



Paolo Monella

**IIIF / TEI**



# THESE SLIDES

Originally created for the [VeDPH Summer Camp 2020](#)

# LINKING TEXT AND IMAGE

The Digital Vercelli Book **BETA**

Thumbs Magnifier HotSpots Image-Text MS Desc DOTR 104v Diplomatic Info



7 **D**Wæt ic fweƿna cȳrt secgan wylle hæƿt mege mætte  
8 to midre nihte syðþan reord berend reste wunedon.  
9 þuhte me þæt ic ge ƿawe ƿyllicre treow onlyft  
10 lædan leohte be wunden beama beorhtost eall þæt  
11 beacen wæƿ be goten mid golde gimmar stodon ƿigere  
12 **æt foldan sceatum . swylce þær ƿife wæron uppe**  
13 onþam eaxle ge sþanne be heoldon þær engel dryht  
14 neƿ ealle ƿigere þærh foð ge scaeft newæƿ ðærhuru  
15 ƿracodeƿ gealga . æchine þær beheoldon halige gastaƿ  
16 men ofer moldan ƿeall þeof mære ge scaeft ˆ  
17 Syllic wæƿ ƿe ƿige bearn ƿic ƿynnū ƿið for wunded  
18 mid wommū ge seah ic wuldreƿ treow . wædum geweor  
19 ðode wynnū scinan ge gyred mid golde gimmar hæfdon  
20 be wrigene weorðlice wealdes treow ˆ hwæðre ic  
21 þærh þæt gold ongytan meahƿe earmra ærgewin  
22 þæt hit ærest ongan swætan on þa swiðran healfe  
23 eallie wæƿ mid ƿurgum gedrefed . Foht ic wæƿ for  
24 bære ƿigean ðe rvhðe ge seah ic bæƿ ƿure beacen.

31%

Search Q A A

Powered by EVT

# LINKING TEXT AND IMAGE

We can link our TEI digital edition...

- to **local** images
  - images are in my computer / on my website
- to **IIF** images
  - images stay on the library website

# LINKING TEXT AND IMAGE

Let's link our TEI digital edition to a **local** image

# **TEI → LOCAL IMAGE ENCODING**

# TEI → LOCAL IMAGE

## ENCODING

1. Download the Marco Polo XML File:
  - [Exercise XML file \(to do\)](#)
  - [Exercise XML file \(done\)](#)
2. Download the manuscript image to the same folder: [218r.jpg](#)

# TEI → LOCAL IMAGE

## ENCODING

1. Local image [218r.jpg](#) is in the same folder in which you have your TEI XML file
2. TEI code:

```
<pb facs="218r.jpg" n="218r" />
```



# TEI → LOCAL IMAGE

## ENCODING

Alternatively:

1. EVT requires images to be in a specific folder, so move image [218r.jpg](#) to data/images/single
2. TEI code (for EVT):

```
<pb facs="data/images/single  
/218r.jpg" n="218r"/>
```

# TEI → ONLINE IMAGE (WWW)

## ENCODING

1. Image [218r.jpg](#) is on an other Website
2. TEI code (using regular Internet HTTP protocol):

```
<pb facs="http://www.paolomonella.it  
/torino2021/slides/assets  
/img/218r.jpg" n="218r"/>
```

# **TEI → LOCAL IMAGE VISUALIZATION**

# TEI → LOCAL IMAGE VISUALIZATION

EVT - Edition Visualization Technology



# TEI → LOCAL IMAGE VISUALIZATION

OxGarage / XSLT transformation

**1. Ci commence li liures du graunt Caam qui parole de [\[Page 218r\]](#)  
la graunt Ermenie de persse.  
et des tartars et dynde. Et des granz merueille qui per le  
monde sont.**

POur sauoir la pure verite des  
diuerses regions du monde. Ci  
prenez cest liure si trouerez les

# TEI → LOCAL IMAGE VISUALIZATION

OxGarage / XSLT transformation

**1. Ci commence li liures du graunt Caam qui parole de [\[Page 218r\]](#)  
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Link



# ISSUE: PERMISSION FROM LIBRARIES

- Libraries claim copyright over photos of MS pages
  - written 1000 years ago
  - with texts composed 2000 years ago

# SOLUTION: IIIF

Images stay on their server  
(e.g. the Bodleian Library)

and may be integrated  
(e.g. in "distributed" editions)



# WHAT IS IIIF?

IIIF is a framework  
(a language shared between computers)  
to serve images with medatata.



