

RUHR-UNIVERSITÄT BOCHUM

# Erstellung eines Digitalisierungskonzeptes: Gandharische Artefakte (DiGA)

CrossAsia Fachtagung: Stand und Perspektiven des Fachinformationsdienstes  
CrossAsia – FID Asien

25.01.2018 – Antonio Amato – Frederik Elwert - Jessie Pons

# Institutional Frame



- BMBF
  - Call for Projects on the Research and the Development of the Digitization of Objects of Cultural Heritage: eHeritage
    - Funding Line I: Conceptualisation
    - Funding Line II: Digitization
      - Call for application pending
  
- Centre for Religious Studies (CERES), Ruhr Universität Bochum

# DiGA in numbers (and persons)



Dr. Antonio Amato



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Dr. Frederik Elwert



Jun. Prof. Dr. Jessie Pons

- 69.150 euros
- 9 months (02.2017 – 10.2017)
- 1 Postdoctoral Assistant
- 2 Student Assistants
- 1 Workshop
- 1 Fieltrip

# Buddhist art from Gandhāra



# Dir Museum, Chakdara (Province of Khyber Pakhtunkhwa)



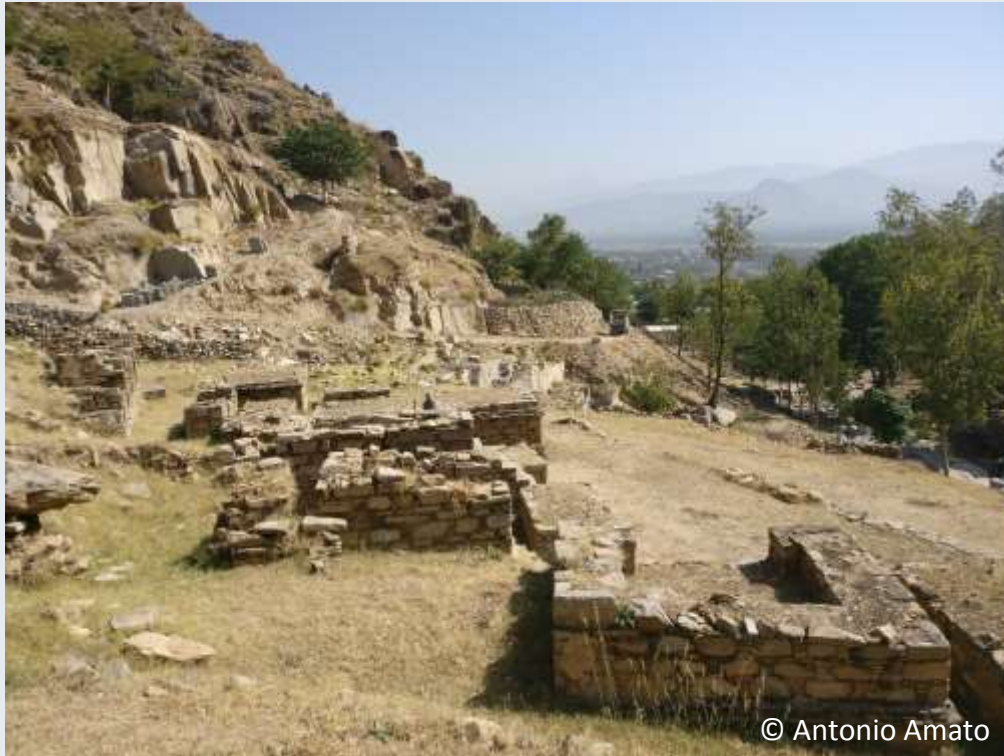
© Antonio Amato

# Collection



- 1444 Buddhist sculptures
  - Narrative reliefs
  - Statues
  - Architectural elements
  - Stone and stucco
- Preserved in permanent and storage collections
- Unaccessible
  - Physically
  - Largely unpublished
- Documented provenance

