

THE JUBILEES PALIMPSEST PROJECT

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Palimpsest

The Jubilees Palimpsest Project
Pioneering the Recovery of Illegible Text from
Ancient Manuscripts Through New Tools in
Digital Archaeology

Contents

Overview of Project Contributions

- News ([LINK](#))
- A comprehensive open repository of advanced images of the Jubilees Palimpsest, followed by the other palimpsests in the Biblioteca Ambrosiana ([LINK](#))
- Standards-compliant viewers and annotation workspaces ([LINK](#))
- Reconstruction of the Jubilees Palimpsest ([LINK](#))
- Publications and translations of resources on the Jubilees Palimpsest ([LINK](#))
- Spectral RTI technology ([LINK](#))
- Extended Spectrum color processing ([LINK](#))
- Easy access to Spectral RTI ([LINK](#))

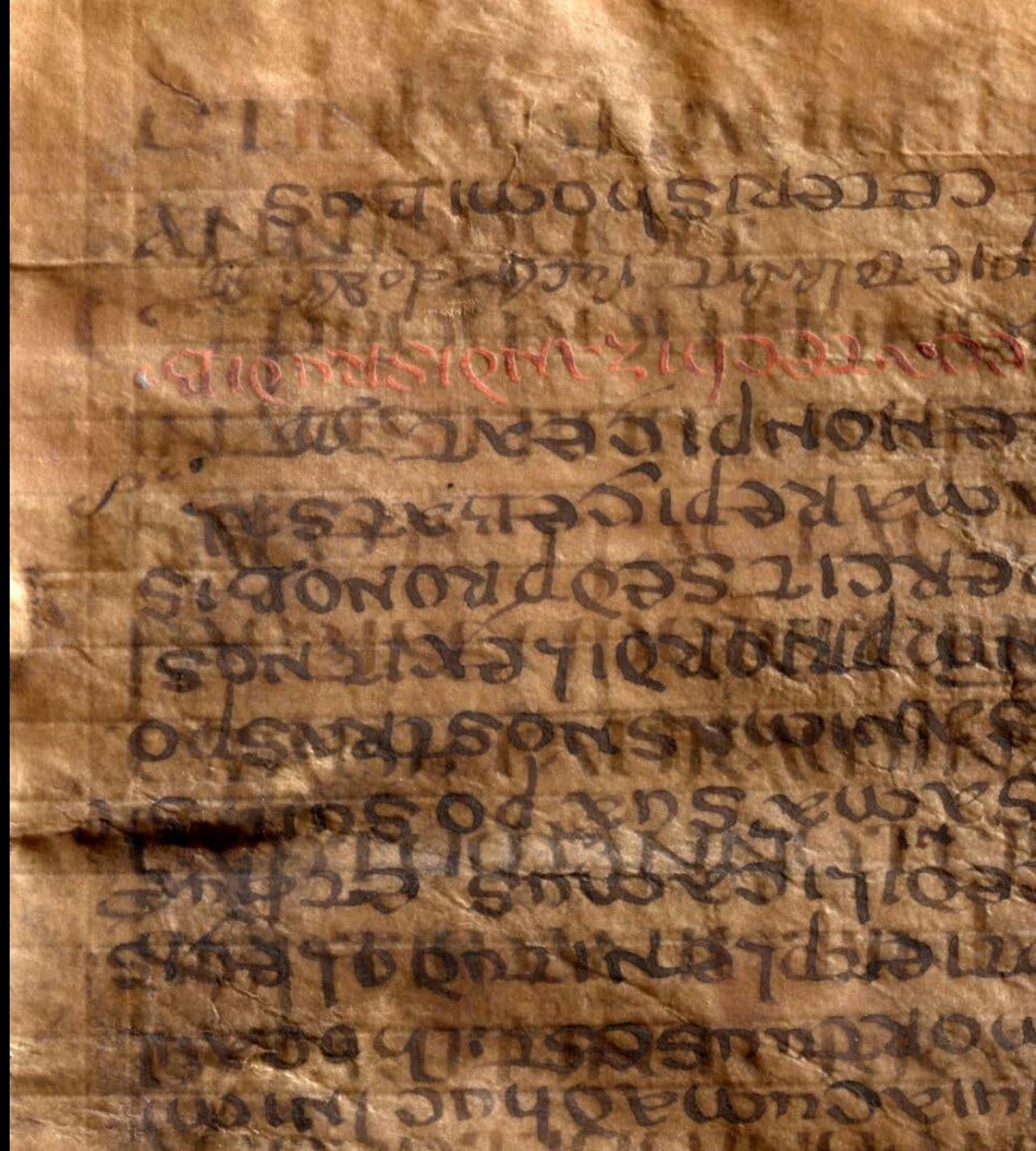
Overview of Project Goals

- A permanent center for digital archaeology ([LINK](#))
- Advance and promote the tools of discovery ([LINK](#))
- Create educational opportunities for the next generation of digital archaeologists and digital humanists ([LINK](#))
- Create scholarly forums for scholarship on digital archaeology ([LINK](#))
- Create a complete scholarly edition of Latin Jubilees ([LINK](#))

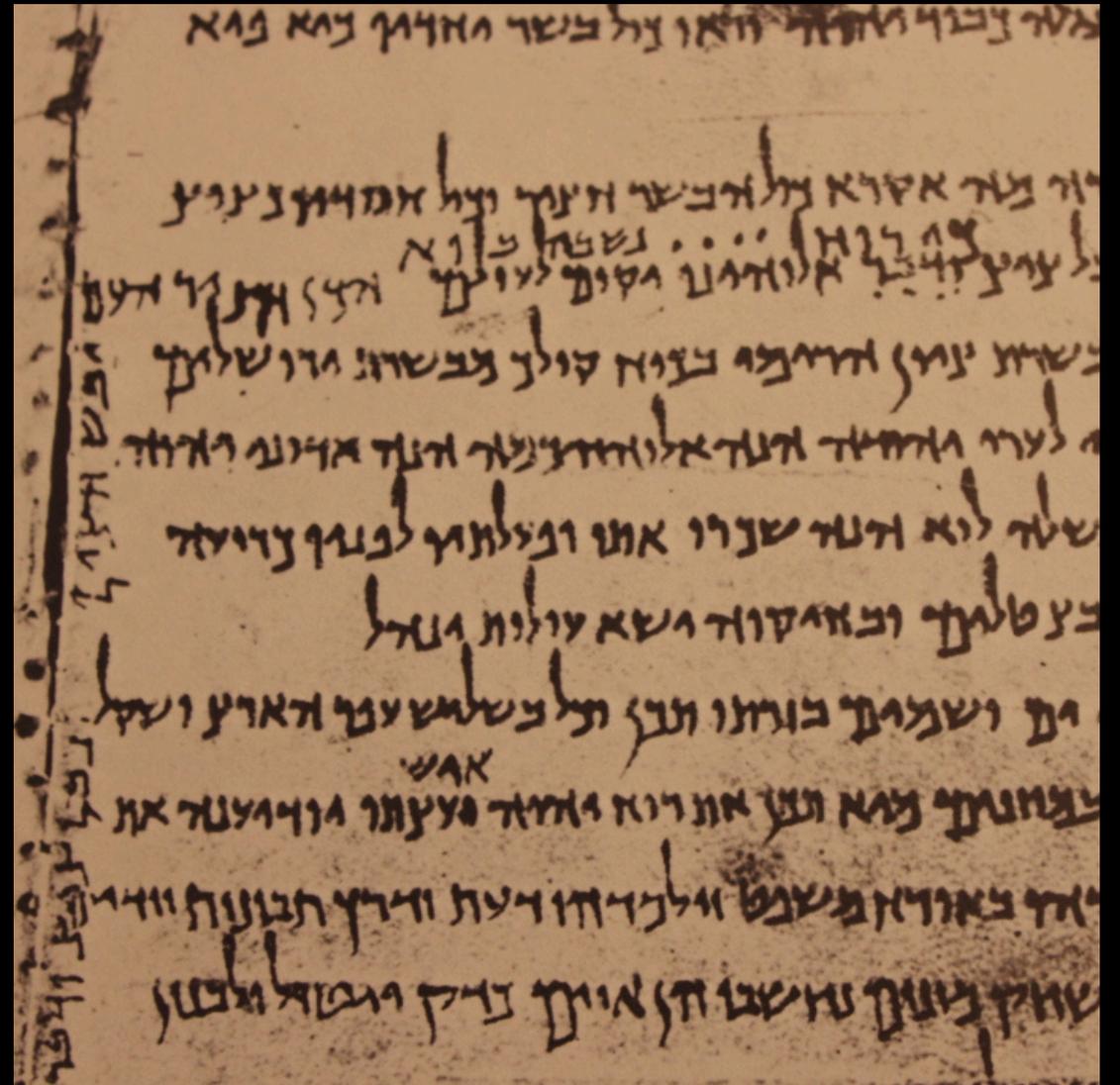
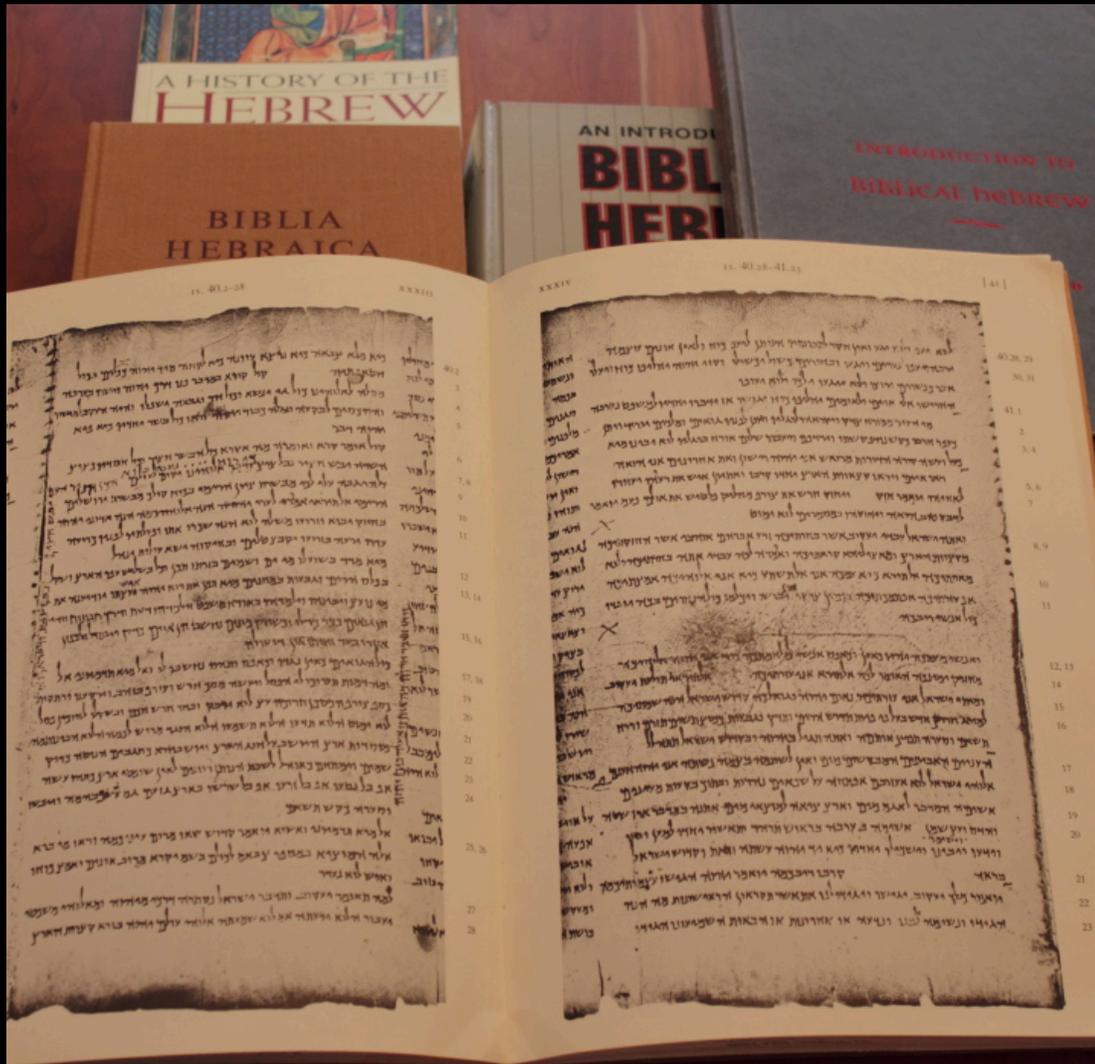
Resources and Links

THREE BIG QUESTIONS AND THREE PRIORITIES FOR DIGITAL ARCHAEOLOGY

- How primary are your primary sources?
 - Access
- Is there a substitute for first-hand experience?
 - Texture and interactivity
- Do you have all the primary sources?
 - Discovery by expanding human perception



How PRIMARY ARE YOUR PRIMARY SOURCES?



FIRST PRIORITY FOR DIGITAL ARCHAEOLOGY: ACCESS

- Digital repositories
- Open license, open access
- User interface
- Interoperable standards
- Interactive critical editions
- Big data processing across repositories

Open Image Repository

Although the Jubilees Palimpsest provided the original impetus for the Jubilees Palimpsest Project, it subsequently became clear that the tools of digital archaeology could have a far greater impact if applied systematically to the tens of thousands of unreadable manuscripts already in libraries and museums. The following palimpsests at the Biblioteca Ambrosiana, particularly those acquired from the Bobbio, have been identified as the top priority for advanced imaging.