# WHAT DOES IIIF STAND FOR?

International Image Interoperability Framework

# VIEW A MANUSCRIPT WITH IIIF

Bodleian Library MS. Bodl. 264: *Mirador Viewer*

<https://iiif.bodleian.ox.ac.uk/iiif/mirador/2d7945ce-b71e-41c6-ad1f-8af6b92f020f>



- go to *fol. 218r* from thumbnails below
- or to *Li Livres du Graunt Caam* from the left menu
- [other viewer](#)

# IIIF FOR PHILOLOGISTS

MS page

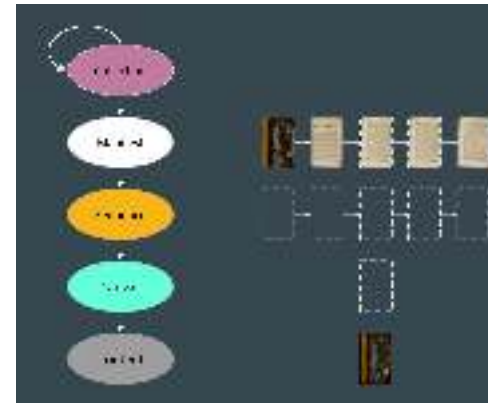
Manuscript

Canvas

Collection

Image API

Presentation API



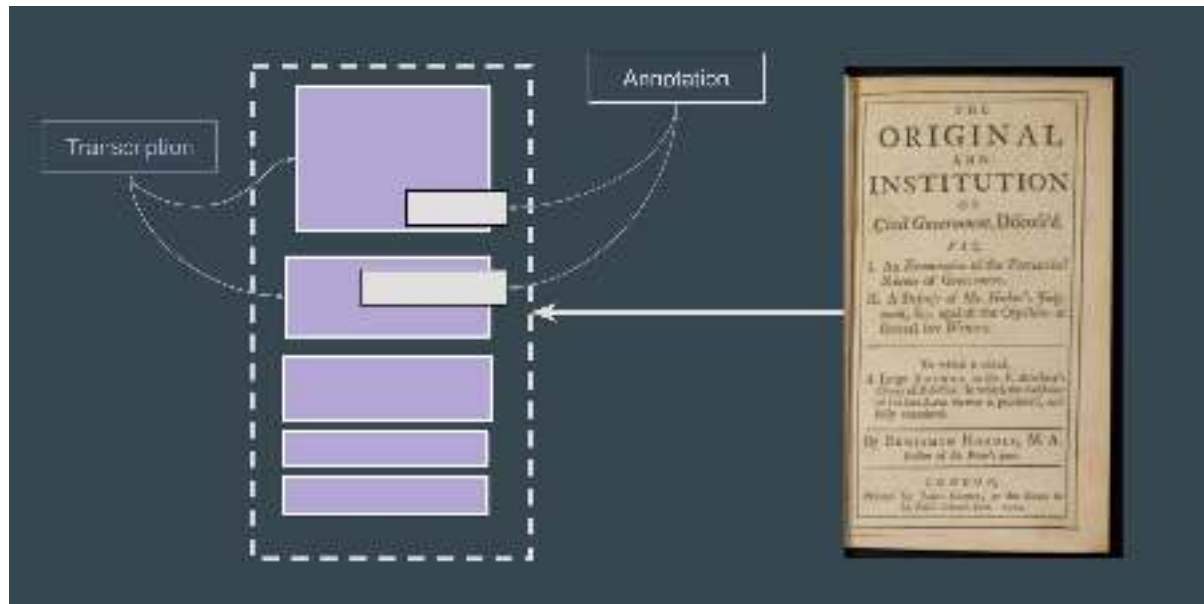
Source: J. Ronallo, [Workshop: Shared Canvas](#)