# Buddhist archaeological sites of the Middle Swat Valley

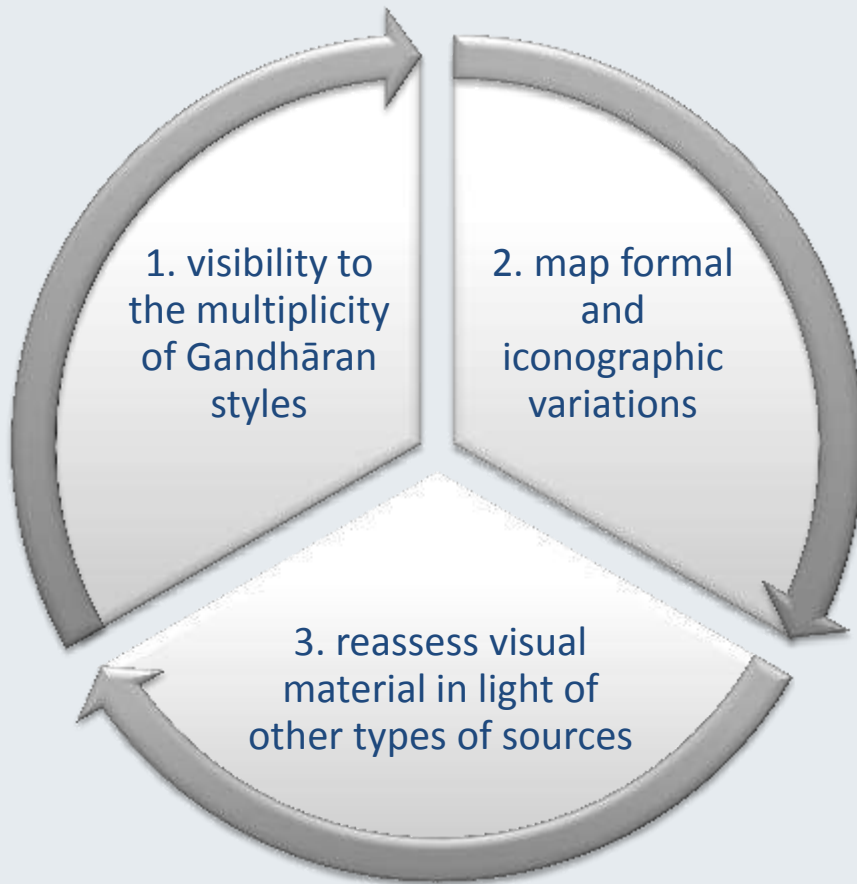


© Antonio Amato

**Chatpat**

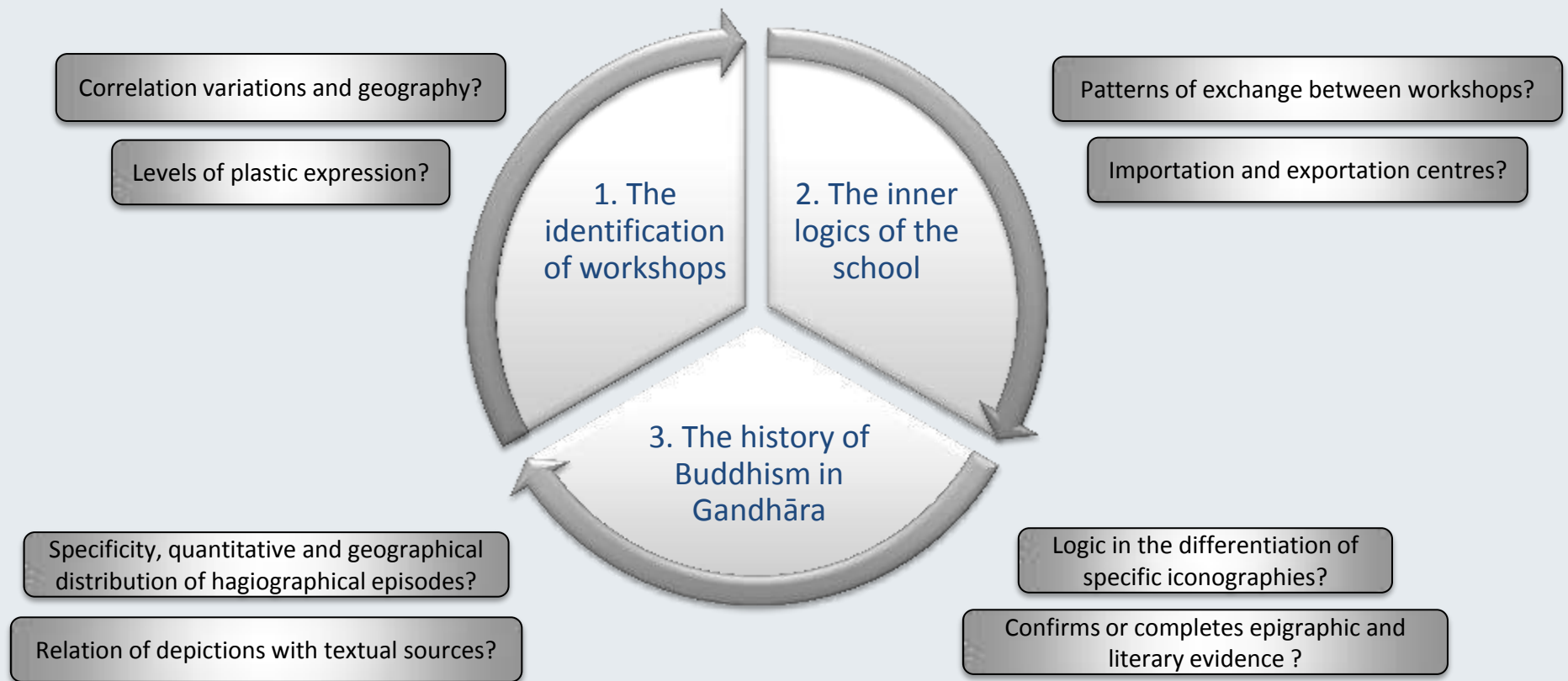
- Excavations:
  - Department of Archaeology and Museums, Government of Pakistan
  - Department of Archaeology, University of Peshawar
- Sites:
  - Chatpat, Andandheri, Bambolai, Ramora, Jabagai, Barchoray, Macho, Nasafa, Damkot, Sha Shamsi Khan, Shalizara, Talash

# Scientific Desiderata



- To refine our perception of Gandhāran style, enhance our understanding of the development of the school, and clarify the image of Buddhism in the region, particularly with respect to Buddhist narrative traditions and Buddhist schools.