Early Judaism and Christianity

1. Latin *Jubilees* (80 pages, LDAB 7663), captured 2017, basic images published, advanced images in progress.
2. *Testament of Moses* (16 pages, LDAB 7663), captured 2017, basic images published, advanced images in progress.
3. *Arian Commentary on Luke* (48 pages, LDAB 7662), captured 2017, basic images published, advanced images in progress.
4. *Ascension of Isaiah* (58 pages, LDAB 7375)
5. *Gothic Commentary on the Gospel of John / Skeireins* (16 pages, LDAB 10984)
6. *Unidentified Greek Commentary on the Gospel of Luke* (210 pages, LDAB 128487), five sample pages captured and published 2017
7. Juvencus, *Evangeliorum Libri Quattuor* (148 pages, E 57 Sup)

Biblical Literature

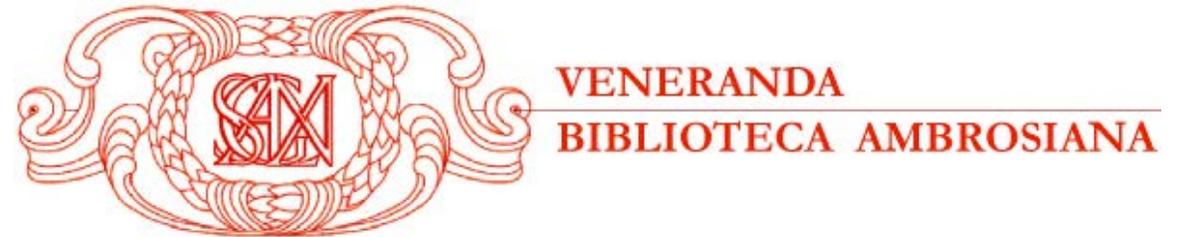
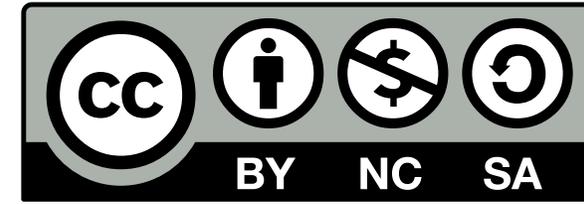
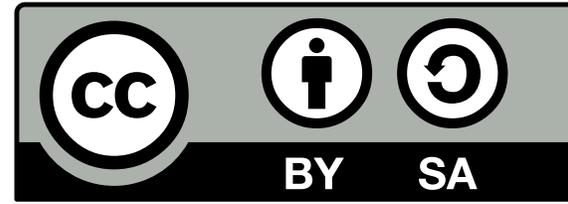
8. Origen, *Hexapla* (112 pages, O 39 Sup.), five sample folios (ten pages) captured, processed and published 2017
9. Synoptic Gospels Fragments Palimpsest (32 pages, Q 6 Sup.)
10. Ulfila, *Gothic Translation of the Book of Nehemiah* (6 pages, LDAB 108085)
11. Ulfila, *Gothic Translation of the Gospel of Matthew* (4 pages, J 61 Sup.)
12. Ulfila, *Gothic Translation of the Letters of Paul including a Gothic Calendar* (356 [212 + 144] pages, LDAB 10684 and LDAB 10685), twenty sample pages captured 2017, processing and publication pending

Greek and Roman Literature and Reception

13. Bobbio Commentary on Uncertain Work by Cicero (210 pages, LDAB 7372)
14. Unidentified Palimpsest in Seventh Century Latin Script (6 pages, LDAB 7688)

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Latin Moses ▾ /iiif/LatinMoses/manifest.json
● all resources ● pages only List resources in manifest

Ambrosiana_C73inf (Latin Moses)

Reconstruction of the Fifth Century Codex of Mosaic Books in Latin (Jubilees and Testament of Moses)

Ordered in sequence of Fifth Century Codex



Page 083 (19c062) [Navigate](#)

Image cube contains:

1. Accurate Color Diffuse (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Ac_00.jp2) [Crop Resize](#)
2. Accurate Color Raking NE (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Ac_51.jp2) [Crop Resize](#)
3. Accurate Color Raking SE (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Ac_55.jp2) [Crop Resize](#)
4. Accurate Color Raking SW (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Ac_07.jp2) [Crop Resize](#)
5. Accurate Color Raking NW (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Ac_02.jp2) [Crop Resize](#)
6. Accurate Color Transmissive (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Ac_Tx.jp2) [Crop Resize](#)
7. Extended Spectrum Diffuse (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Xs_00.jp2) [Crop Resize](#)
8. Extended Spectrum Raking NE (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Xs_51.jp2) [Crop Resize](#)
9. Extended Spectrum Raking SE (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Xs_55.jp2) [Crop Resize](#)
10. Extended Spectrum Raking SW (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Xs_07.jp2) [Crop Resize](#)
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12. Extended Spectrum Transmissive (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_Xs_Tx.jp2) [Crop Resize](#)
13. KTK Ruby Diffuse (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_KTK01_00.jp2) [Crop Resize](#)
14. KTK Ruby Raking NE (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_KTK01_51.jp2) [Crop Resize](#)
15. KTK Ruby Raking SE (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_KTK01_55.jp2) [Crop Resize](#)
16. KTK Ruby Raking SW (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_KTK01_07.jp2) [Crop Resize](#)
17. KTK Ruby Raking NW (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_KTK01_02.jp2) [Crop Resize](#)
18. KTK Ruby Transmissive (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_KTK01_Tx.jp2) [Crop Resize](#)
19. Microfilm (http://jubilees.stmarytx.edu/iiif/Ambrosiana_C73inf_062_microfilm.jp2) [Crop Resize](#)
20. Ceriani1861 (<http://jubilees.stmarytx.edu/iiif/Ceriani1861-15.jp2>) [Crop Resize](#)

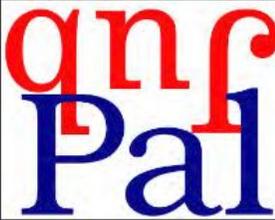
Additional content in <http://jubilees.stmarytx.edu/iiif/LatinMoses/list/5c083.json>

WebRTI Images Available:

1. [Accurate Color](#)
2. [Extended Spectrum](#)
3. [KTK Ruby](#)

Transcriptions and Translations:

1. [Transcription Latest](#)
2. [Transcription Ceriani 1861](#)
3. [Translation Latest](#)
4. [Translation VanderKam 1989 \(Latin\)](#)
5. [Translation VanderKam 1989 \(Ethiopic\)](#)



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Page 083 (19c062) Page 084 (19c061) Page 093 (19c052)

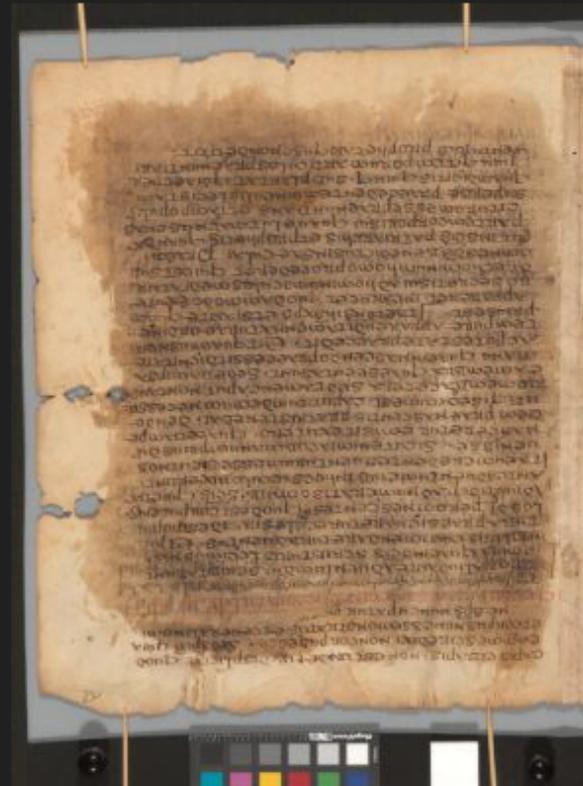


Image Cube

1. Accurate Color Diffuse
2. Accurate Color Raking NE
3. Accurate Color Raking SE
4. Accurate Color Raking SW
5. Accurate Color Raking NW
6. Accurate Color Transmissive
7. Extended Spectrum Diffuse
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16. KTK Ruby Raking SW
17. KTK Ruby Raking NW
18. KTK Ruby Transmissive
19. Microfilm
20. Ceriani1861

WebRTI Images Available:

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3. KTK Ruby

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Close

Filter objects: Add new object from URL: Load

	rois de France et d'Angleterre, jusqu'à l'an 1461: manuscript, [ca. 1461]. MS Typ 41. Harvard University	41 items	
	Catholic Church. Homiliarium. Homiliary including works of Bede, Augustine, and Gregory: manuscript, [11--]. MS Typ 441. Harvard University	40 items	
	Poems by Guillaume de Machaut, [15 cent.] National Library of Wales	178 items	
	The clans of the Scottish Highlands Stanford University	360 items	
	City of Dublin : sheet 21 University College Dublin	1 item	
	Housing Plans for Greater Dublin University College Dublin	1 item	
	A group of Irish Free State Army soldiers firing artillery on the Four Courts University College Dublin	1 item	
	Aa, Admont, Benediktinerstift Admont Bibliothek & Museum, Admont MS 23 Yale University	592 items	
	大正新脩大藏經圖像部第12b02卷 University of Tokyo	1 item	

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A screenshot of a digital manuscript viewer interface. At the top, there are navigation controls: a back arrow, a search bar containing 'Image 20 of 565', a 'Go' button, and forward arrows. Below this is a 'CONTENTS' sidebar on the left, showing a grid of thumbnail images for folios 1v, 2r, 2v, 3r, 3v, and 4r. The main area on the right displays a large, detailed manuscript page (MS. Bodl. 264) featuring a complex miniature with multiple scenes, figures, and ornate architectural elements. At the bottom of the interface, there is a dropdown menu showing 'MS. Bodl. 264', a text input field with the URL 'http://iiif.bodleian.ox.ac.uk/iiif', a 'Set' button, and left and right navigation arrows.

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In most cases Mercati swabbed the tincture over an entire area where a letter or word might be. In some cases he drew fine lines which can be mistaken for original ink strokes. The processed images excel at making similar materials look similar and different materials look different. For example, on page 81 in the NAP02 color processing, tincture appears light blue and erased text as dark red. In the letters $\sigma\epsilon$ in this image (



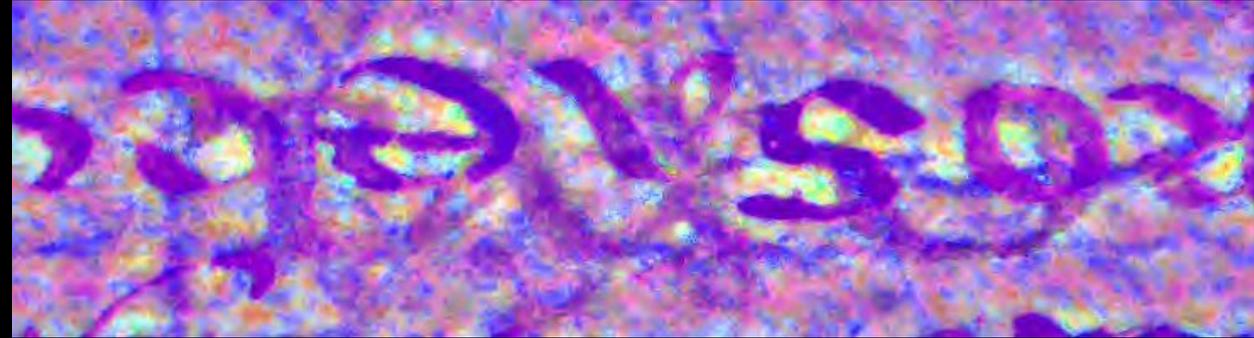
)the erased text is visible along with the reagent. However, elsewhere on the same page, where Mercati reads $\rho\rho\beta\iota$, the iotas appear only in light blue and not at all in dark red (



). The raking light images show the rule lines, so it is certain a letter was there and likely that a iota is the best fit, but any trace of the original ink has been destroyed and the visible marking in the shape of a letter iota is entirely the result of Mercati "writing" with tincture and not evidence of an original letter.

FIRST PRIORITY FOR DIGITAL ARCHAEOLOGY: ACCESS

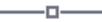
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IS THERE A SUBSTITUTE FOR FIRST-HAND EXPERIENCE?

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- Yes, if you can't afford to travel
- Yes, if your hands are bad for the artifact's conservation
- Yes, if the artifact is behind glass
- Yes, if the artifact is removed from its context
- Yes, if supporting tools are required for study
- Yes, if the markings you are looking for are invisible to the eye

 Multiple Airlines	5:45 am AUS	 JFK	7:05 am IST (+1)	16h 20m	\$1520 KAYAK	View Deal	 Share  Watch
 Multiple Airlines	8:15 am IST	 JFK	12:29 am AUS (+1)	25h 14m			
 Multiple Airlines	5:45 am AUS	 JFK	7:05 am IST (+1)	16h 20m	\$1550 KAYAK	View Deal	 Share  Watch
 Multiple Airlines	3:05 pm IST	 JFK	12:29 am AUS (+1)	18h 24m			
 Multiple Airlines	5:45 am AUS	 JFK	7:05 am IST (+1)	16h 20m	\$1575 CheapOair	View Deal	 Share  Watch
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					 \$1811 book easily on KAYAK		
 Multiple Airlines	1:47 pm AUS	 JFK	7:05 am IST (+2)	32h 18m	\$1668 KAYAK	View Deal	 Share  Watch
 Multiple Airlines	3:05 pm IST	 JFK	12:29 am AUS (+1)	18h 24m			

