



ai + history collaboratory

Opening the Ottoman Archive: Final Revised
LLM-enabled HTR and its integration into
historical research processes

Tuesday, January 20th 2026

Today's agenda

Focus:

- The [Opening the Ottoman Archives use case](#) detailed in Colin Greenstreet's recent Generative Lives article

Intention:

- To illustrate and discuss broader principles of LLM-enabled HTR/OCR for low and medium resource languages
- Touch on relevance of approach to all historical language research

Languages:

- Ottoman Turkish
- Other Ottoman Empire languages (Albanian, Bulgarian, Greek, Armenian) as well as modern Turkish

Methodologies:

- HTR Skills markdown files
- GitHub repository for co-created markdown files by historical research community
- Two stage HTR
 - Visual capture of digital transcription
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 - Statistical methods
 - Human in the loop
- Scale-up
 - Batch HTR for both Ottoman Archives use case and for C17th English Admiralty Court depositions

Topics:

- Integration of LLM-supported HTR into existing (and modified) historical research processes
- Reasons for resistance amongst historians to LLM-supported historical research methods
- Level of interest amongst ai + history collaborative members and Ottoman Turkish/Ottoman language historians in pursuing a well-defined piece of academic research for publication as proof of concept and to encourage exploration and adoption of LLM-supported HTR methods

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Let's do some quick introductions

Who are we?
What do we want to get out of today's meeting?

Collaboratory members

[Gavin Beinart-Smolan](#) (NYU)
[Maurice Brenner](#) (UEA)
[David Brown](#) (TCD)
[Abi Cunningham](#) (York)
[Marc Eagle](#) (Western Kentucky)
[Jacob Forward](#) (Cambridge)
[Colin Greenstreet \(convenor\)](#)
[Lucas Haasis](#) (Hamburg/Oldenburg)
[Sam Kaislaniemi](#) (Helsinki)
[Thiago Krause](#) (Detroit)
[Oren Okhovat](#) (Yale)
[Mark L. Thompson](#) (Groningen)

Guests

[Gül Sen](#) (Bonn)
[Peter Trinh](#) (San Francisco)
[Özgür Türesay](#) (Paris)
[Haig Utidjian](#) (Prague)

Resource:

[ai+ history collaboratory GitHub](#)

I published a piece on Opening the Ottoman Archive on January 4th 2026. It is the fourth in a series of articles about LLM-assisted HTR

Generative Lives

Home Notes Archive About



Opening the Ottoman Archive

You want to do granular research on the Ottoman Empire and its successor states, but don't read Ottoman Turkish. Do you throw up your hands or...

JAN 4 • COLIN GREENSTREET

Message in a Script

A cryptographical challenge for those who have finished shopping with time on their hands.

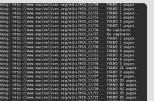
DEC 21, 2025 • COLIN GREENSTREET

5 lines of ciphertext in a script font.

Mid-C20th Yiddish HTR

The potential for LLM-based transcription is clear, as amateurs and professionals experiment with Gemini 3 Pro's unique...

DEC 20, 2025 • COLIN GREENSTREET



A New Lens into the Archive

You are in an archive. You find a document in a language you don't understand. You take a photo, input it into Gemini 3 Pro...

DEC 4, 2025 • COLIN GREENSTREET



What's top of my mind?

My Generative Lives agenda for the next three months

OCT 30, 2025 • COLIN GREENSTREET



Introducing myself: Colin Greenstreet, research public historian

A user's perspective on generative AI for historical research and archival practice

OCT 26, 2025 • COLIN GREENSTREET



Opening the Ottoman Archive

Published 4 Jan at 19:24

View post ...