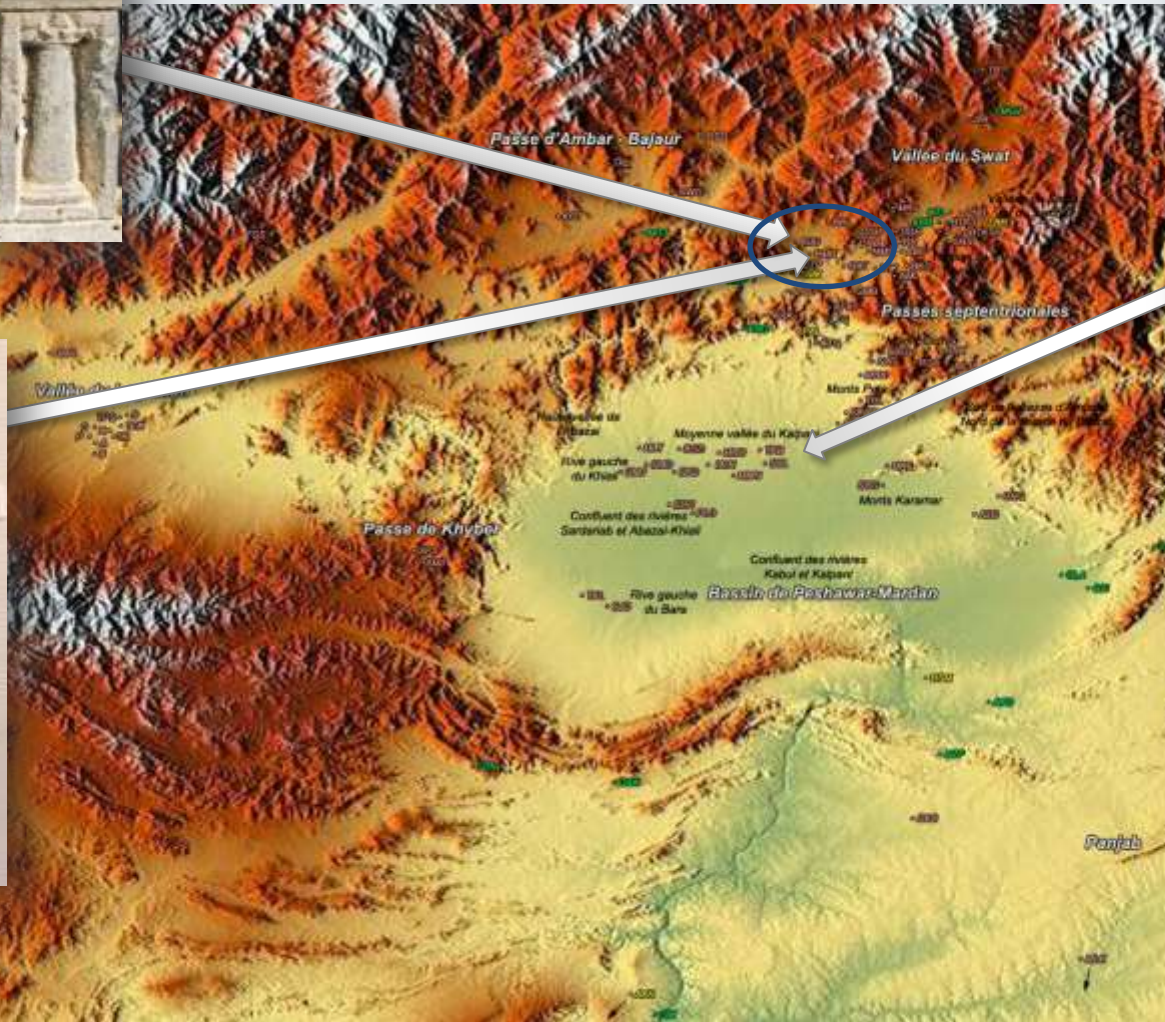
# Research Questions



# 1. Visibility to the multiplicity of Gandhāran styles



© KAH Bonn and Dir Museum

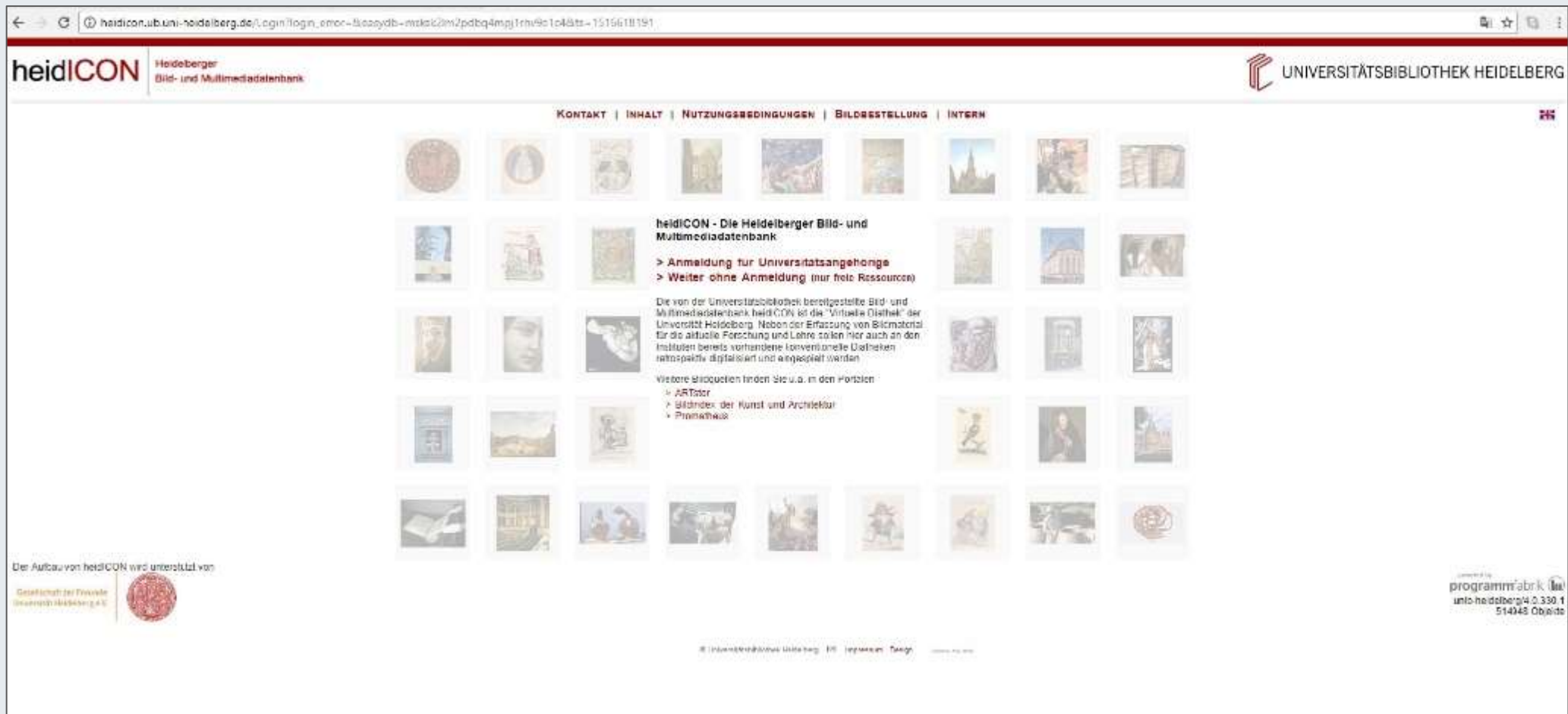


© Antonio Amato



© KAH Bonn and Peshawar Museum

# Long-term storage and Open-Access



The screenshot shows the heidICON website, which is the Heidelberg Image and Multimedia Database. The page features a grid of image thumbnails and a central text block. The browser address bar shows the URL: `heidicon.ub.uni-heidelberg.de/Login/login_emor-80ayydb-wskc2m2pdcq4msj1rhv9c1c48ts-1515618191`.

**heidICON** Heidelberg  
Bild- und Multimediadatenbank

UNIVERSITÄTSBIBLIOTHEK HEIDELBERG

KONTAKT | INHALT | NUTZUNGSBEDINGUNGEN | BILDBESTELLUNG | INTERN

**heidICON - Die Heidelberger Bild- und Multimediadatenbank**

> Anmeldung für Universitätsangehörige  
> Weiter ohne Anmeldung (nur freie Ressourcen)

Die von der Universitätsbibliothek bereitgestellte Bild- und Multimediadatenbank heidICON ist die "virtuelle Diathek" der Universität Heidelberg. Neben der Erfassung von Bildmaterial für die aktuelle Forschung und Lehre sollen hier auch an den Instituten bereits vorhandene konventionelle Diatheken retrospektiv digitalisiert und angegliedert werden.

Weitere Produkte finden Sie u.a. in den Portalen:

- ARTstor
- Bildindex der Kunst und Architektur
- Prinixhaus

Der Aufbau von heidICON wird unterstützt von:

Gesellschaft der Freunde  
des Rheinisch-Heidelberger L.A.Z.