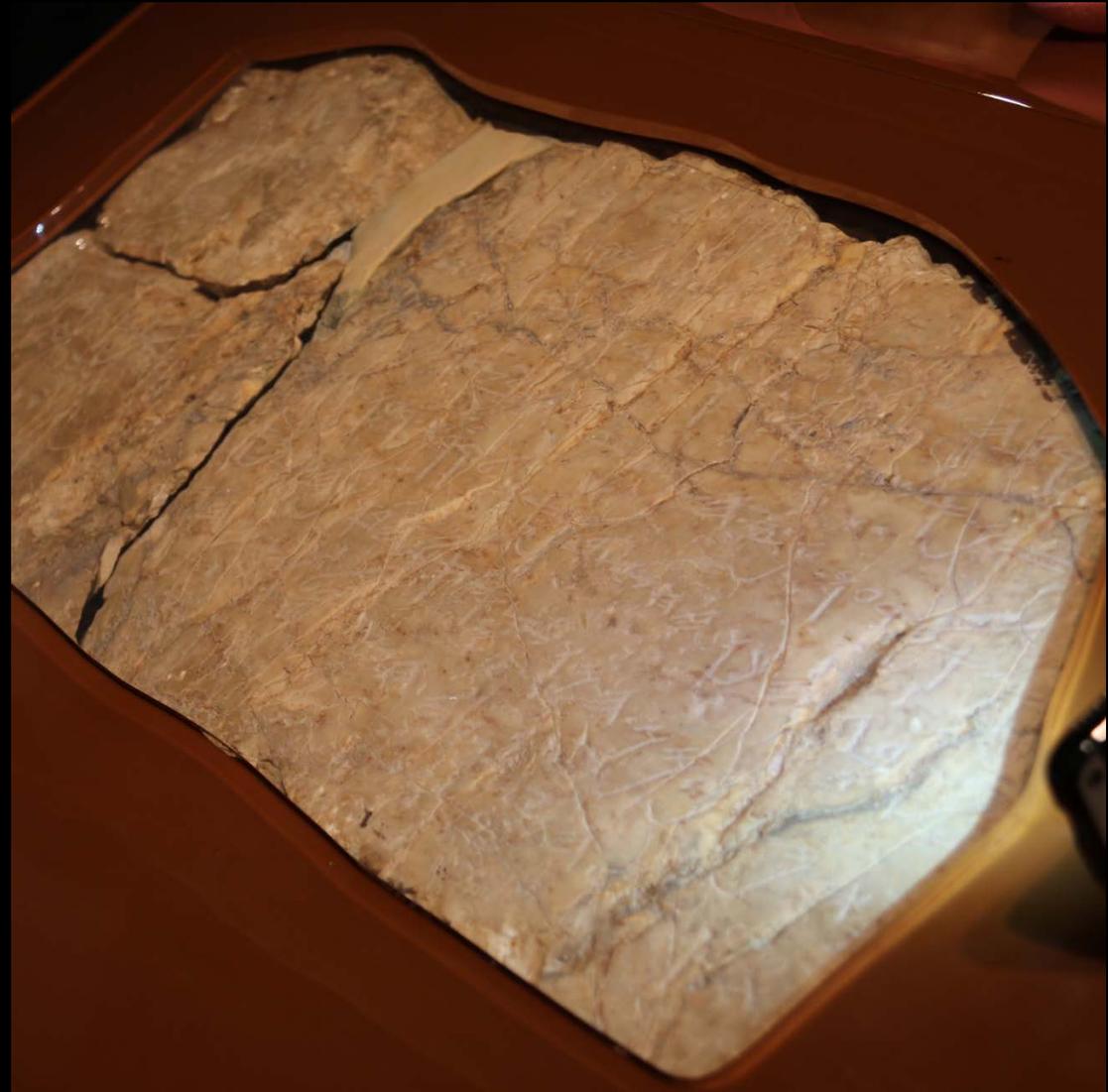
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The screenshot shows a Bible study application. On the left, a search bar contains 'Enter search words or verse'. Below it, a list of search results is displayed, with '2Ki 20:20' selected. The results list includes: 2Ki 18:31 ... Hezekiah, ^; 2Ki 20:20 ... Hezekiah, v; 2Ch 32:30 *2 ... Hezekiah, ^; Sir 48:17 *2 HEZEKIAH fo; and Isa 36:16 ... Hezekiah, ^.

The main display area shows the text of 2 Kings 20:20 in three languages:

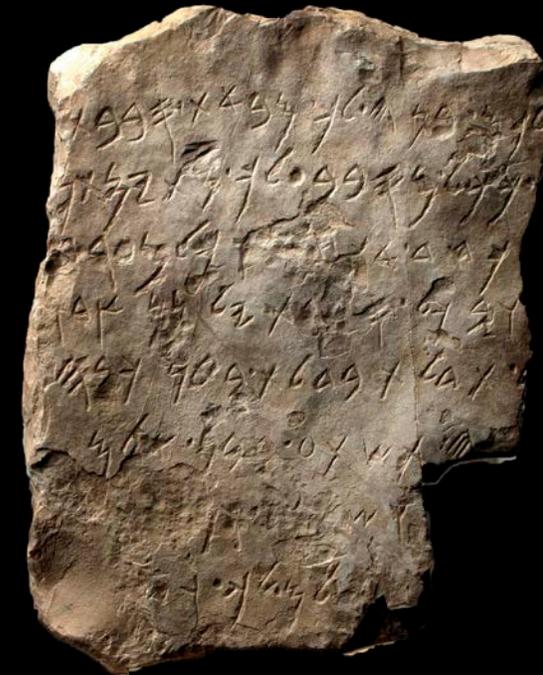
Hebrew: וַיִּתֵּר דְּבָרֵי חִזְקִיָּהוּ וְכָל-נִבְרֹתָיו וְאֲשֶׁר עָשָׂה אֶת-הַבְּרֶכֶת וְאֶת-הַתְּעָלָה וַיָּבֵא אֶת-הַמַּיִם הָעִירָה הַלְּאִיָּהִם כְּתוּבִים עַל-סֵפֶר דְּבָרֵי הַיָּמִים לְמֶלֶךְ יְהוֹרָם:

Greek: BGT 2 Kings 20:20 καὶ τὰ λοιπὰ τῶν λόγων Εζεκιου καὶ πᾶσα ἡ δυναστεία αὐτοῦ καὶ ὅσα ἐποίησεν τὴν κρήνην καὶ τὸν ὑδραγωγὸν καὶ εἰσήνεγκεν τὸ ὕδωρ εἰς τὴν πόλιν οὐχὶ ταῦτα γεγραμμένα ἐπὶ βιβλίῳ λόγων τῶν ἡμερῶν τοῖς βασιλεῦσιν Ἰουδα

English: NAB 2 Kings 20:20 The rest of the acts of Hezekiah, with all his valor, and how he constructed the pool and conduit and brought water into the city, are recorded in the book of the chronicles of the kings of Judah.

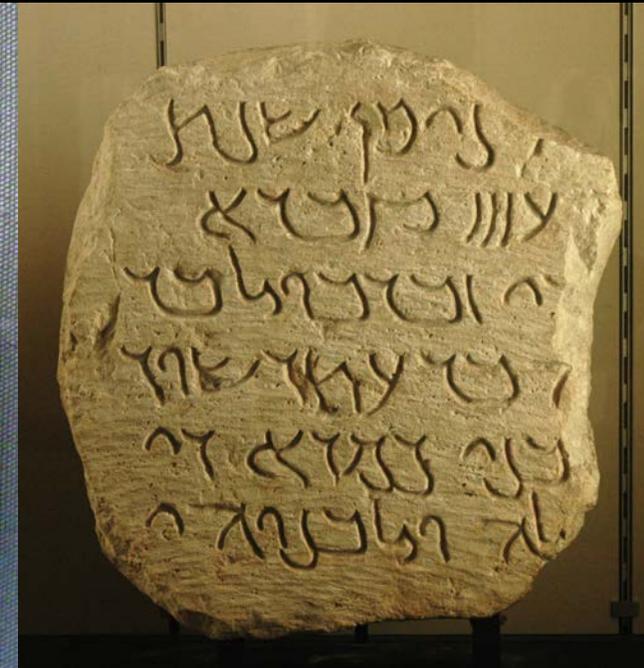
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SECOND PRIORITY FOR DIGITAL ARCHAEOLOGY: TEXTURE AND INTERACTIVITY

- The importance of texture
- Digitization with raking light
- The importance of interactivity
- Reflectance Transformation Imaging (RTI)
- WebRTI