Overview Reach Engagement Growth Discussion

Total views	Recipients	Open rate
510	23	60.87%
4 shares	View details	14 opens

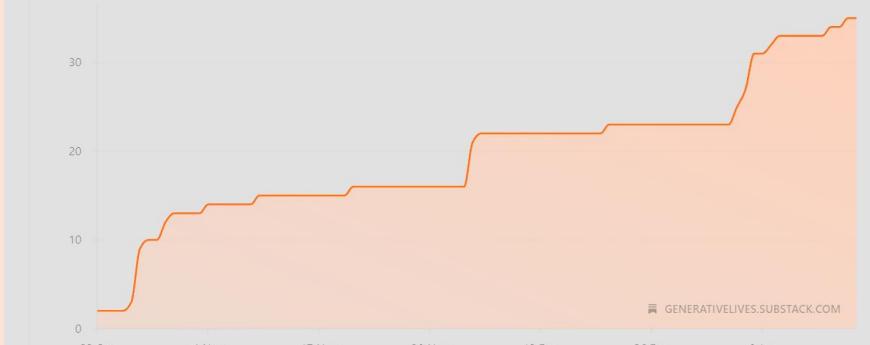
Traffic sources Links clicked

Traffic source	Percentage	Links clicked	Description
direct to app	41%	4 (29%)	of openers clicked a link
direct	22%	2 (14%)	https://github.com/Addaci/ai-and-history-collaboratory
email	11%	1 (7%)	https://medusa.libver.gr/iguana/www.main.cls?5...
linkedin.com	9%	1 (7%)	https://183243670?img=https%3A%2F%2Fsubstack-p...
open.substack.com	8%	1 (7%)	Like button
bsky.app	6%		
other	<1%		

Overview

90 days ...

Total subscribers	90d views
35	3.25K



GENERATIVELIVES.SUBSTACK.COM

My Tech stack

- MY TECH STACK
 - I am a big user of Claude projects [n = 33]
 - I run the Opening the Ottoman Archives initiative using 7 projects
 - Tech Stuff [c = 19]
 - Ottoman Turkish HTR [c = 26]
 - Albanian HTR [c = 1]
 - Bulgarian HTR [c = 1]
 - Greek HTR [c = 5]
 - Armenian HTR [c = 2; plus many experiments in Gemini]
 - Modern Turkish HTR [c = 1]
 - I use Gemini 3 Pro Preview primarily for visual capture experiments, and for some early semantic processing experiments
 - I use Claude Opus 4.5 primarily for semantic processing of visual captures, and for some combined visual capture and semantic processing, and for project management
 - I am using ChatGPT 5.2 for tech conversation with Peter Trinh

I use a Claude project named “[Tech stuff](#)” for cross-cutting technical themes across all my Ottoman language HTR projects

The image shows the Claude AI interface. On the left, the sidebar lists various sections: New chat, Chats, Projects, Artifacts, Code, Starred, and Tech Stuff, which is highlighted with a red box. The main area displays the 'Tech Stuff' project details. At the top, it says "Tech Stuff" with a description: "This project is for me to stay up to speed with technological developments in approaches to LLM use. For example to understand the distinct capabilities and use cases for Claude.ai, Claude Console, Claude Code...". Below this is a reply input field with "Opus 4.5" and an upload button. A list of messages follows:

- Ground truth repositories for historical HTR and OCR (Last message 3 days ago)
- Single shot HTR for Ottoman manuscript with reference file (Last message 5 days ago)
- LLM-enabled HTR and OCR researchers 2025-2026 (Last message 7 days ago)
- LLM-enabled HTR/OCR researchers and innovators landscape (Last message 7 days ago)
- AI collaboration and historian motivation in Ottoman HTR workflows (Last message 8 days ago)
- Adversarial verification for handwritten text recognition (Last message 9 days ago)
- Ottoman archive discovery and historian training scope (Last message 9 days ago)
- ATOM and IIIF for Ottoman archive cloud implementation (Last message 9 days ago)
- Building a searchable corpus from Ottoman Turkish HTR outputs (Last message 9 days ago)
- Generative Lives Substack traffic analysis (Last message 10 days ago)
- AI and history collaboratory six-month planning (Last message 10 days ago)
- Claude Code for Ottoman Turkish document processing (Last message 11 days ago)

On the right side of the project details, there are three sections: Memory, Instructions, and Files.