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514248 Objekte



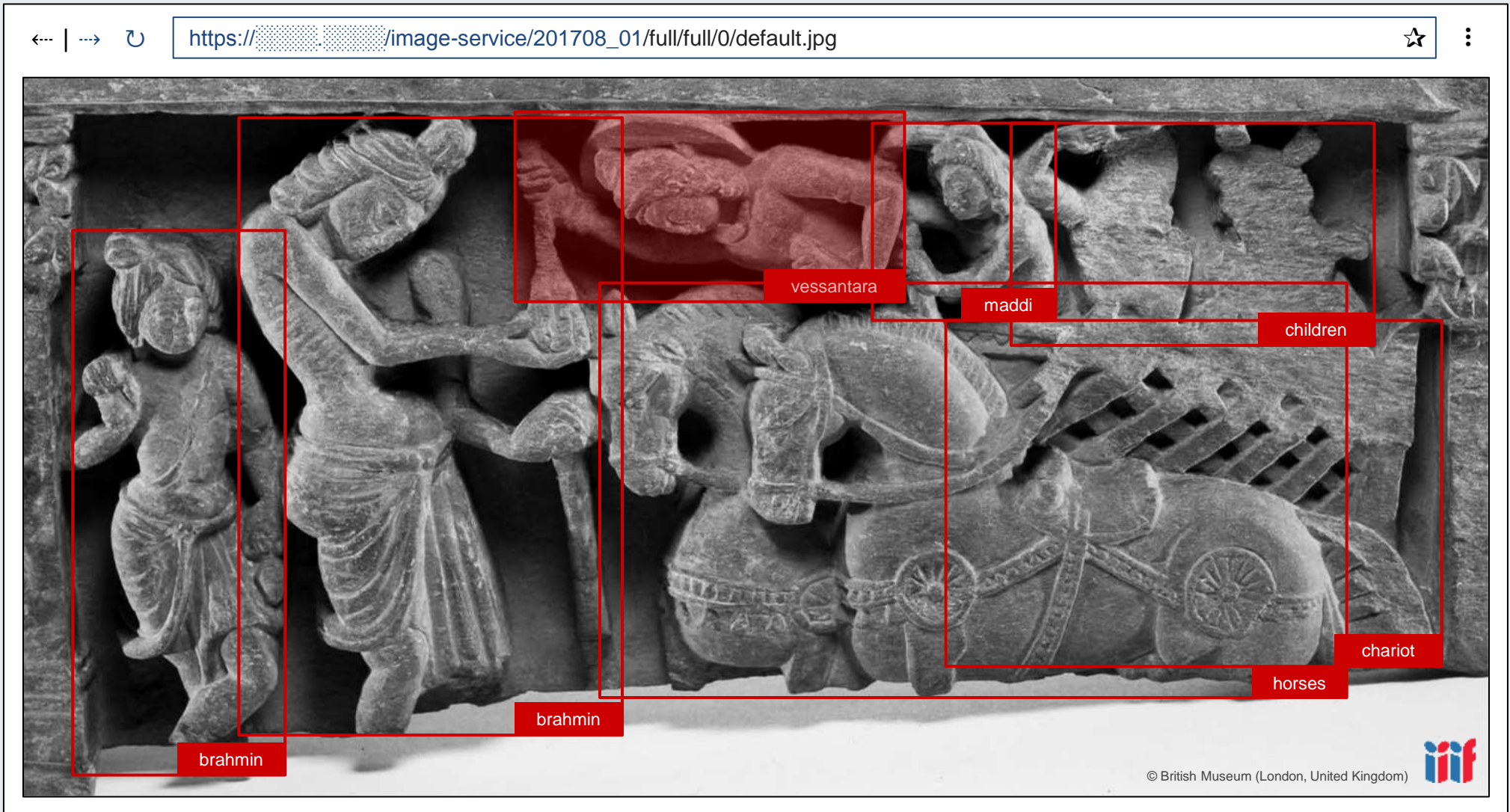
# Technical requirements (I): Annotation tool and Geo-location functionality



[https://\[redacted\]/image-service/201708\\_01/full/full/0/default.jpg](https://[redacted]/image-service/201708_01/full/full/0/default.jpg)



# Technical requirements (I): Annotation tool and Geo-spacing functionality



# Technical requirements (I): Annotation tool and Geo-spacing functionality

← | → ↻  ☆ ⋮

## DiGA | Digitisation of Gandharan Artefacts

Database > Search results

vessantara

Search

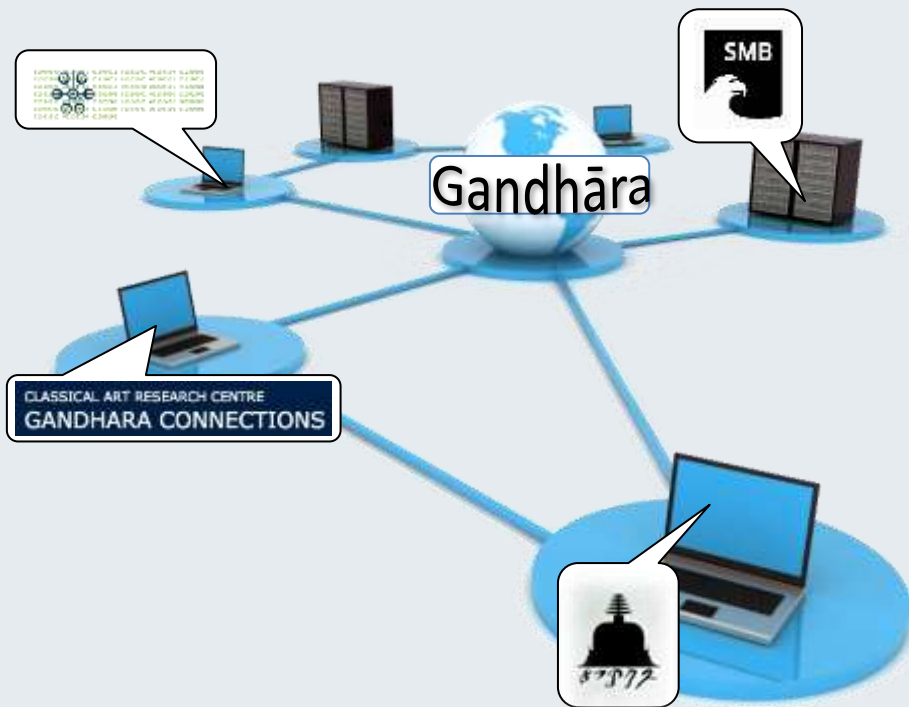
[Advanced search](#)

### Results

Your search for **vessantara** returned 11 results.