# CANVAS ← IMAGE(S)

- One canvas may include many images, e.g.:
  - new photos of same MS
  - new photos taken after MS restoration
  - advanced imaging (multi-spectral imaging, X-Ray, CT-scan etc.)

# CANVAS ← ANNOTATION(S)

Canvases may include images and other "annotations"



Source: Jason Ronallo, [Workshop: Shared Canvas](#)

# JSON METADATA FILES

# JSON METADATA FILES

- Manifest: <https://iiif.bodleian.ox.ac.uk/iiif/manifest/ae9f6cca-ae5c-4149-8fe4-95e6eca1f73c.json>
- Canvas: <https://iiif.bodleian.ox.ac.uk/iiif/canvas/699adfb3-a5da-4b09-9759-41eee3713bc3.json>
- Image: <https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/info.json>
- Image **file**: <https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default>



# JSON METADATA FILES

## METADATA → IMAGE FILE

Image metadata file URL	Actual image file URI
JSON	JPG
<a href="https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/info.json">https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/info.json</a>	<a href="https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default">https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default</a>
→ `/info.json`	→ `/full/full/0/default`

# IMAGE API

Full image: <https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default>





# IMAGE API

Cropped region: <https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/500,3550,3000,140/full/0/default>



# IMAGE API

- Resizing, cropping etc. happens on the server
- I can ask for a specific size, region etc. of an image through an URL
- the server creates an *ad hoc* image and only returns that

# IMAGE API

## LET'S MANIPULATE AN IMAGE

- Full image
- resizing (size)
- cropping (region)
- quality (color, gray...)
- rotation

**FULL IMAGE**

# FULL IMAGE

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default>



# FILE FORMATS

# FILE FORMATS

Full image with file extension at the end (**.jpg**):

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default.jpg>

# FILE FORMATS

...with file extension at the end (**.jp2**):

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default.jp2>

# FILE FORMATS

The server has no copy of this image in **.png** format, so this returns an error:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default.png>

# FILE FORMATS

...with file extension **before**:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3.jp2/full/full/0/default>

# CROPPING

# CROPPING

Full image, no cropping:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default>

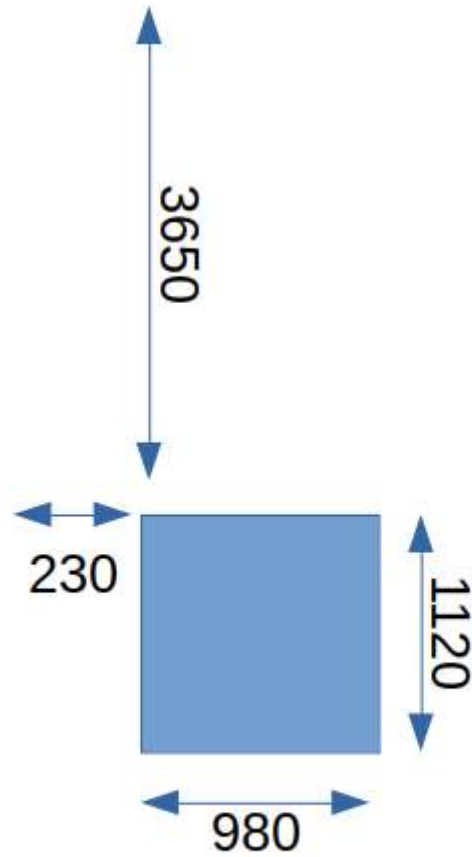
# CROPPING

Illuminated initial:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/0/default>



