
- Best Practice
- Introduction
- Projects
- Getting Start
- Management Systems
- Documents
- Resource Sharing
- Events
- 中文

Metadata Architecture and Application Team

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Last updated: Nov. 8, 2002

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Microsoft PowerPoint... MAAT - Microsoft Int...

上午 04:43





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  - L.F. Chen
- Projects of NDAP
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  - Institutional Project of National Museum of History
  - Institutional Project of Academia Historica
  - Program Office of NDAP



# Thank You

NATIONAL DIGITAL ARCHIVES PROGRAM  
Metadata Architecture and Application Team