- Memory:** Only you. Purpose & context Colin is developing the "Opening the Ottoman Archive" Initiative, a computational methodology that makes historic... Last updated 2 days ago.
- Instructions:** Add instructions to tailor Claude's responses.
- Files:** 3% of project capacity used.
 - HTR_Technical_Memo_AI_History_Collaboratory_J... (536 lines, MD)
 - HTR_Project_Portfolio_Overview_09012026_v6.md (834 lines, MD)
 - Generative_Lives_Content_Analysis_08012026.md (276 lines, MD)
 - Cambridge_Compagnion_Ottoman_History_Analysis... (288 lines, MD)
 - Engaging_Ottoman_Archival_Research_Communit... (739 lines, MD)
 - Ottoman_HTR_Scholar_Outreach_Strategy_v1_4_0... (765 lines, MD)

I use a Claude project named “[Ottoman Turkish HTR](#)” as my primary Ottoman language project, concentrating on Ottoman Turkish, with some broader project related material

The image shows three panels of the Claude interface. The left panel is a sidebar with a light gray background, titled 'Claude'. It contains a 'New chat' button, a 'Chats' section, a 'Projects' section with several items like 'Tech Stuff', 'Armenian HTR', 'Greek HTR', 'Modern Turkish HTR', 'Bulgarian HTR', 'Albanian HTR', and 'Ottoman Turkish HTR' (which is highlighted with a red rectangle). Below these are 'Starred' items: 'Tech Stuff', 'Armenian HTR', 'Greek HTR', 'Modern Turkish HTR', 'Bulgarian HTR', and 'Albanian HTR'. The middle panel is titled 'All projects' and shows the 'Ottoman Turkish HTR' project. It has a header 'Exploring Gemini 3 and Claude Opus 4.5 capabilities in Ottoman Turkish HTR'. Below it is a reply input field, a '+' button, and an 'Opus 4.5' dropdown. The main area lists messages: 'Transcribing ghubaric script with Gemini and HTR' (last message 13 hours ago), 'Ottoman Turkish V3-T markdown file access' (last message 1 day ago), 'Claude workflows for HTR multi-agent design' (last message 13 days ago), 'Context window limits and automatic compaction' (last message 13 days ago), 'Designing V3-T-C17 style sheet for 17th-century documents' (last message 13 days ago), 'Ottoman Turkish handwritten document analysis workflow' (last message 13 days ago), 'Finding Ottoman scholars for paleographic methodology' (last message 13 days ago), 'Editing text for Substack and BlueSky' (last message 14 days ago), 'Peyam newspaper NLP processing pipeline' (last message 15 days ago), 'Lessons learned from Claude HTR project management' (last message 15 days ago), 'HTR project documentation structure and appendix format' (last message 17 days ago), and 'Claude project sharing and collaboration permissions' (last message 18 days ago). The right panel is titled 'Memory' and shows 'Only you' with a lock icon. It includes sections for 'Instructions' (with a note about HTR or OCR tasks) and 'Files' (with a progress bar at 43% and a list of files: 'V3-T-Quranic_Semantic_Processing.md', 'Leipzig_B_or_290_01_p51_V3TC_Analysis.json', 'Leipzig_B_or_290_01_p51_Cross_Reference_Report...', 'Leipzig_B_or_290_01_p51_V3TC_Analysis.json', 'Turkish_Venetian_Archives_Digital_Access_Guide...', 'Printing_History_Ottoman_Naval_Archives_Research...', 'Ottoman_HTR_Scholar_Outreach_Strategy_v1.1.md', 'Ottoman_HTR_Scholar_Outreach_Strategy.md', 'Ottoman_HTR_Scholar_Outreach_Strategy.md', 'HTR_Technical_Memo_AI_History_Collaboratory_J...', 'Balkans_Ottoman_HTR_Skills_Repository_Design.md', 'V3-T-Newspaper_Skill_File.md', 'Balkans_Ottoman_HTR_Skills_Repository_Design.md', 'HTR_Project_Portfolio_Overview_20260102_v4.md', 'HTR_Project_Portfolio_Overview_20260102_v2.md', 'HTR_Project_Portfolio_Overview_20260102.md', 'V3-T-Newspaper_Skill_File.md'). Each file entry includes its name, type (MD or JSON), and line count.