# CROPPING



230,3650,980,1120

# CROPPING

Panoramic view of the city of Venice:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/510,550,3580,3200/full/0/default>

# CROPPING

First line of the rubric (*Ci commence li livres du graunt  
Caam qui parole de la graunt Ermenie de Perffe*):

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/500,3550,3000,140/full/0/default>

# CROPPING

Second line of the rubric (*et def tartars et d'ynde. Et des  
granz merveille. qui p le monde font*):

[https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-  
a5da-4b09-9759-41eee3713bc3/530,3670,2400,140  
/full/0/default](https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/530,3670,2400,140/full/0/default)

# CROPPING

See paragraph [Region](#) in the API documentation

# RESIZING

# RESIZING

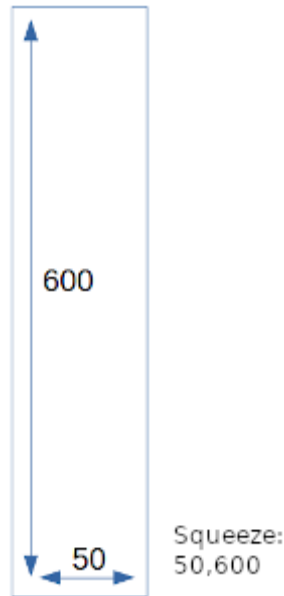
Full size, no resizing:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/full/0/default>

# RESIZING

Squeeze to 50 (width) x 600 (height):

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/50,600/0/default>

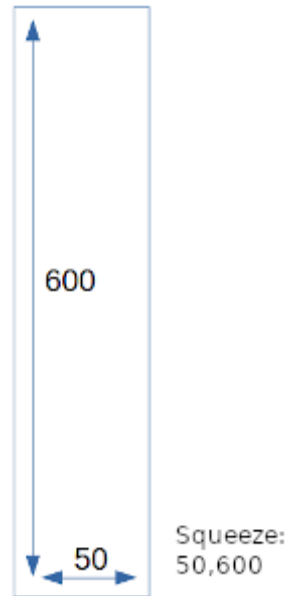




# RESIZING

Width 600 px:

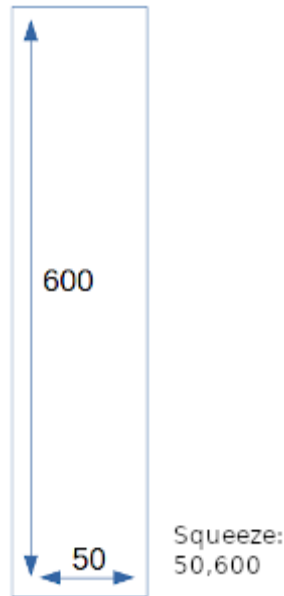
<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/50,/0/default>



# RESIZING

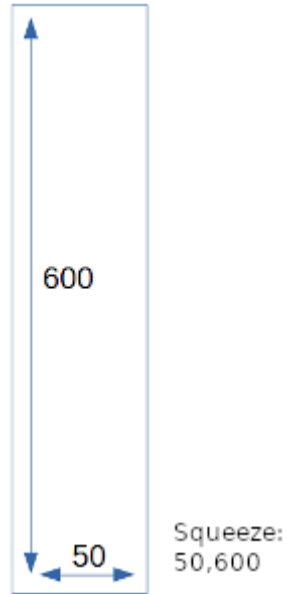
Height 600 px:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/full/,600/0/default>



# RESIZING

See paragraph [Size](#) in the API documentation



# ROTATION

# ROTATION

No rotation (0°):

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/0/default>

# ROTATION

Rotate 90°:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/90/default>

# ROTATION

Rotation is allowed only for multiples of 90° in this IIF server, so 45° returns an error:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/45/default>

# ROTATION

Mirroring (with exclamation mark!):

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/!0/default>



# QUALITY

# QUALITY

Default:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/0/default>

# QUALITY

Color (same as 'default'):