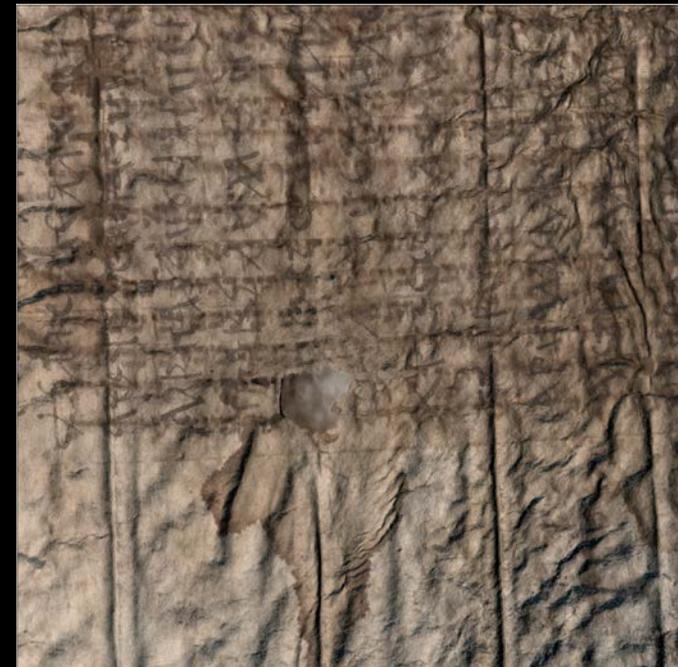
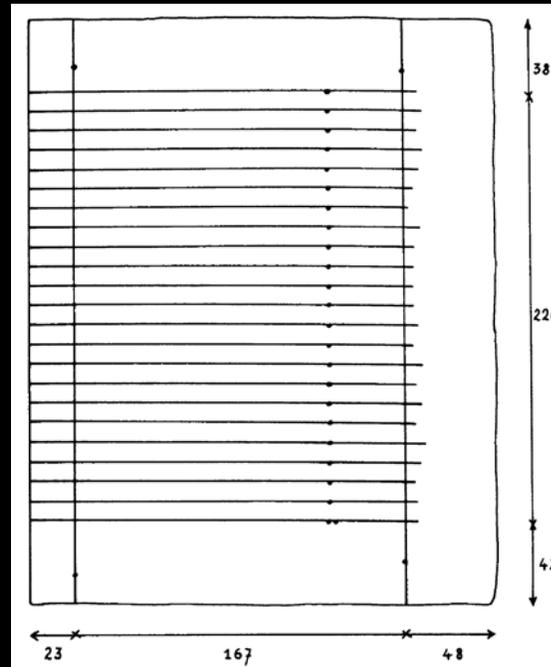
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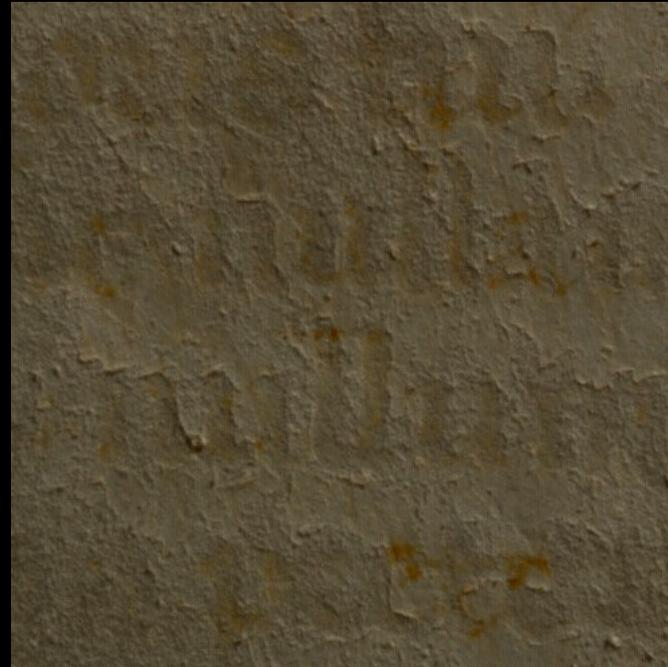
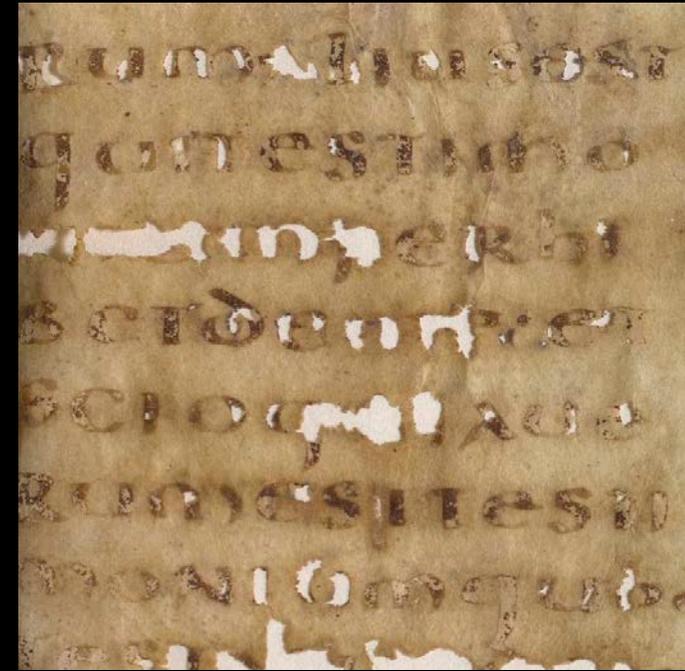
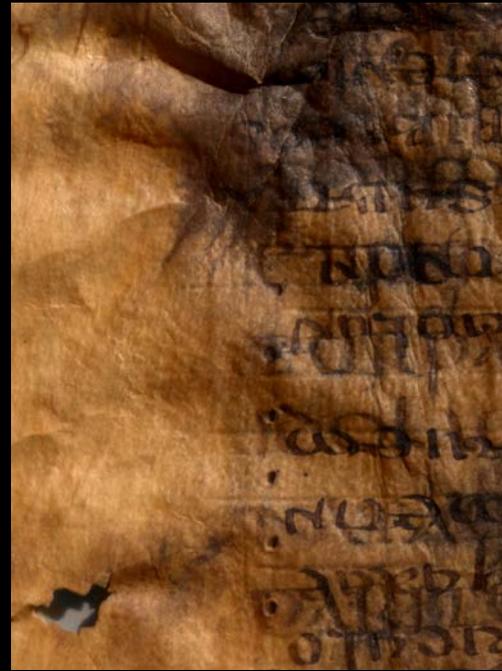
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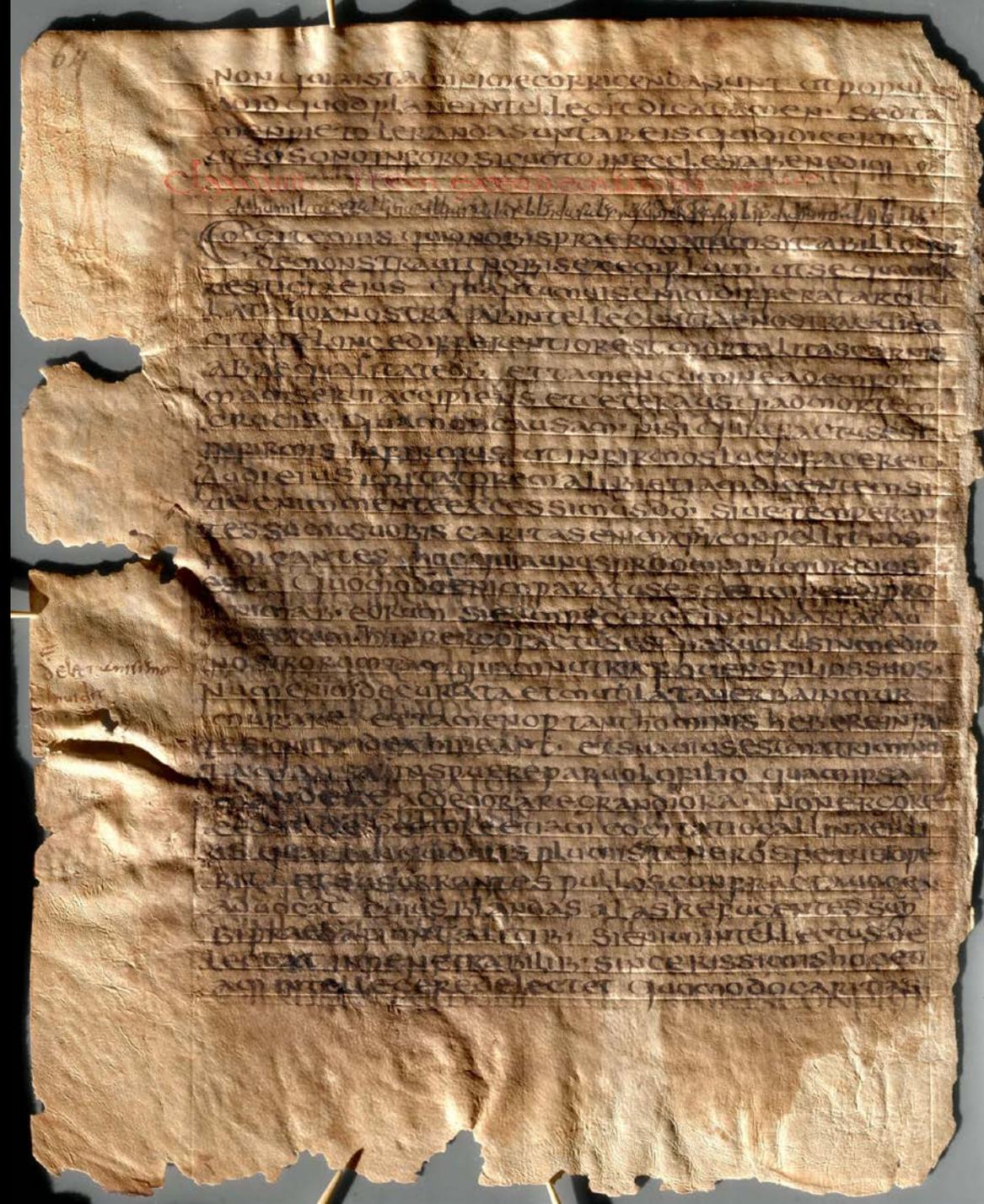
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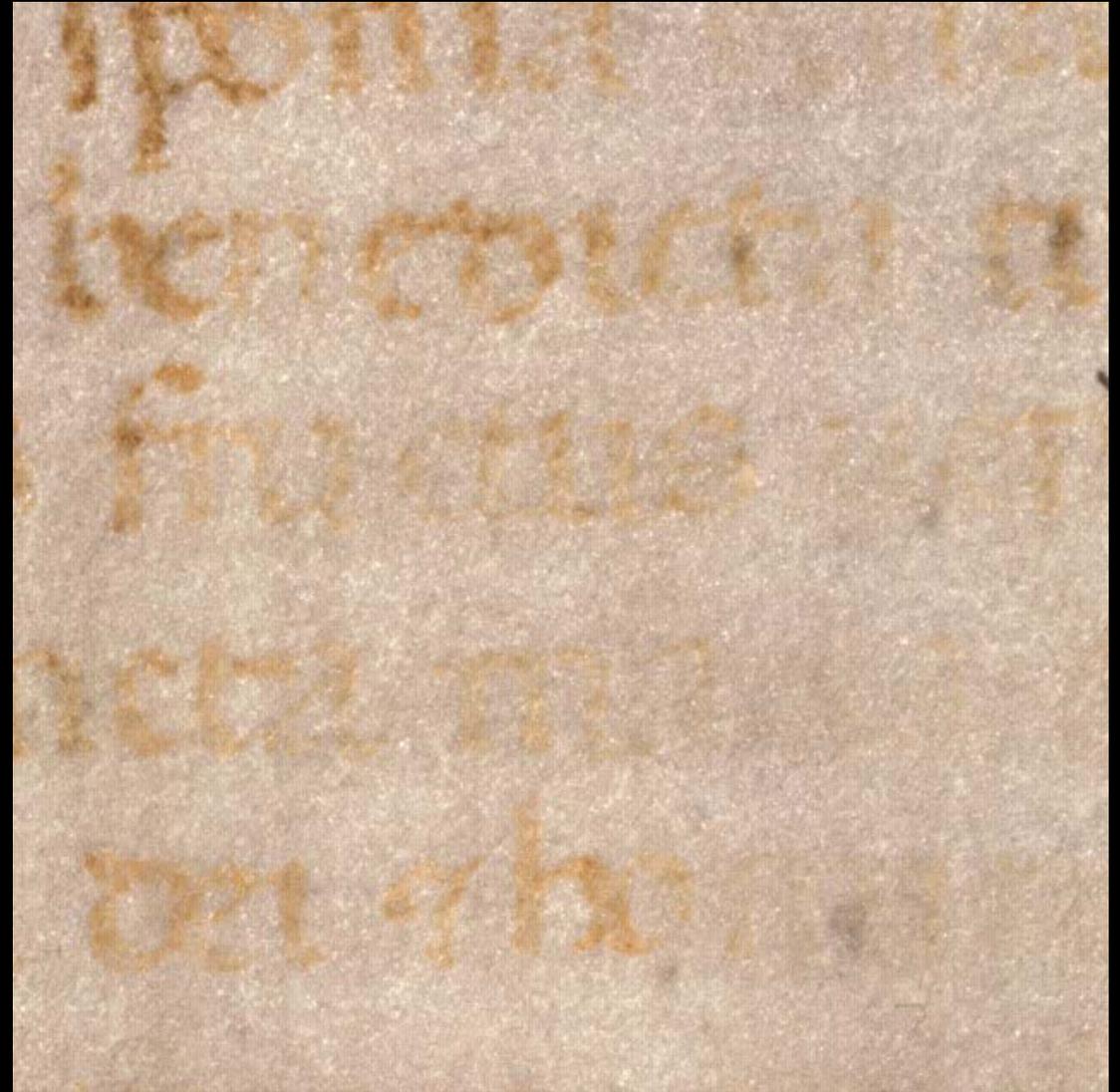
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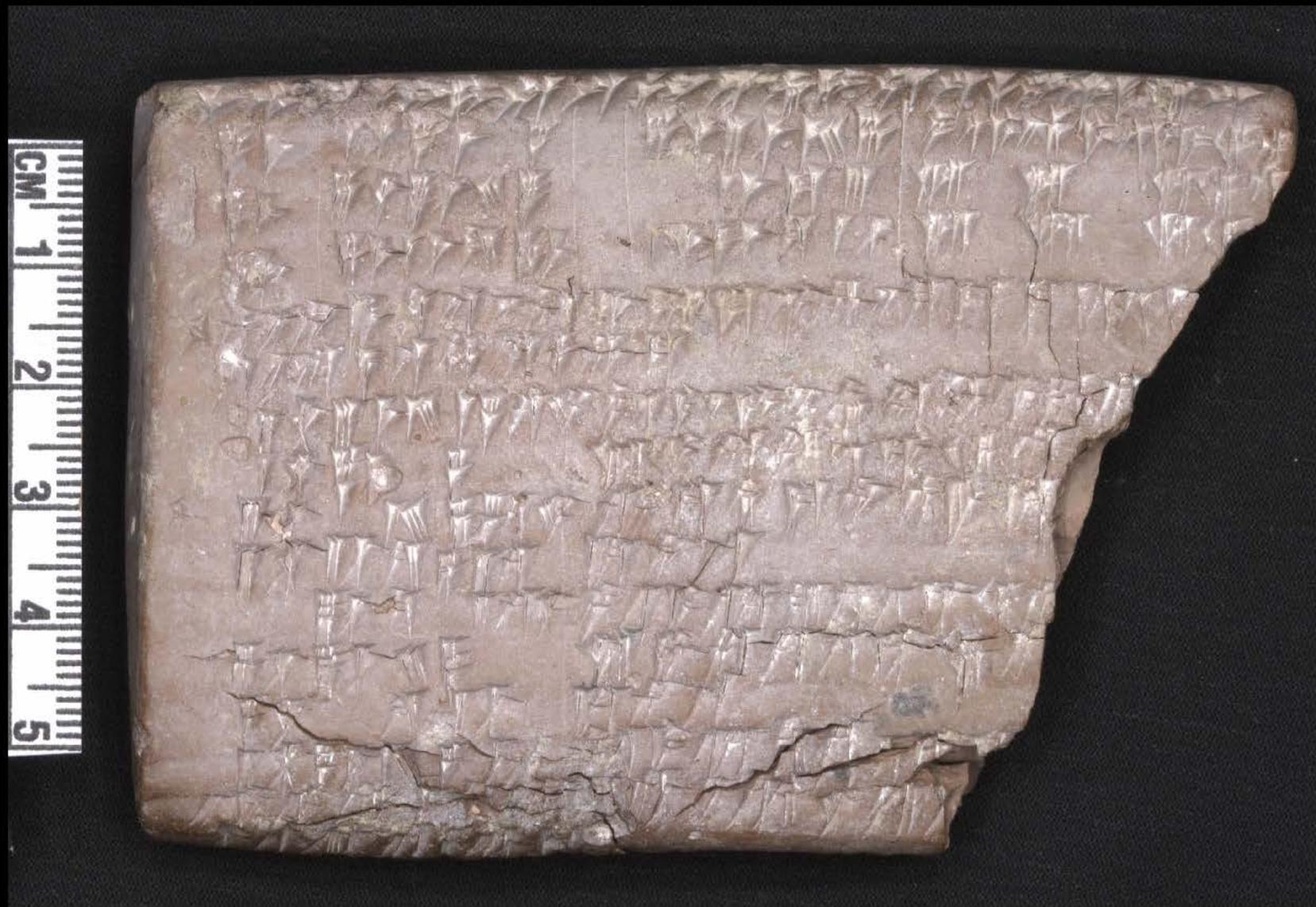
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RTI Zoom is: 45 %

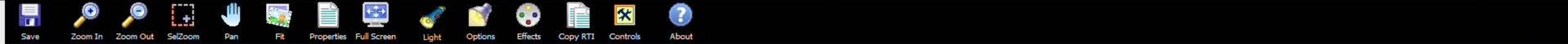
General

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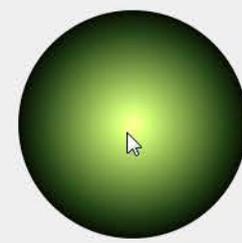
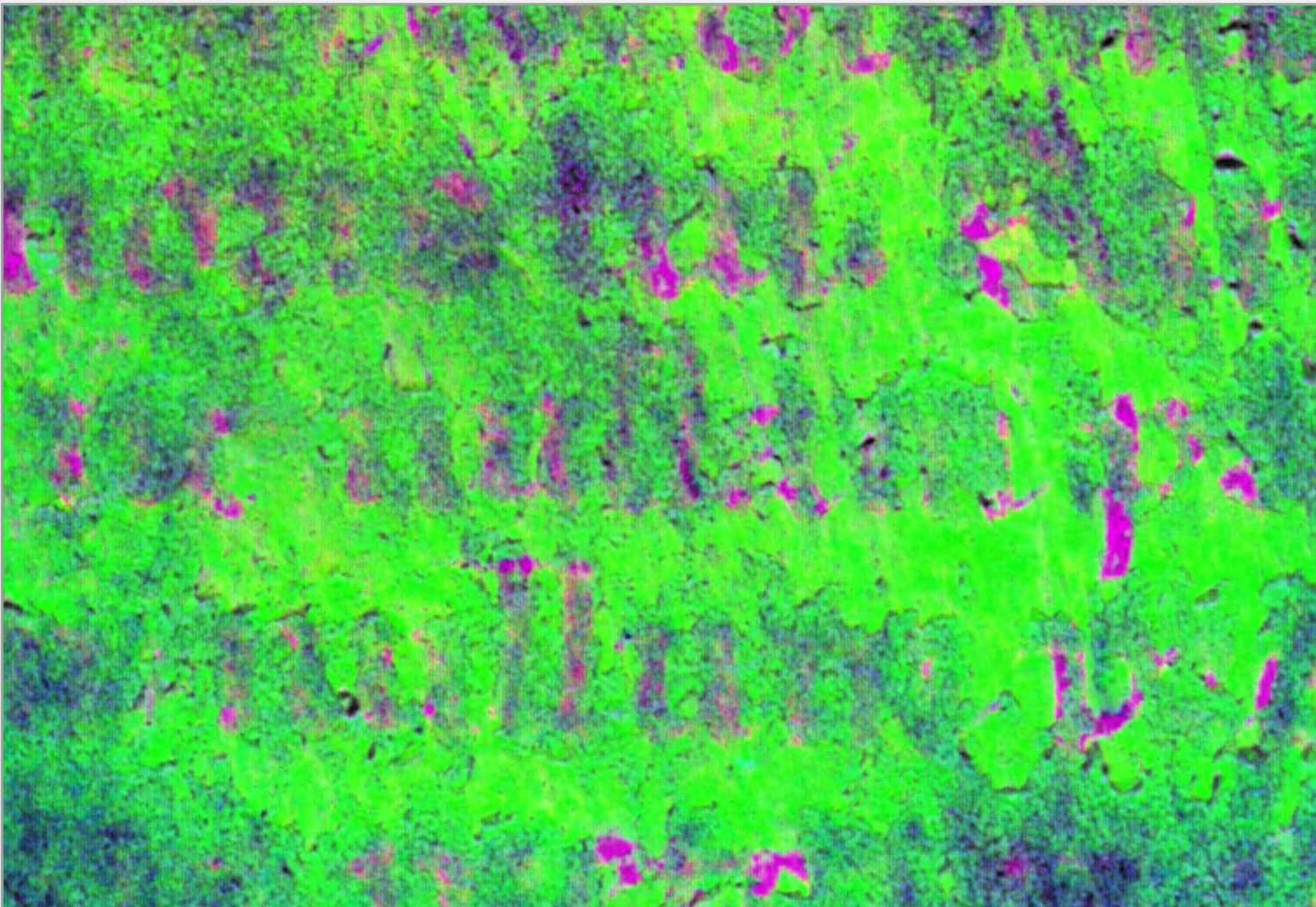
0 25 50 75 100

Thumbnail

Move cursor in the selected image or in the thumbnail above to move the light around in the image.