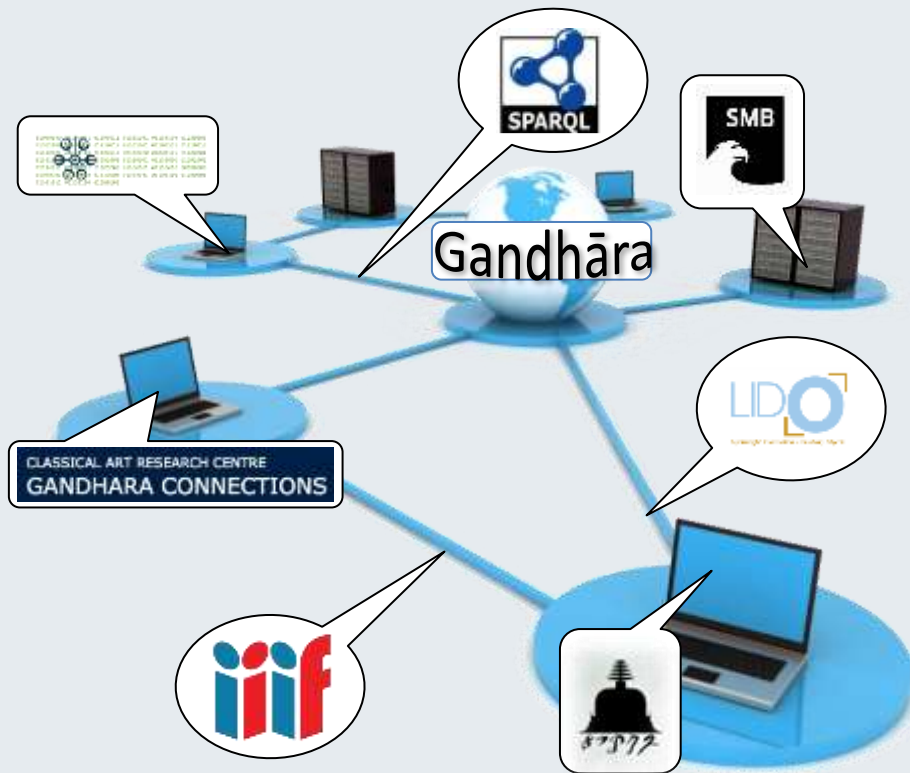


# 3. Reassessing the visual in light of diverse sources



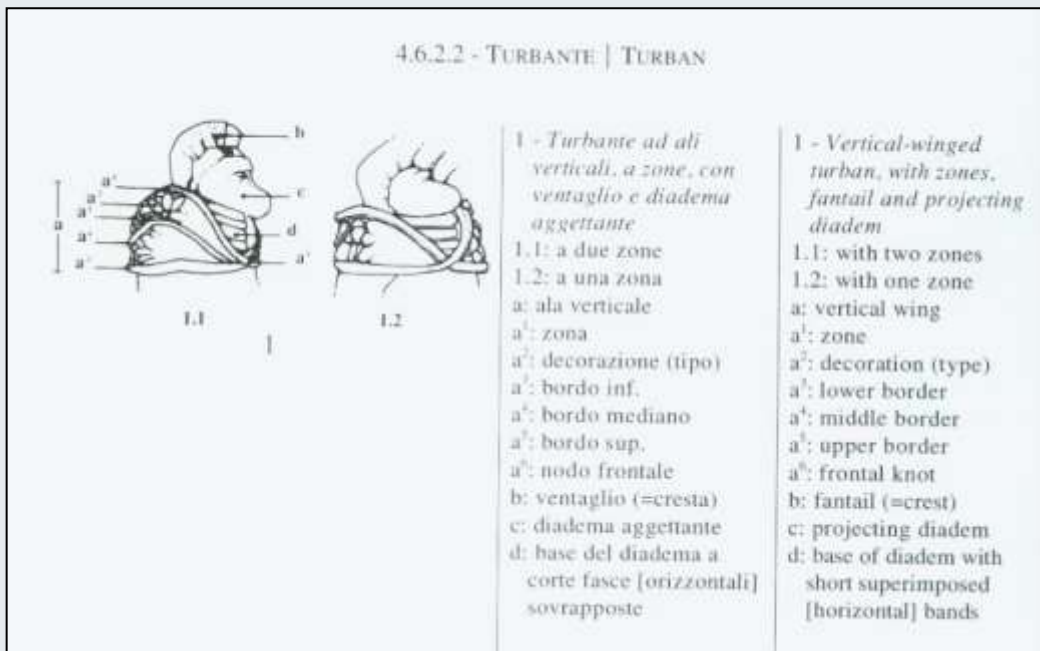
- Archaeologists
- Art Historians
- Numismats
- Historians
- Philologists
- Museum Institutions
- Interested Persons