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/0/color>

# QUALITY

Gray:

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/0/gray>

# QUALITY

Bitonal (black and white):

<https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/230,3650,980,1120/full/0/bitonal>

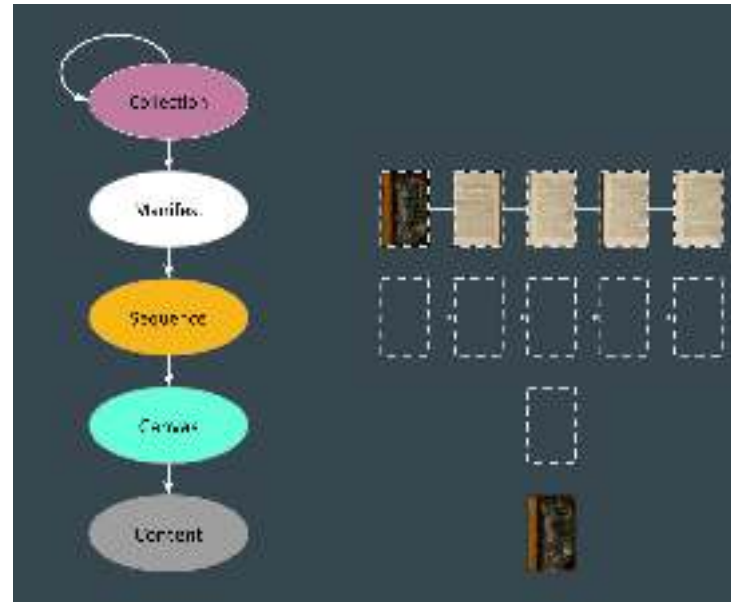
# QUALITY

See paragraph [Quality](#) in the API documentation

# LINKING TEXT AND IMAGE

Let's link our TEI digital edition to a IIF image

# TEI → IIIF IMAGE MANIFEST



Source: Jason Ronallo, [Workshop: Shared Canvas](#)



# TEI → IIIF IMAGE

## MANIFEST

Linking `<msDesc/>` (MS description, in the TEI header) to a whole IIIF JSON **manifest** (metadata about collection of all images of a MS):

```
<msDesc  
facs="https://iiif.bodleian.ox.ac.uk  
/iiif/manifest/ae9f6cca-  
ae5c-4149-8fe4-95e6eca1f73c.json">
```

# TEI → IIIF IMAGE PAGE

The Digital Vercelli Book

Search Magellan Highlight Image Size MS Desc DOI Title Display Info

1 **D**er ic firdin ege segen wylle loc mege maie  
2 to wile rlike gylan word hernd meo wunden  
3 jaine me jar ic ge pawe gylan meow mlyfi  
4 ladan waite he wunden beame beandrop eall jar  
5 heare wep he gean mid galdre ginnep soðan figen  
6 **ar** faldre soðan . ferdre jar fife werra upre  
7 in jam eade ge ferre he healdre jar engel dyde  
8 neq wile ferdre jar fife ge soðe reawer soðan  
9 ferdre gealdre . Achre jar bebedon helge gylar  
10 una ofer anðan jall þoo mare ge fealdre  
11 Syle wep ge fife herre ge ginnep soðe wunden  
12 mid wanda ge soðe ic waldre meow wendan gewer  
13 hele wend soðan ge ginnep mid galdre ginnep healdre  
14 he werra waldre waldre meow soðanre ic  
15 jar jar gold ungestan medre eadre ungewa  
16 jar hit erre ungen hearan on he soðan healdre  
17 ealle wep mid jurgan gedredre . Ferde wep he  
18 hele soðan he waldre ge meow hele hele healdre

3146 Search Q A A

Perseus 2012

# TEI → IIIF IMAGE

## PAGE

Linking <pb/> to a **canvas JSON** (metadata):

```
<pb  
  facs="https://iiif.bodleian.ox.ac.uk  
    /iiif/canvas/699adfb3-  
    a5da-4b09-9759-41eee3713bc3.json"  
  n="218r" />
```