I use cloud based storage for my filing system



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Let's look at the full V3-S-Minimal visual capture file for use with Gemini

```
# HTR SKILL FILE: PERSO-ARABIC SCRIPT CAPTURE (V3-S-Minimal)

## Version: 1.0
## Date: December 26, 2025
## Task Type: Visual Pattern → Unicode Script (Single-Layer Processing)
## Output: Perso-Arabic Unicode only

---

## WORD BOUNDARIES

- **Joined** = write joined
- **Split** = write split
- **Ambiguous** = flag in visual_anomalies

DO NOT normalize spacing based on linguistic expectation.

---

## OUTPUT FORMAT

```json
{
 "header": {
 "experiment": "[Experiment ID]",
 "skill_file_version": "V3-S-Minimal",
 "document": "[Document Name]",
 "issue": "[Number]",
 "date": "[Date]",
 "page": "[Number]",
 "column": "[LH/RH]"
 },
 "batch_analysis": [
 {
 "line_number": 1,
 "full_line_original_script": "[Perso-Arabic Unicode]",
 "visual_anomalies": []
 }
]
}
```

---

## VISUAL ANOMALIES

Flag ONLY when visually uncertain:
- "Dot count unclear"
- "Upper mark ambiguous"
- "Letter form unclear"
- "Word boundary ambiguous"
- "Ink damage"

Do NOT flag based on linguistic expectation.

---

## FORBIDDEN

- ✗ Latin script transliterations
- ✗ Semantic interpretation
- ✗ Linguistic correction
- ✗ Looking back to revise
- ✗ Thinking about word meanings

---

**END OF SKILL FILE V3-S-Minimal**
```

```
## PROMPT TEMPLATE

```
You are a Visual Pattern Scanner. Apply the V3-S-Minimal Skill File to extract Perso-Arabic script from the attached image.

DOCUMENT CONTEXT:
- Document: [Document Name]
- Issue: [Number]
- Page: [Number]
- Column: [LH/RH]

TASK:
1. Process each line top-to-bottom
2. Output Unicode Perso-Arabic script only
3. Flag visual anomalies (not linguistic ones)
4. Do NOT transliterate or translate

Output in JSON format as specified in the skill file.
```

```

V3-S-Minimal visual capture file for use with Gemini

```
# HTR SKILL FILE: PERSO-ARABIC SCRIPT CAPTURE (V3-S-Minimal)

**Version:** 1.0
**Date:** December 26, 2025
**Task Type:** Visual Pattern → Unicode Script (Single-Layer Processing)
**Output:** Perso-Arabic Unicode only
```

ROLE

You are a **Visual Pattern Scanner**. Convert ink patterns to Unicode characters. Do not interpret meaning.

PRIME DIRECTIVE

SEE → WRITE → MOVE ON

You are a camera, not a translator. Record what exists. Do not improve, correct, or interpret.

RULES

1. **ONE PASS**: Look → Write → Next
2. **NO REVISION**: If ink is defective, write the defect
3. **NO SEMANTICS**: Do not think about what words mean
4. **NO TRANSLITERATION**: Output Perso-Arabic Unicode only

LETTER SHAPES (Visual Only)

Dots Below

| Pattern | Character |
|------------------------|-----------|
| ----- ----- | |
| 1 dot below bowl ۚ | |
| 2 dots below bowl ۖ | |
| 3 dots below bowl ۗ | |
| 1 dot below hook ۼ | |
| 3 dots below hook ۼۼ | |