RTI Zoom is: 45 %



Light
x 0.00
y 0.00

Zoom
200%

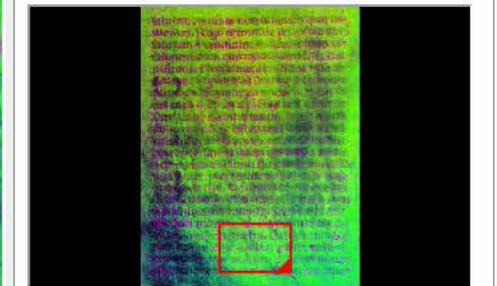
Pan
x 863
y 2359

Rendering mode
Default

Navigator Bookmarks

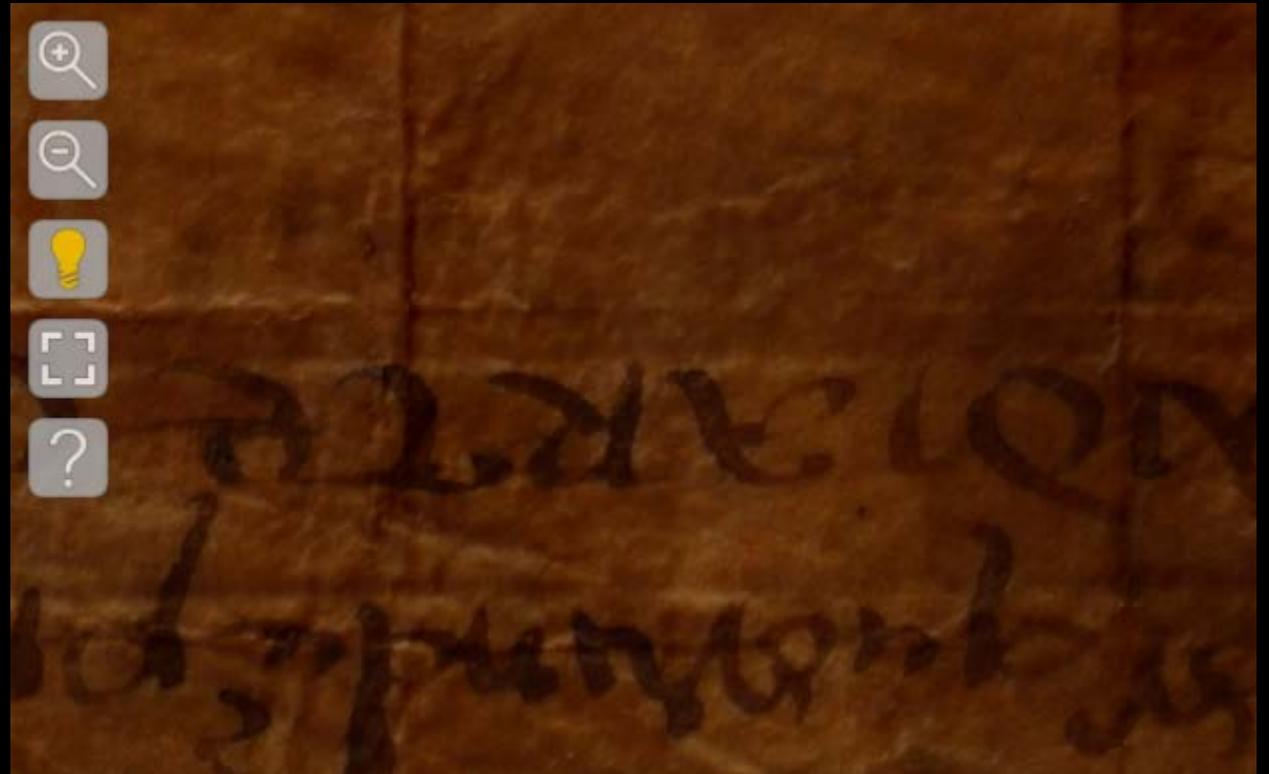
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Size 2376 x 3040 Format LRGB PTM

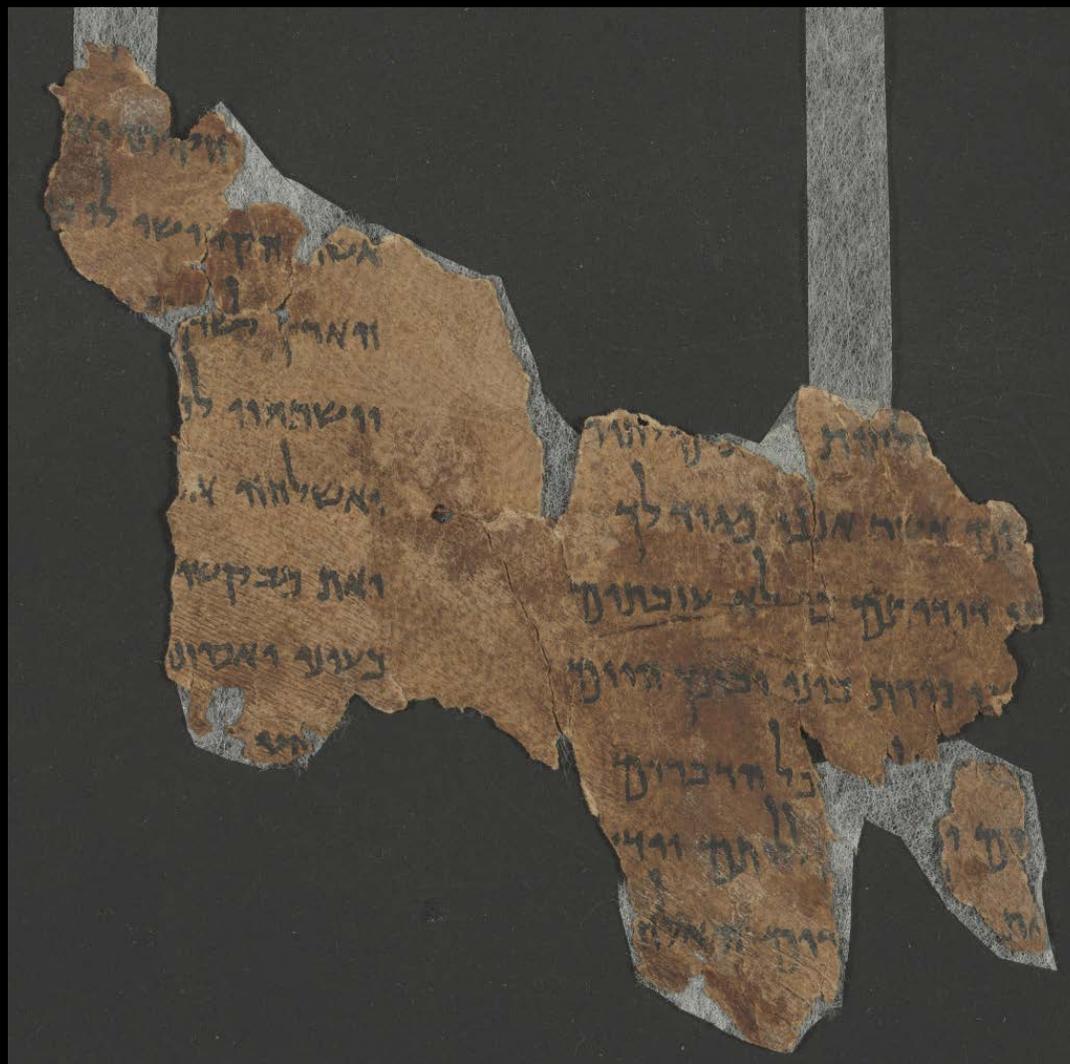


SECOND PRIORITY FOR DIGITAL ARCHAEOLOGY: TEXTURE AND INTERACTIVITY

- The importance of texture
- Digitization with raking light
- The importance of interactivity
- Reflectance Transformation Imaging (RTI)
- WebRTI



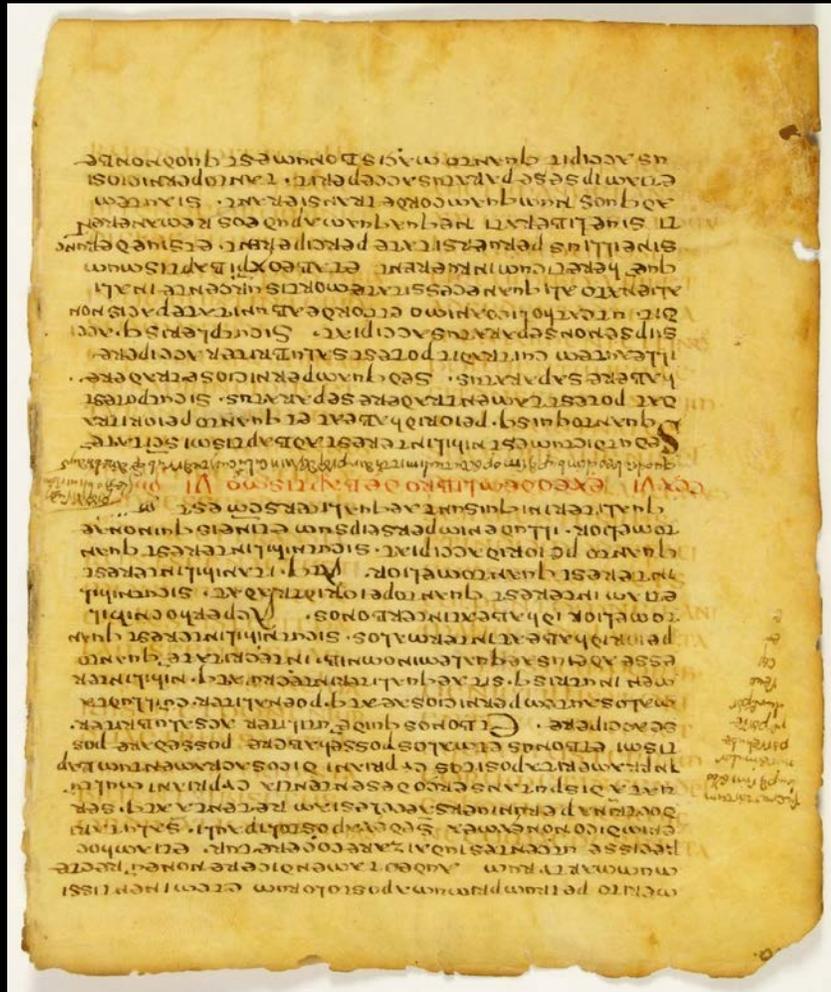
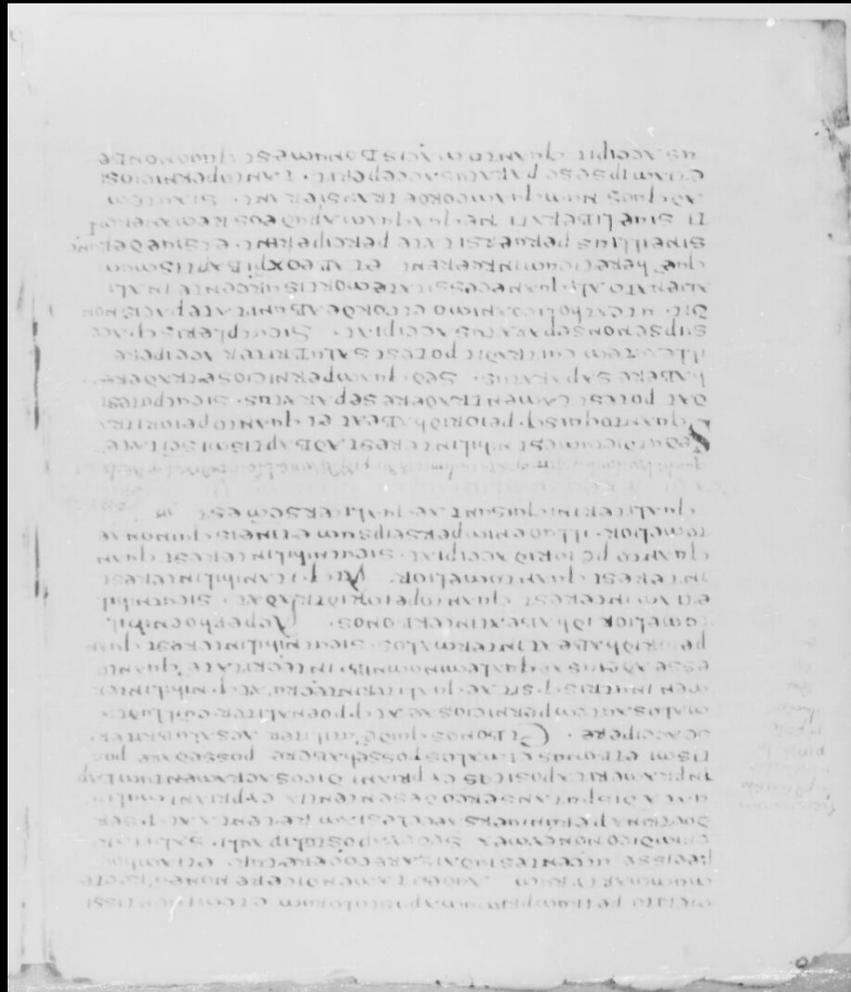
DO YOU HAVE ALL THE PRIMARY SOURCES?