# TEI → IIIF IMAGE

## PAGE

Linking <pb/> to an **image JSON**  
(metadata, note **info.json** at the end)

```
<pb  
facs="https://iiif.bodleian.ox.ac.uk  
/iiif/image/699adfb3-  
a5da-4b09-9759-41eee3713bc3  
/info.json" n="218r"/>
```

# TEI → IIIF IMAGE

## PAGE

Linking `<pb/>` to an **actual image**  
(note **full/full/0/default** at the end)

```
<pb  
  facs="https://iiif.bodleian.ox.ac.uk  
    /iiif/image/699adfb3-  
a5da-4b09-9759-41eee3713bc3/full/full  
  /0/default"  n="218r"/>
```

# TEI → IIIF IMAGE LINE

Cropped region: <https://iiif.bodleian.ox.ac.uk/iiif/image/699adfb3-a5da-4b09-9759-41eee3713bc3/500,3550,3000,140/full/0/default>



# TEI → IIIF IMAGE

## LINE

Linking `<lb/>` to a **region** of an image file, first line of the rubric (*Ci commence li livres du Grant Caam...*):

```
<lb n="1"
  facs="https://iiif.bodleian.ox.ac.uk
        /iiif/image/699adfb3-
        a5da-4b09-9759-41eee3713bc3
        /500,3550,3000,140/full/0/default"/>
```

# TEI → IIIF IMAGE

## LINE

...second line of the rubric (*et def tartars et dÿnde...*):

```
<lb n="218r.2"
```

```
  facs="https://iiif.bodleian.ox.ac.uk
```

```
    /iiif/image/699adfb3-
```

```
      a5da-4b09-9759-41eee3713bc3
```

```
    /530,3670,2400,140/full/0/default"/>
```



# TEI → IIF IMAGE FIGURE



# TEI → IIIF IMAGE

## FIGURE

```
<figure><figDesc>Illumination: view  
of the city of Venice</figDesc>  
  <graphic  
url="https://iiif.bodleian.ox.ac.uk  
  /iiif/image/699adfb3-  
  a5da-4b09-9759-41eee3713bc3  
/510,550,3580,3200/full/0/default"/>  
  </figure>
```

# EXERCISE 1: TEI → LOCAL IMAGE

Instructions:



```
<pb facs="218r.jpg" n="218r_local"/>
```

# EXERCISE 2: TEI → OTHER WEBSITE

The image is on an other Website. We use the regular Internet HTTP protocol.

Instructions:



```
<pb facs="http://www.paolomonella.it  
    /torino2021/slides/assets  
    /img/218r.jpg" n="218r_http"/>
```

# EXERCISE 3: TEI → IIIF IMAGE

Edit the TEI XML code of your digital edition to insert the IIIF URIs we have seen in the lecture.

Instructions:



<pb

facs="https://iiif.bodleian.ox.ac.uk  
/iiif/image/699adfb3-  
a5da-4b09-9759-41eee3713bc3/full/full  
/0/default" n="218r\_iiif"/>



<lb

facS="https://iiif.bodleian.ox.ac.uk  
/iiif/image/699adfb3-  
a5da-4b09-9759-41eee3713bc3  
/500,3550,3000,140/full/0/default"  
n="1"/>

```
<figure><figDesc>Illumination: view  
of the city of Venice</figDesc>  
  <graphic  
url="https://iiif.bodleian.ox.ac.uk  
  /iiif/image/699adfb3-  
  a5da-4b09-9759-41eee3713bc3  
/510,550,3580,3200/full/0/default"/>  
  </figure>
```

# EXERCISE 4: OXGARAGE VISUALIZATION

Instructions:



Let's use [OxGarage](#) to convert our TEI XML to an HTML file looking like this:

**1. Ci commence li liures du graunt Caam qui parole de [\[Page 218r\]](#)  
la graunt Ermenie de persse.  
et des tartars et dynde. Et des granz merueille qui per le  
monde sont.**

POur sauoir la pure verite des  
diuerses regions du monde. Ci  
prenez cest liure si trouerez les

Link





< Text Encoding Initiative >

# **OxGarage Conversion**



**Convert from:** [?](#)



**Documents**



**Presentations**



**Spreadsheets**

Convert from: ?