# Technical requirement (II): Cross-linking strategies (Formats and Protocols)



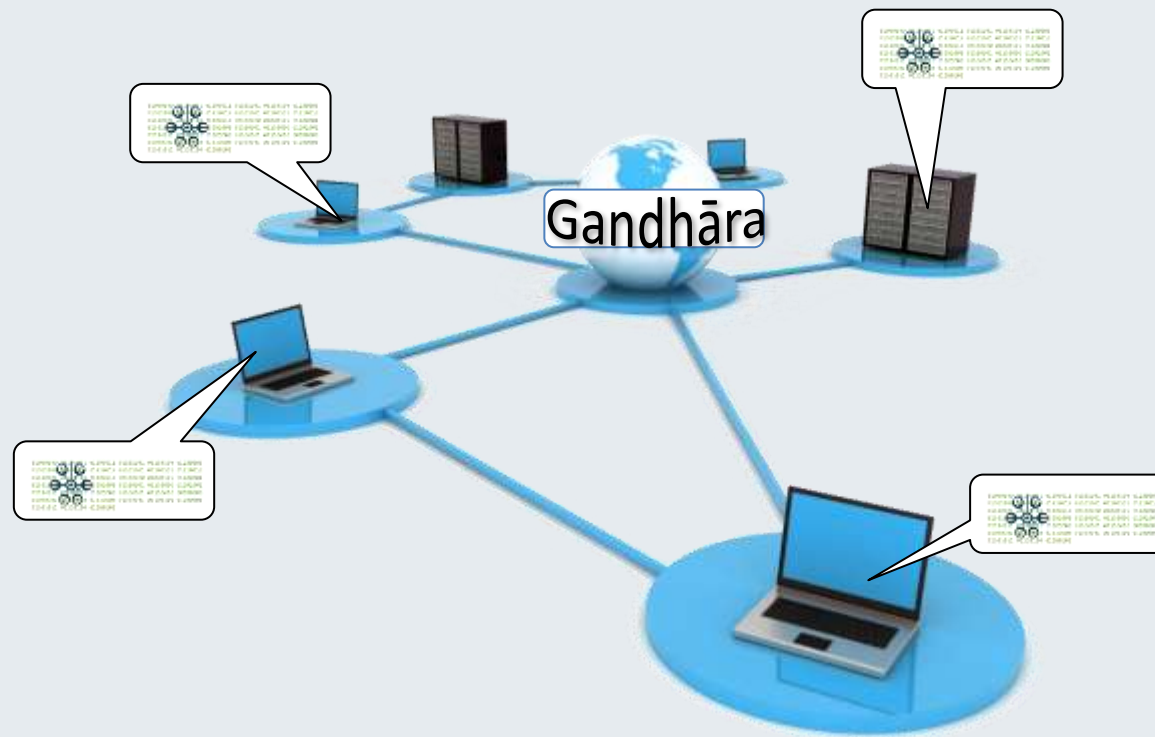
- LIDO
  - Lightweight Information Describing Objects
- iiif
  - International Image Interoperability Framework
- Sparql
  - SPARQL Protocol and RDF Query Language

# Technical requirements (II): Cross-linking strategies (Standard vocabularies)



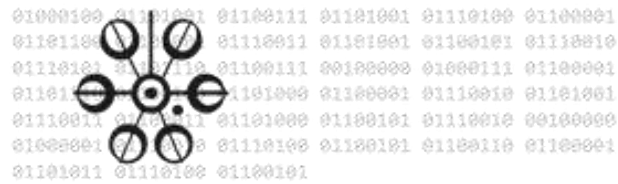
- heildCON
  - **GND**: Gemeinsame Normdatei
  - **GeoNames**
  
- Discipline-specific vocabulary
  - **Repertorio**: Faccenna, D. and Filigenzi, A. 2007. *Repertory of Terms for Cataloguing Gandharan Sculptures*. Rome: ISIAO.
  - **READ**: eSearch Environment for Ancient Documents Project)
  
- International art history community
  - **AAT**: Art and Architecture Thesaurus (Getty Research Institute)
  - **Iconclass**

# Setting a standard for the digitization of Gandharan art





https://[redacted]!



# DiGA

## Digitisation of Gandharan Artefacts

The project

The concept

[Search database](#)



https://[redacted]/database/search.aspx



## DiGA | Digitisation of Gandharan Artefacts

Database > Search

Search

[Advanced search](#)

## DiGA | Digitisation of Gandharan Artefacts

Database > Search

Search

[Advanced search](#)

Museum number

Title

Type

Class

Material

Technique

Location

Finding location

Subject

Search

## DiGA | Digitisation of Gandharan Artefacts

Database > Search

vessantara jataka

Search

[Advanced search](#)

Museum number

Title

Type

Class

Material

Technique

Location

Finding location

Subject

Search

## DiGA | Digitisation of Gandharan Artefacts

Database > Search results

vessantara jataka **Search** [Advanced search](#)

### Results

Your search for **vessantara jataka** returned 13 results.



201708\_01



201708\_02



201708\_03



201708\_04



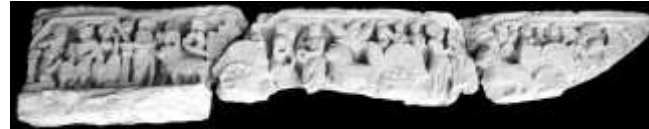
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201708\_07



201708\_08



201708\_09



201708\_10



201708\_11



201708\_12



201708\_13

## DiGA | Digitisation of Gandharan Artefacts

Database > Search results

vessantara jataka

Search

Advanced search

### Results

Your search for **vessantara jataka** returned 13 results.