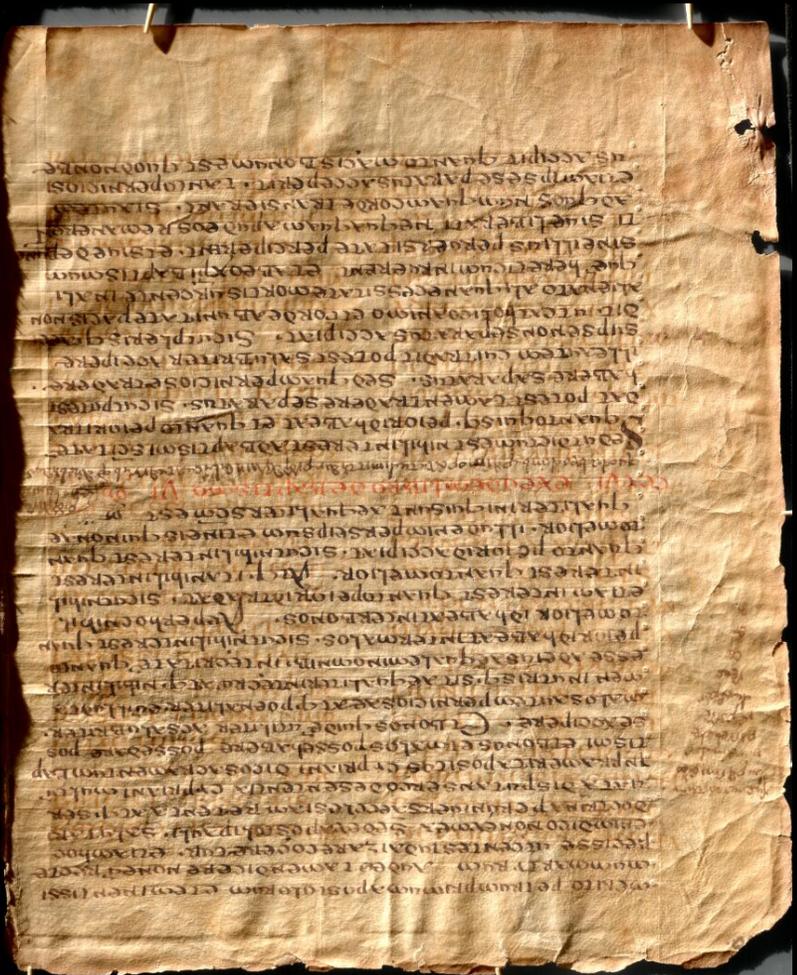
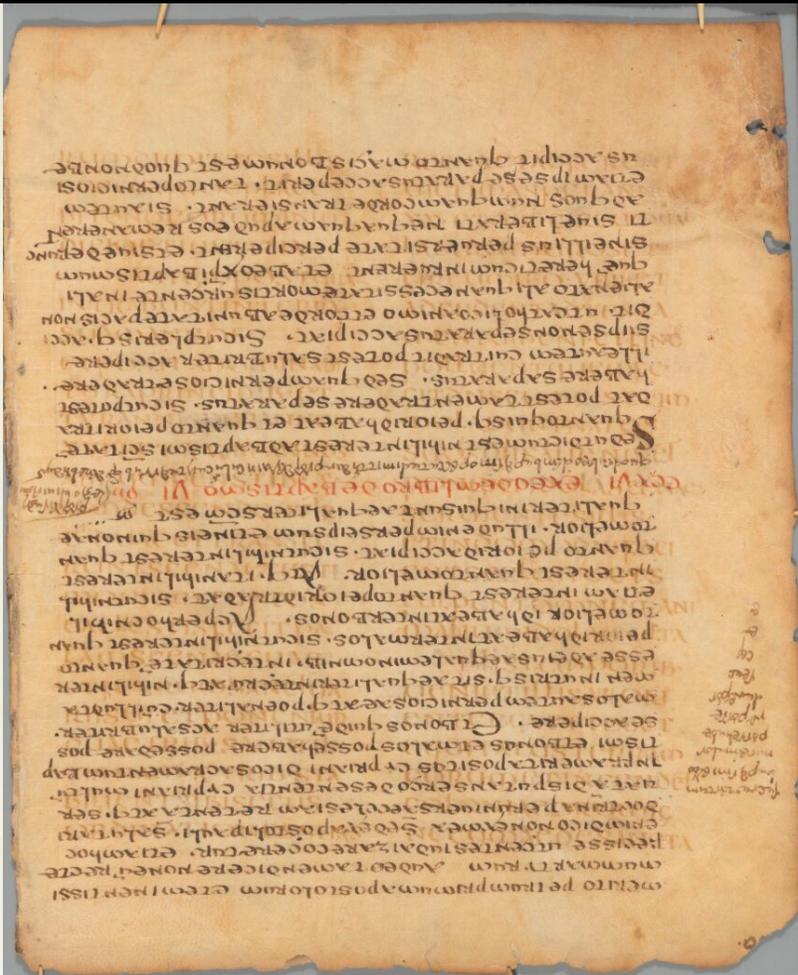
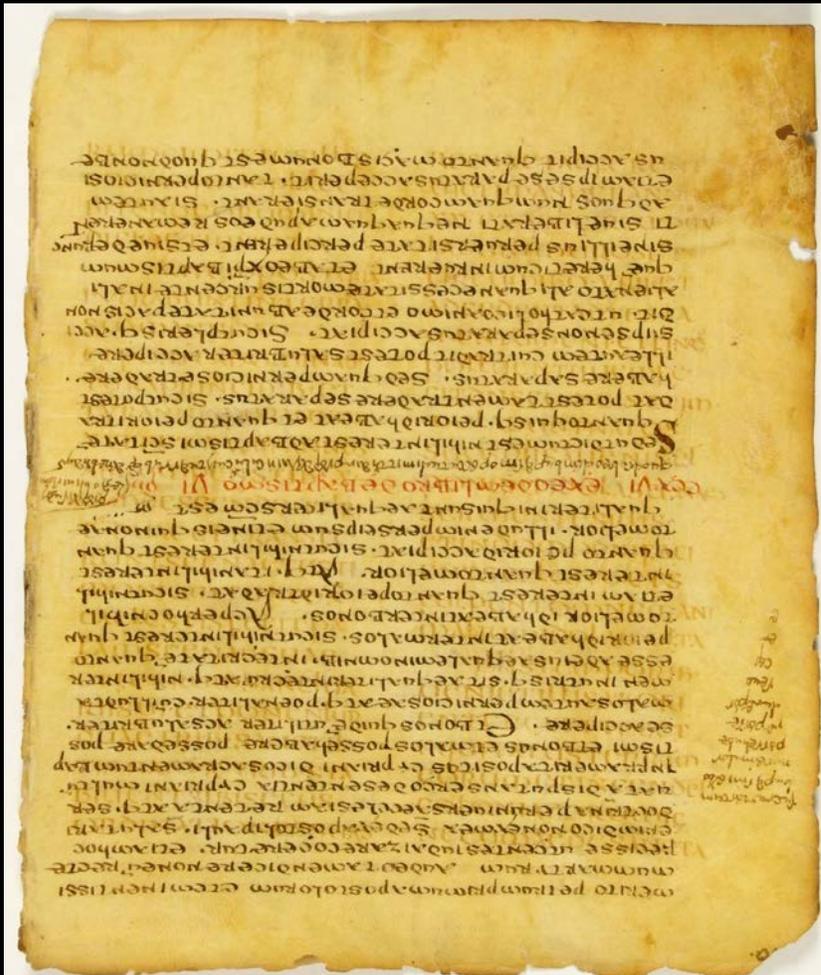
DO YOU HAVE ALL THE PRIMARY SOURCES?

110. a. rum dimittes illis
secus quod place-
bit domino eorum in iu-
dicio et iustitia
autem postquam
intrabunt in terram
suam annos
et postea dominabi-
tur a principibus et
tyrannis per annos
xviii et xviii annos
abrumpe tibi x
nam descendent tri-
bus duae et transfe-
rent scenae testi-
monium: tunc deus
caelestis fecit pa-
lam scenae suae
et ferrum sanctua-
rii sui: et ponentur
duae tribus sanctita-
tis: nam x tribus sta-
bilient sibi secus
ordinationes suas
regna et adherent
uictimas per annos
xx et uiri circumual-
labunt muros et
circumibo uiii: et
adcedent ad testa-
mentum domini: et finem
polluent quem fe-
cit dominus cum eis: et im-
molabunt natos
suos diis alienis: et
ponent idola scenae
seruientes illis:
et in domo domini faci-
ent scelestae: et s-
culpent omnem ani-
malium idola multa
illis temporibus
ueniet illis ab ori-
ente rex et teget
equitatus terram
eorum et incendet
colonia eorum ig-
ne cum aede sancta

109. a. domini et sancta uasa om-
nia tollet et omnem
plebem eiciet et du-
cet illos in terram
patriae suae et duas
tribus ducit secum
Tunc inuocabunt
duae tribus x tribus
et ducent se ut liena
in campis puluerati
esurientes et siti-
entes cum infantibus
nostris et clamabunt
iustus et sanctus dominus
quia enim uos peccas-
tis et nos pariter ad-
ducti sumus uobis-
cum tunc plora-
bunt x tribus audien-
tes inproperia uer-
borum tribum dua-
rum et dicent: quid
faciemus uobis fra-
tres: nonne in omnem
domum israhel ad-
uenit cibis haec
et omnes tribus plora-
bunt clamantes in
caelum et dicentes
deus abraham et deus isa-
ac et deus iacob remi-
niscere testamen-
tum tuum quod fac-
tasti cum eis et ius-
turandum quod iu-
rasti eis per te ne um-
quam deficiat semen
eorum a terra quam
dedisti illis
Tunc reminiscetur
me die illo dicentes
tribus ad tribum et
homo de proximo
suo nonne hoc est
quod testabatur no-
bis cum moyses in
profetis qui multa
passus est in aegypto

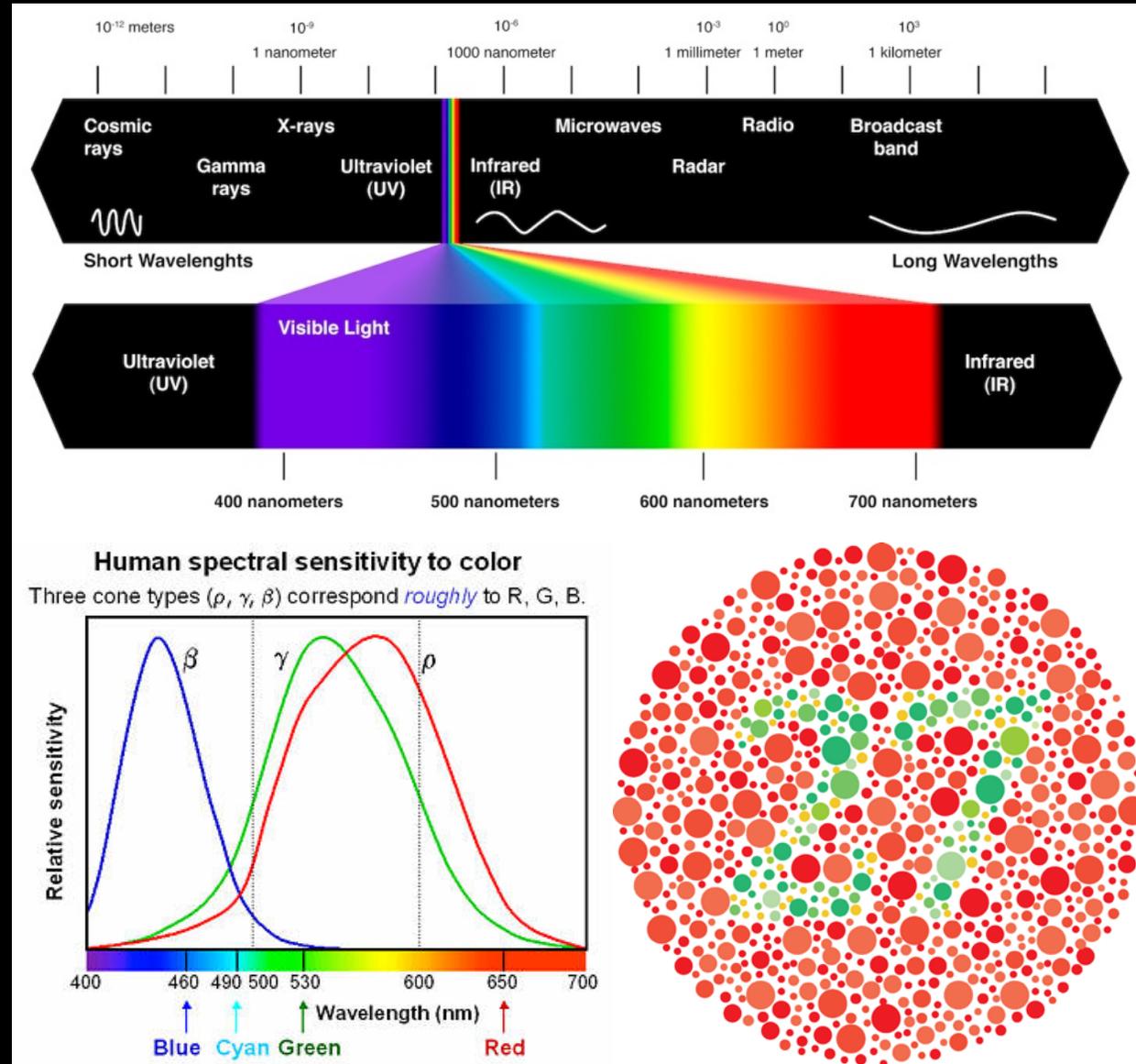


DO YOU HAVE ALL THE PRIMARY SOURCES?