#### Documents

- Cocoa tagging
- Compiled TEI ODD
- DocBook Document
- Markdown tagging
- Microsoft Word (.doc)
- Microsoft Word (.docx)
- ODD Document
- OpenOffice 1.0 Text (.sxw)
- OpenOffice Text (.odt)
- Plain Text (.txt)
- Rich Text Format (.rtf)
- TCP XML Document
- TEI P4 XML Document
- TEI P5 XML Document





**Convert from:** ?



**Documents**

- Cocoa tagging
- Compiled TEI ODD
- DocBook Document
- Markdown tagging
- Microsoft Word (.doc)
- Microsoft Word (.docx)
- ODD Document
- OpenOffice 1.0 Text (.sxw)
- OpenOffice Text (.odt)
- Plain Text (.txt)
- Rich Text Format (.rtf)
- TCP XML Document
- TEI P4 XML Document
- TEI P5 XML Document
- TEI Tite XML Document
- WordPerfect (.wpd)

**Convert to:** ?

- Comma-Separated Values (.csv)
- DocBook Document
- ePub
- LaTeX
- Markdown tagging
- Microsoft Word (.doc)
- Microsoft Word (.docx)
- National Library of Medicine (NLM) DTD 3.0
- OpenOffice 1.0 Text (.sxw)
- OpenOffice Text (.odt)
- PDF
- Plain text
- RDF XML
- Rich Text Format (.rtf)
- TEI Simple XML Document
- VerbatimXML tagging
- xHTML



**Choose the file, upload images and press convert**

**Select file to convert:** [?](#)

Sfoggia... Nessun file selezionato.

**+ Show advanced options** [?](#)

**Upload images:** [?](#)

You can upload image files and .zip files containing images

Sfoggia... Nessun file selezionato. - Remove  
**+ Add more images**

Convert

Reset



# EXERCISE 5: JSON

Open and browse IIF JSON metadata files for page 218r; find the correct IIF URLs for the manifest, the canvas JSON, the image JSON and the image file

Instructions:



# JSON METADATA FILES

## MANIFEST

1. Open <https://iiif.bodleian.ox.ac.uk/iiif/manifest/ae9f6cca-ae5c-4149-8fe4-95e6eca1f73c.json>
  - A new JSON file opens up
  - *What's this?* The **manifest** of the **collection** of photos of our MS













# EXERCISE 6: JSON → TEI → IIIF IMAGE

Feel free to [email me](#) if you encounter any issues.

Find the IIIF URL for the 2<sup>nd</sup> page of the MS (218v) in the IIIF JSON metadata files (starting from the manifest) and connect it to `<pb n="218v_iiif"/>` in the TEI XML code of your digital edition (around line 230).

Instructions:















**Et dit le premier Chapitre. Comment les .ij. freres se partirent de constantinoble pour chercher du monde.**

**Q**uand il furent au temps que baudouins fu ences  
mes de constantinoble. Ce fu a .m. l. .cc.  
+ l. .xij. de cest .m. seurs nicolaus qui peres me  
sur a jar estoit et mesire maie qui freres nicolaus  
estoit. Cil .ij. freres estoient en la cite de constantinoble  
ale deuenise avec leur marchandise noble  
+ sage et pourveue estoient sanz faulx ilocent con  
sel curieux + prestent daler au monde pour  
gaigner. Il achetoient plusieurs roians + se par  
tirunt de constantinoble et alerunt par mer en so  
ladaye.