201708\_01



201708\_02



201708\_03



201708\_04



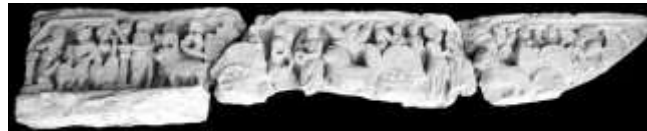
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201708\_07



201708\_08



201708\_09



201708\_10



201708\_11



201708\_12



201708\_13

## DiGA | Digitisation of Gandharan Artefacts

Database > Search results



© British Museum (London, United Kingdom)

### Relief depicting the Vessantara jataka

Museum number	1913,1108.21
Title	Vessantara jataka
Type	relief
Class	sculpture
Dimensions	24.1 x 55.9 x 6.5 cm
Material	schist
Technique	relief
Style	Gandharan art
Production place	Gandhara
Chronology	1st-3rd century CE
Current location	British Museum (London, United Kingdom)
Finding location	Pakistan
Subjects	---
Description	[redacted]

## DiGA | Digitisation of Gandharan Artefacts

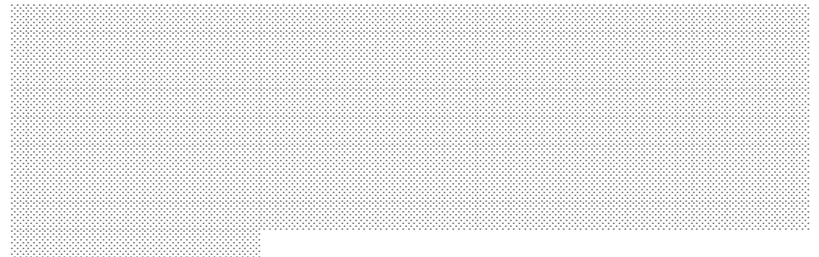
Database > Search results



© British Museum (London, United Kingdom)

### Relief depicting the Vessantara jataka

Museum number	1913,1108.21
Title	Vessantara jataka
Type	relief
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Dimensions	24.1 x 55.9 x 6.5 cm
Material	schist
Technique	relief
Style	Gandharan art
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Current location	British Museum (London, United Kingdom)
Finding location	Pakistan
Subjects	---
Description	





- Introduction
- State of the art
- Scientific questions
- Question 01
- Question 02
- "Diplomatic" issues
- Storage issues
- Standards
- Extracting Narrative from Stone
- DR Museum
- Rome Museum
- Iconography and style
- Presenters' plates
- Prototype
- 13 objects**
- 14 scenes
- The gift of the children
- Maid is stopped by the lion
- The gift of the elephant
- The broken milkmaid
- The gift of the horses
- Murder on foot
- Maid gathering food
- The kingdom of Odris
- Question 01
- Question 02

# 13 objects

## Types

- ❖ Frieze 7
- ❖ Relief 4
- ❖ Pedestal 2

## Material

- ❖ Schist 13

## Technique

- ❖ Relief 13

## Current Locations

- ❖ British Museum 4
- ❖ Private collection 3
- ❖ Kabul Museum 2
- ❖ Peshawar Museum 2
- ❖ Museum of Fine Arts 1
- ❖ Taxila Museum 1

## Finding locations

- ❖ Unknown 4
- ❖ Jamalgarhi 3
- ❖ Sahri Bahlol 2
- ❖ Shotorak 2
- ❖ Murgzar 1
- ❖ Thareli 1

[Introduction](#)[State of the art](#)[Scientific questions](#)[Description 01](#)[Description 02](#)["Diplomatic" issues](#)[Storage issues](#)[Standards](#)[Extracting Narrative from Stone](#)[DR Museum](#)[Rome Museum](#)[Iconography and style](#)[Presenters plates](#)[Prototype](#)[13 objects](#)[24 scenes](#)[The gift of the children](#)[Maddi is stopped by the lion](#)[The gift of the elephant](#)[The brahmin striking the children](#)[The gift of the horses](#)[Journey on foot](#)[Maddi gathering food](#)[The kingdom of Cetans](#)[Questions 01](#)[Questions 02](#)

# 24 scenes

## Scenes

- ❖ The gift of the children 5
- ❖ Maddi is stopped by the lion 4
- ❖ The gift of the elephant 4
- ❖ The brahmin striking the children 3
- ❖ The gift of the horses 3
- ❖ Journey on foot 1
- ❖ Maddi gathering food 1
- ❖ The kingdom of Cetans 1\*

\* *Uncertain identification*

- Introduction
- Scale of the art
- Scientific questions
- Question 01
- Question 02
- "Diplomatic" issues
- Storage issues
- Standards
- Extracting Narrative from Stone
- DR Museum
- Rome Museum
- Iconography and style
- Iconometric details
- Protopage
- 13 objects
- 14 scenes
- The gift of the children
- Mahā is rescued by the lion
- The gift of the elephant
- The brahmin taking the children
- The gift of the horse
- Mahā is freed
- Mahā gathering food
- The kingdom of Citānā
- Question 01
- Question 02

# The gift of the children



- brahmin ▪ children ▪ Vessantara
- tree
- shed

- Introduction
- State of the art
- Scientific questions
- Relevance of
- Relevance of
- "Digitalized" issues
- Storage issues
- Standards
- Extracting Narrative from Data
- DR Museum
- Home Museum
- Iconography and style
- Accessories/links
- Provenance
- 12 objects
- 14 scenes
- The gift of the children
- Maid is helped by the lion
- The gift of the elephant
- The problem solving the children
- The gift of the horse
- Maid is hit
- Maid gathering food
- The kingdom of Oria
- Questions I
- Questions II

# The gift of the children



- ❖ Machine-understandable description is necessary