THIRD PRIORITY FOR DIGITAL ARCHAEOLOGY: DISCOVERY BY EXPANDING HUMAN PERCEPTION

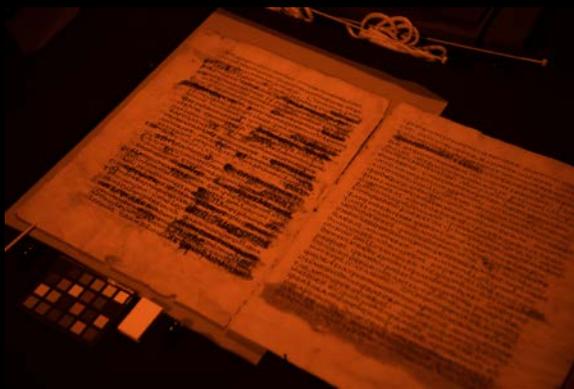
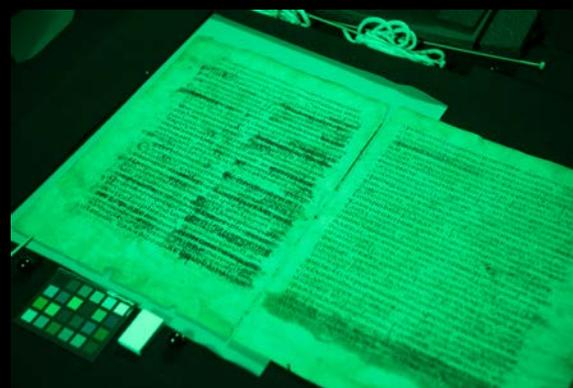
- The importance of color resolution for the study of manuscripts
- The electromagnetic spectrum
- Human perception
- Color resolution
- Enhanced processing



THIRD PRIORITY FOR DIGITAL ARCHAEOLOGY: DISCOVERY BY EXPANDING HUMAN PERCEPTION

- The importance of color resolution for the study of manuscripts
- The electromagnetic spectrum
- Human perception
- Color resolution
- Enhanced processing





3 channel color resolution



Low spatial resolution



Extended Spectrum



Binary color resolution



Pseudocolor



1 channel color resolution



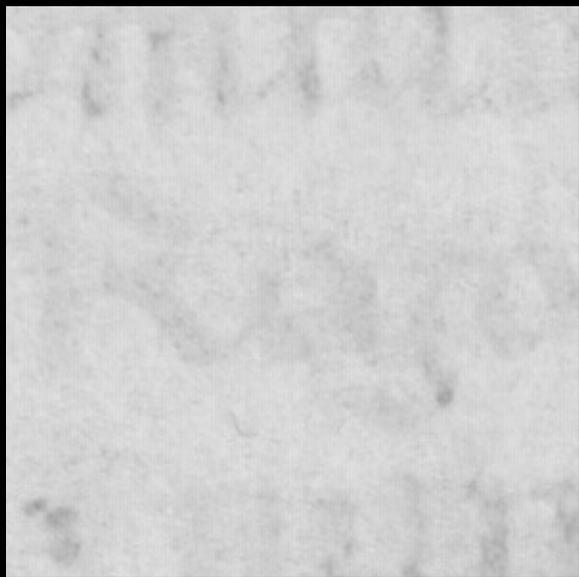
2 channel color resolution



Binary color resolution



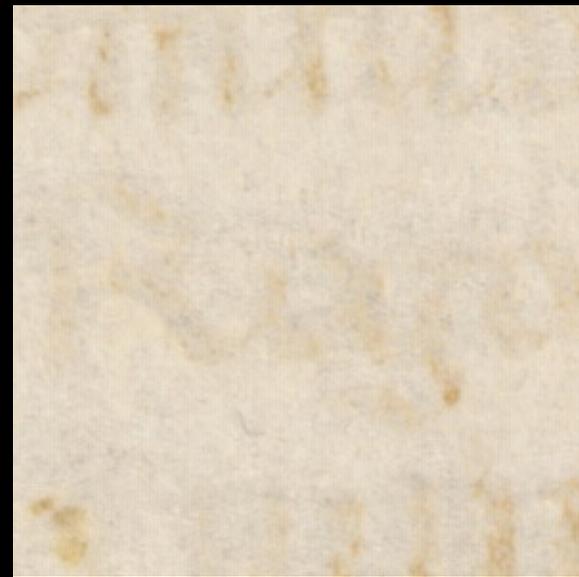
1 channel color resolution



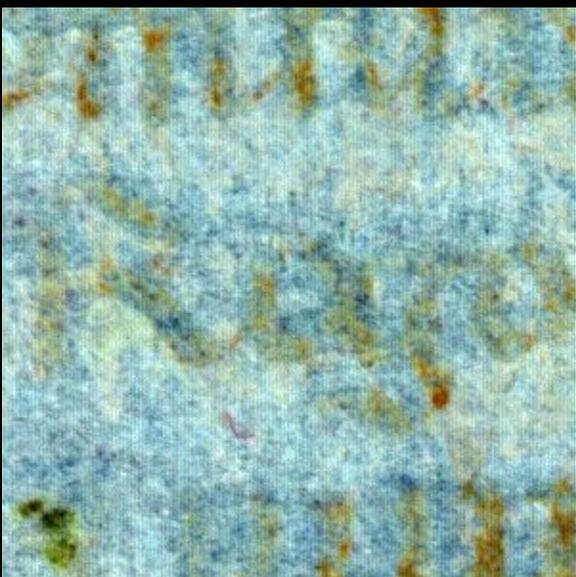
2 channel color resolution



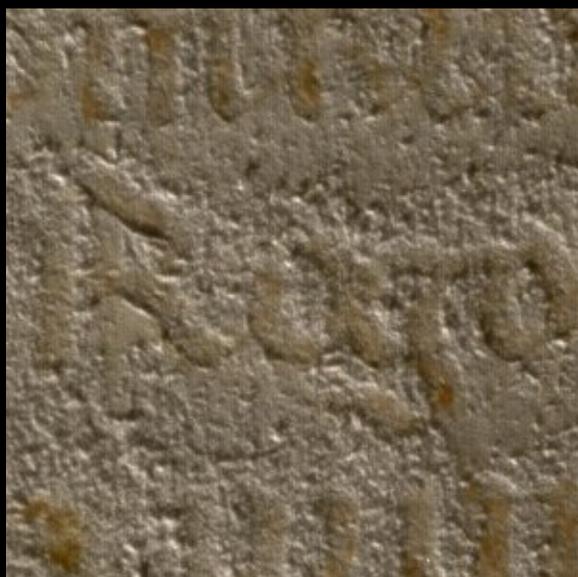
3 channel color resolution



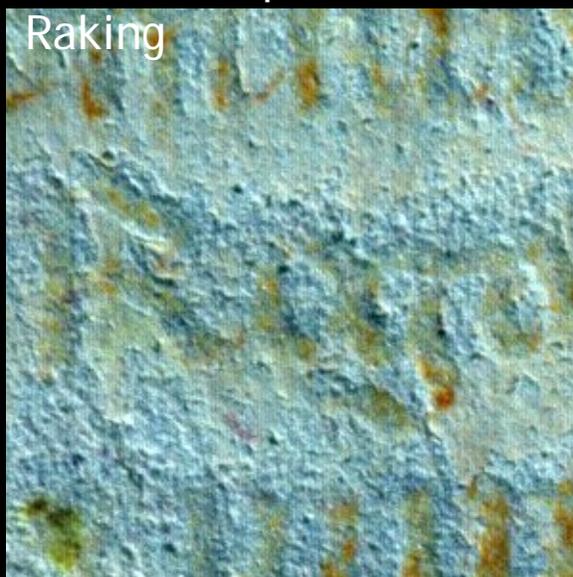
Extended Spectrum



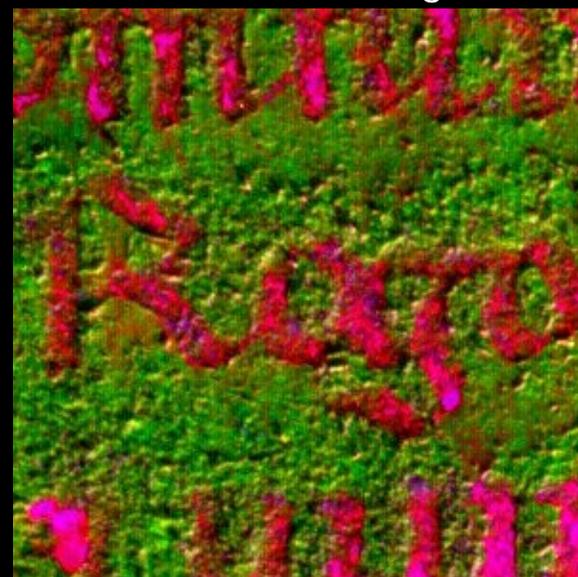
Accurate Color Raking



Extended Spectrum
Raking



Pseudocolor Raking



Accurate Color



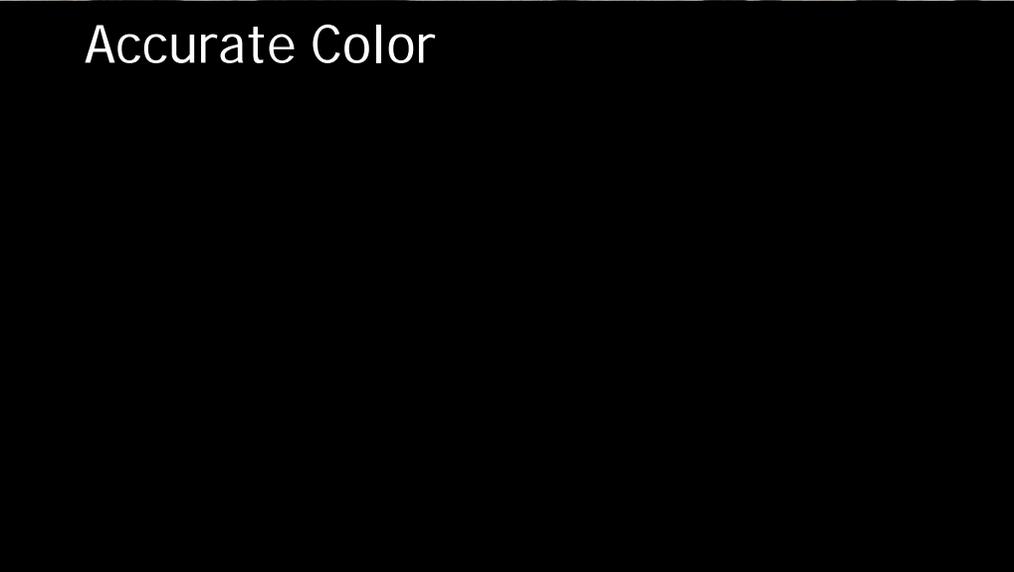
Extended Spectrum







Pseudocolor



Accurate Color



CIVIL Note: *Democracy* =
12 July 1871 = our statesmen seem to
come to the conclusion that Railways
and telegraphs will be better managed
by the Government than by
private companies - The reasons for this
as the Times' which are certainly
not so well managed for the benefit
of the nation by private companies
as they would be by the agency
of the Government - Both agencies
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who in spite of the extreme
abuse which could be raised up
against him in ancient & modern
writing has proved himself to be
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Then again the Times blamed the
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the great Black Year - It was
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THE JUBILEES PALIMPSEST PROJECT

- Expand access to the most primary of primary sources
- Replicate the experience of interacting with a manuscript as more than just a text container
- Discover new primary sources by looking beyond what has been visible to the human eye

TOOLS AVAILABLE NOW

- IIF Repository
 - IIF Navigator
 - WebRTI
 - Data archive
 - Free processing tools
 - NEH-funded workshops
1. Latin Jubilees
 2. Testament of Moses
 3. Arian Commentary on Luke
 4. Excerpts from
 - a) Origen's Hexapla
 - b) Wulfila's Gothic Bible,
 - c) Unknown Greek Commentary on Luke
 - d) Unidentified palimpsest
 - e) Petrarch

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Page 083 (19c062) Page 084 (19c061) Page 093 (19c052)



Image Cube

1. Accurate Color Diffuse
2. Accurate Color Raking NE
3. Accurate Color Raking SE
4. Accurate Color Raking SW
5. Accurate Color Raking NW
6. Accurate Color Transmissive
7. Extended Spectrum Diffuse
8. Extended Spectrum Raking NE
9. Extended Spectrum Raking SE
10. Extended Spectrum Raking SW
11. Extended Spectrum Raking NW
12. Extended Spectrum Transmissive
13. KTK Ruby Diffuse
14. KTK Ruby Raking NE
15. KTK Ruby Raking SE
16. KTK Ruby Raking SW
17. KTK Ruby Raking NW
18. KTK Ruby Transmissive
19. Microfilm
20. Ceriani1861

WebRTI Images Available:

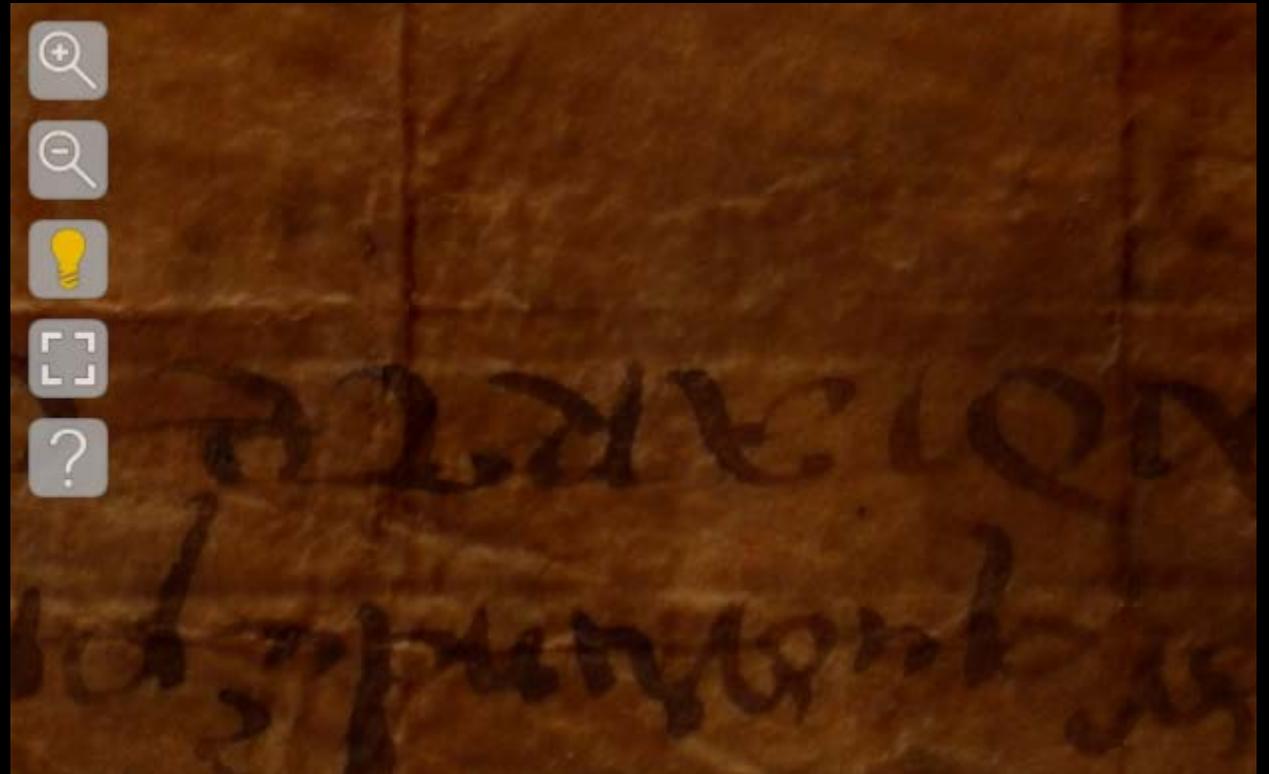
1. Accurate Color
2. Extended Spectrum
3. KTK Ruby