**Et dit le second chapitre comment li  
roi frere se departirent de soldane.**

**Q**uand il furent venu en soldaye si prindrent  
et lor saublā bon daler plus auant et se par  
tirunt de soldaye + se vindrent au chemin et cheua  
cheur tant que il vindrent a un seigneur tartar  
qui avoit non a larta. Cāam qui estoit au cas et  
alol gata. Cāam die lui valoit grant honneur  
ans .ij. freres et ot nist grant ale grece de lor venue  
et il li donnaient touz les roians que il avoient au  
tes. et il les vint nist volentiers + quant il furent de  
mourir avec le seigneur .i. an. si li plorent nist et  
il leur fist donner .ij. tans q' ce ne valoit quil li avoient  
donne. Si courut une guerre entre larta et a  
lan le seigneur de tartars de leuant et furent grant  
ost d'une part + d'autre. Cāam eula fin si des consi  
larta le seigneur de tartars de pouent. et mourut  
nist de gent d'une part + d'autre si que par lachois  
de ceste guerre n'ist ne port aler par chemin qui  
ne fust pas. Cāam a peul courut par ce chemin  
ou il estoient venu. si que auant port chascuns  
chevauchier seurement et retourner ariere des  
que ans .ij. freres sembla daler en voie auant pur

**Comment les .ij. freres passerent .i. desert et**

**Q**uand il furent passe vindrent ala cite de loan.  
est desert si vindrent d'une cite qui est apeler  
locira nist noble + grant la prouent aussi an ou loire  
+ estoit rois .i. qui avoit non lart. La cite estoit la  
meillour de toute partie + que il furent la veni siue po  
rent plus ala avant. Ne retourner ariere. si que il  
vindrent en cele cite de loira .ij. ans. Si vindrent q'  
il vindrent en cele cite si vint messages de lan le se  
igneur de leuant li quele aloient an grant seigneur  
de touz les tartars du monde. Et quant li message vi  
rent ces .ij. freres li orent grant merueille pour ce q'  
ouques n'avoient ven nul latin en celle contrie si  
distrent ans .ij. freres seigneur se vous vous vould  
croire vous paues gent pour ce et grant honneur  
et il respondirent que il les avoient volentiers de ce  
si lor distrent li message, li grant. Cāam ne vit ou  
ques nul latin. et agrant desir d'iceur cur auant.  
Et port ce vous vouldz venir ala sachez sanz faulx  
que il vous verra volentiers et vous fera grant hou  
neur et grant bien et peuz venir seurement avec  
vous sanz nul encombrement de male male gent.

**Et dit le quart chapitre. Comment les .ij. freres  
virent les messages pour aler an grant.**

**Quant li frere furent Cāam.**

**Q**uand li frere furent Cāam.  
apparisist pour aler avec les messages si se  
mirent ala voie avec les messages et chevauchie  
rent .i. an chemin par montaignes + par grant a  
vant que il fussent la veni ou estoit le seigneur.  
En chevauchant virent nist de grant merveil  
les de divers fetes telchoses les queles nous ne con  
terons pas oie pour ce que me dire maie qui touz  
ces choses vint aussi le vous conterai en cest liure en  
avant tout apertement.

**Et dit le .v. chapi  
tre comment les .ij. freres vindrent  
quant il furent an grant. Cāam.**



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# EXERCISE 7: TEI FIGURE → IIF IMAGE





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  of the city of Venice</figDesc>  
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/510,550,3580,3200/full/0/default"/>  
  </figure>
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# LEARNING MATERIALS

1. IIF documentation: [Image API](#) for individual images and [Presentation API](#) for collections
2. DARTH, [Hacking Mirador 2016](#)
3. Paolo Monella, [Bologna 2019](#)
4. Tiziana Mancinelli, [Bologna 2020](#)
5. Paolo Monella and Roberto Rosselli Del Turco, [AIUCD 2020](#)
6. Paolo Monella, [Venezia 2020](#)
7. Paolo Monella, [contacts](#)