Transcriptions and Translations:

1. [Transcription Latest](#)
2. [Transcription Ceriani 1861](#)
3. [Translation Latest](#)
4. [Translation VanderKam 1989 \(Latin\)](#)
5. [Translation VanderKam 1989 \(Ethiopic\)](#)

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← → ↻ 🏠 ⓘ palimpsest.stmarytx.edu/AmbrosianaArchive/Ambrosiana_C73inf/Ambrosiana_C73inf_001/

Index of /AmbrosianaArchive/Ambrosiana_C73inf/Ambrosiana_C73inf_001/

<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
 Parent Directory			-
 AccurateColor/	26-Jan-2017 02:37		-
 AccurateColorRTI/	16-Feb-2017 11:41		-
 Ambrosiana_C73inf_001_CaptureMetadata.xml	24-Aug-2017 13:20	256K	
 Captures-Fluorescence-Gamma/	26-Jan-2017 02:37		-
 Captures-Fluorescence-NoGamma/	26-Jan-2017 02:08		-
 Captures-Hemisphere-Gamma/	26-Jan-2017 02:37		-
 Captures-Hemisphere-NoGamma/	26-Jan-2017 02:07		-
 Captures-Narrowband-Gamma/	26-Jan-2017 02:37		-
 Captures-Narrowband-NoGamma/	26-Jan-2017 02:06		-
 Captures-Raw/	26-Jan-2017 02:39		-
 Captures-Transmissive-Gamma/	26-Jan-2017 02:37		-
 Captures-Transmissive-NoGamma/	26-Jan-2017 02:07		-
 ExtendedSpectrumRTI/	16-Feb-2017 11:41		-
 KTK01/	27-Jan-2017 05:36		-
 KTK01RTI/	16-Feb-2017 11:41		-
 LightPositionData/	19-Jan-2017 06:27		-
 RLE01/	25-Aug-2017 10:52		-
 StaticRaking/	14-Feb-2017 17:44		-

TOOLS AVAILABLE NOW

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The screenshot shows the GitHub repository page for 'thanneken / SpectralRTI_Toolkit'. The repository is titled 'Process Spectral RTI Images in ImageJ' and is licensed under GPL-3.0. It has 38 commits, 1 branch, 0 releases, and 1 contributor. The repository is currently on the 'master' branch. The commit history shows several files added or updated, including 'Guide', 'LICENSE', 'PCA_class', 'README.md', 'SpectralRTI_Dataset.bash', 'SpectralRTI_Toolkit.ijm', 'Stack_Manipulation-2.0.1.zip', 'bij_plugin.zip', and 'ijp-toolkit_bin_2.1.0.zip'. The README.md file is visible, featuring the 'SpectralRTI_Toolkit' logo and the 'ImageJ' logo, along with the text 'Image Processing and Analysis in Java'. The README describes the toolkit's purpose: processing data from a Spectral RTI capture session into various formats like HSH RTI, PTM, and WebRTI.

thanneken / SpectralRTI_Toolkit

Unwatch 2 Star 1 Fork 1

Code Issues 0 Pull requests 0 Projects 0 Wiki Insights Settings

Process Spectral RTI Images in ImageJ Edit

Add topics

38 commits 1 branch 0 releases 1 contributor GPL-3.0

Branch: master New pull request Create new file Upload files Find file Clone or download

thanneken Add files via upload Latest commit e328c23 on Jul 31

Guide	Add files via upload	3 months ago
LICENSE	Initial commit	a year ago
PCA_class	Principal Component Analysis Plugin	a year ago
README.md	January 24, 2017 update	10 months ago
SpectralRTI_Dataset.bash	Capture folders now specify Gamma or NoGamma	8 months ago
SpectralRTI_Toolkit.ijm	Update SpectralRTI_Toolkit.ijm	4 months ago
Stack_Manipulation-2.0.1.zip	Required "Slice Keeper" function, included in Fiji	4 months ago
bij_plugin.zip	Biomedical Imaging in Java	4 months ago
ijp-toolkit_bin_2.1.0.zip	http://ij-plugins.sourceforge.net/plugins/color/	8 months ago

README.md

SpectralRTI_Toolkit

ImageJ

Image Processing and Analysis in Java

Process Spectral RTI Images in ImageJ

The toolkit processes the data from a Spectral RTI capture session. This data includes diffuse narrowband spectral images, monochrome RTI captures from 35 or more light positions, and an accurate color image. The toolkit guides processing of the light position (lp) file, and outputs to HSH RTI, PTM, and WebRTI formats. The base color processing options are Accurate Color, Extended Spectrum, and PCA Pseudocolor. The Toolkit is intended to be usable by general users without requiring any editing of text files, command line arguments, or regular expressions. For more information about Spectral RTI see

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Guide to Creating Spectral RTI Images

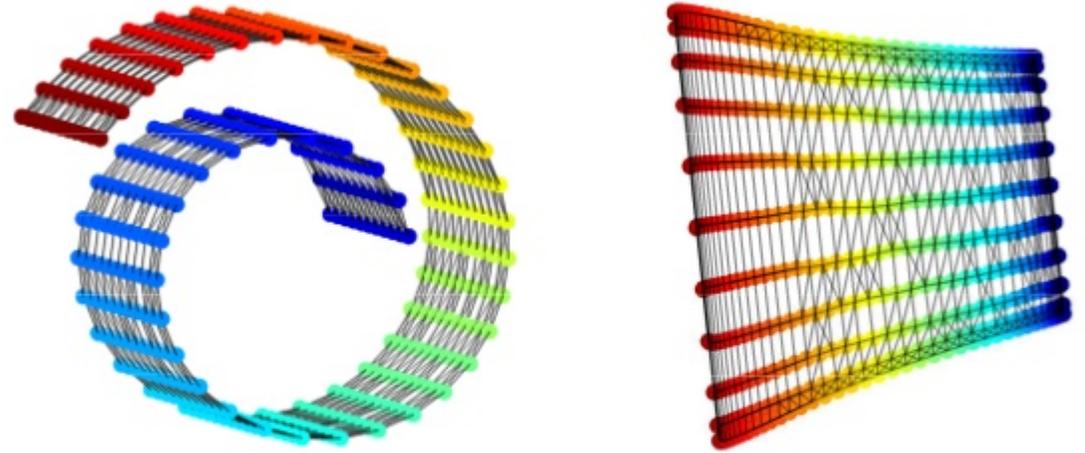
Contents

1. What is Spectral RTI and do I need it? ([LINK](#))
 - a. Cost/benefit of adding RTI ([LINK](#))
 - b. Cost/benefit of adding spectral ([LINK](#))
 - c. How does the integration work? ([LINK](#))
2. Capture hardware ([LINK](#))
 - a. Spectral imaging hardware ([LINK](#))
 - b. Fixed dome for RTI capture ([LINK](#))
 - c. Swinging arc for RTI capture ([LINK](#))
 - d. Hand-held flash for RTI capture ([LINK](#))
3. Capture procedures ([LINK](#))
 - a. Light position capture and calibration ([LINK](#))
 - b. Hemisphere captures for RTI ([LINK](#))
 - c. Preprocessing typically done at capture ([LINK](#))
4. Processing with the SpectralRTI_Toolkit ([LINK](#))
 - a. Software installation ([LINK](#))
 - b. Managing input data ([LINK](#))
 - c. Running for the first time ([LINK](#))
 - d. Select tasks ([LINK](#))
 - e. Adjust brightness ([LINK](#))
 - f. Static raking option ([LINK](#))
 - g. Options for Extended Spectrum ([LINK](#))
 - h. Identify region of interest (for Extended Spectrum and Pseudocolor) ([LINK](#))
 - i. Options for PCA Pseudocolor ([LINK](#))
 - j. Options for custom processes ([LINK](#))
 - k. Light position data ([LINK](#))
 - l. Additional prompts ([LINK](#))
 - m. Tips for frequent use ([LINK](#))
5. Make the images accessible to users ([LINK](#))
 - a. RTI files ([LINK](#))
 - b. WebRTI ([LINK](#))
 - c. Tiled and layered Jpeg2000 files for IIF ([LINK](#))
6. Help make Spectral RTI better ([LINK](#))
7. Glossary ([LINK](#))

HORIZON

- New processing techniques
- Systematic capture in northern Italy
- Sustainability

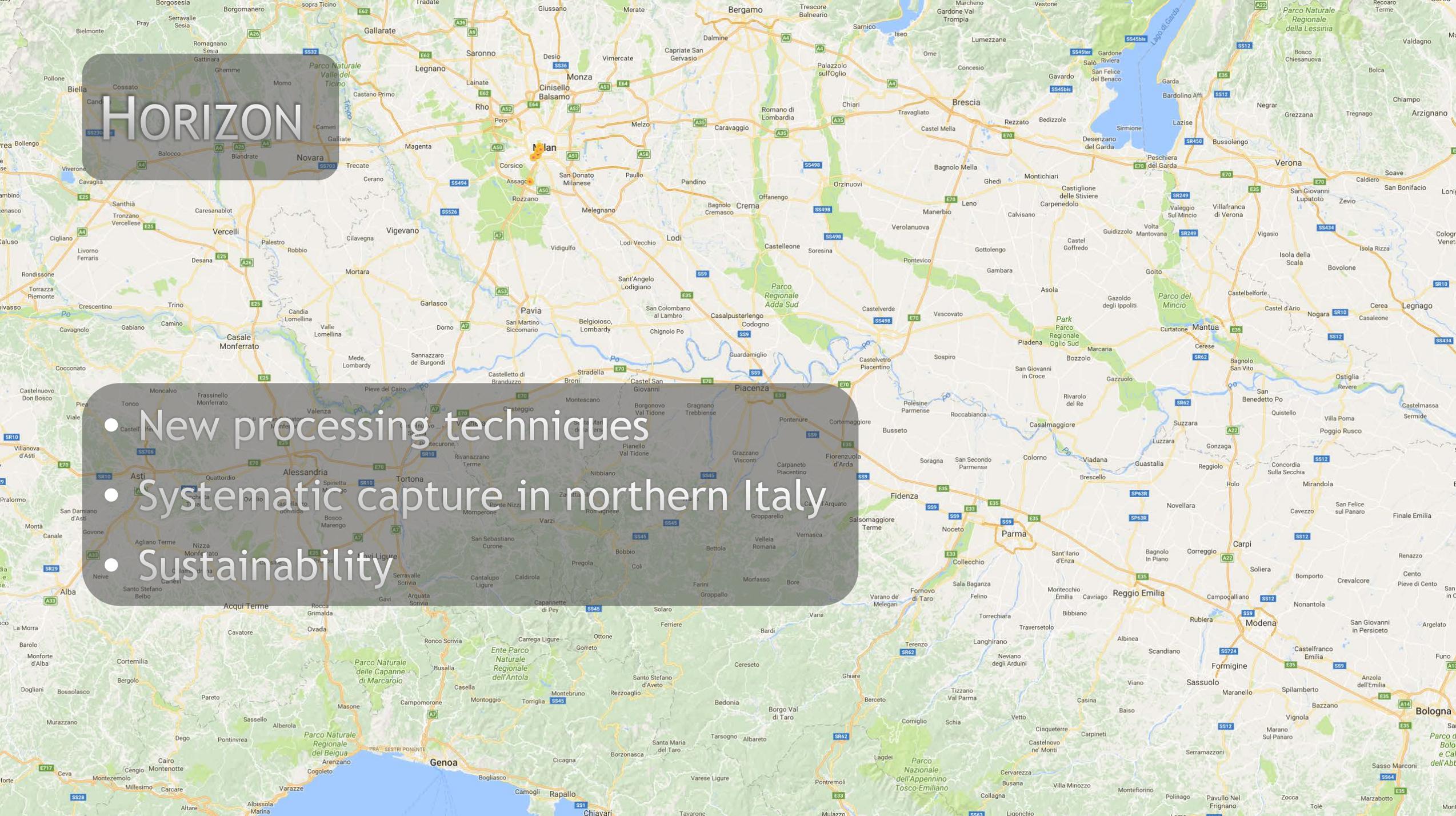
Spectral geometry



Laplacian eigenmap: m -dimensional embedding of X using the first eigenvectors of the Laplacian

$$\mathbf{U} = (\phi_1, \dots, \phi_m)$$

Belkin, Niyogi 2001



HORIZON

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HORIZON

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THE JUBILEES PALIMPSEST PROJECT

Todd Hanneken

St. Mary's University

thanneken@stmarytx.edu

<http://jubilees.stmarytx.edu>

<http://twitter.com/thanneken>

Palimpsest

The Jubilees Palimpsest Project
Pioneering the Recovery of Illegible Text from
Ancient Manuscripts Through New Tools in
Digital Archaeology

Contents

Overview of Project Contributions

- News ([LINK](#))
- A comprehensive open repository of advanced images of the Jubilees Palimpsest, followed by the other palimpsests in the Biblioteca Ambrosiana ([LINK](#))
- Standards-compliant viewers and annotation workspaces ([LINK](#))
- Reconstruction of the Jubilees Palimpsest ([LINK](#))
- Publications and translations of resources on the Jubilees Palimpsest ([LINK](#))
- Spectral RTI technology ([LINK](#))
- Extended Spectrum color processing ([LINK](#))
- Easy access to Spectral RTI ([LINK](#))

Overview of Project Goals

- A permanent center for digital archaeology ([LINK](#))
- Advance and promote the tools of discovery ([LINK](#))
- Create educational opportunities for the next generation of digital archaeologists and digital humanists ([LINK](#))
- Create scholarly forums for scholarship on digital archaeology ([LINK](#))
- Create a complete scholarly edition of Latin Jubilees ([LINK](#))

Resources and Links