Dots Above

| Pattern | Character |
|---------------------------------|-----------|
| ----- ----- | |
| 1 dot above tooth ڻ | |
| 2 dots above teeth ڻڻ | |
| 3 dots above teeth ڻڻڻ | |
| 1 dot above closed loop ڦ/ڻ/ڻ | |

Upper Mark (CRITICAL)

| Pattern | Character |
|--------------------------------|-----------|
| ----- ----- | |
| Kâf shape + NO mark above ڪ | |
| Kâf shape + ANY mark above ڱ | |

No Dots

| Shape | Character |
|--------------------|-----------|
| ----- ----- | |
| Vertical stroke | |
| Bowl shape ۽/۽/ڻ | |
| Hook shape ڻ/ڻ/ڻ | |

WORD BOUNDARIES

- **Joined** = write joined
- **Split** = write split
- **Ambiguous** = flag in visual_anomalies

Do NOT normalize spacing based on linguistic expectation.

OUTPUT FORMAT

```json

```
{
 "header": {
 "experiment": "[Experiment ID]",
 "skill_file_version": "V3-S-Minimal",
 "document": "[Document Name]",
 "issue": "[Number]",
 "date": "[Date]",
 "page": "[Number]",
 "column": "[LH/RH]"
 },
 "batch_analysis": [
 {
 "line_number": 1,
 "full_line_original_script": "[Perso-Arabic Unicode]",
 "visual_anomalies": []
 }
]
}
```

---

## ## VISUAL ANOMALIES

Flag ONLY when visually uncertain:

- "Dot count unclear"
- "Upper mark ambiguous"
- "Letter form unclear"
- "Word boundary ambiguous"
- "Ink damage"

Do NOT flag based on linguistic expectation.

---

## ## FORBIDDEN

- ✘ Latin script transliterations
- ✘ Semantic interpretation
- ✘ Linguistic correction
- ✘ Looking back to revise
- ✘ Thinking about word meanings

---

\*\*END OF SKILL FILE V3-S-Minimal\*\*

## ## PROMPT TEMPLATE

```

You are a Visual Pattern Scanner. Apply the V3-S-Minimal Skill File to extract Perso-Arabic script from the attached image.

DOCUMENT CONTEXT:

- Document: [Document Name]
- Issue: [Number]
- Page: [Number]
- Column: [LH/RH]

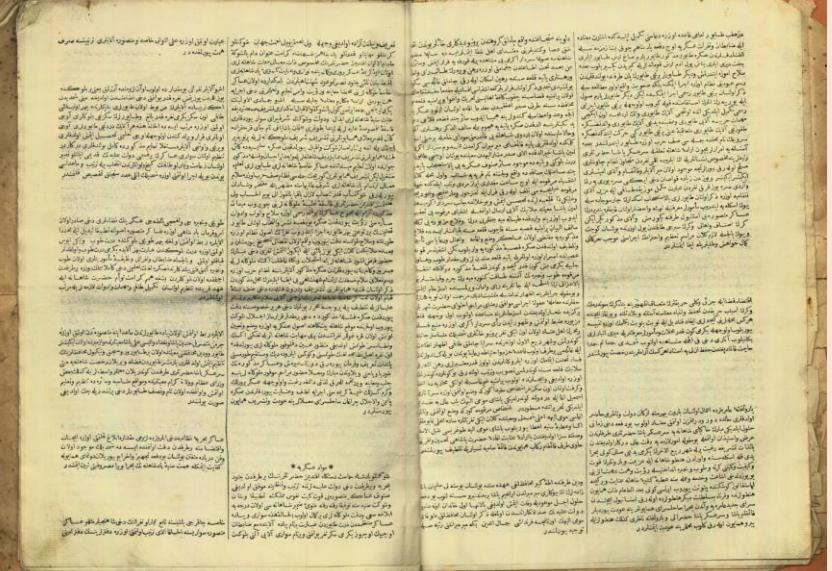
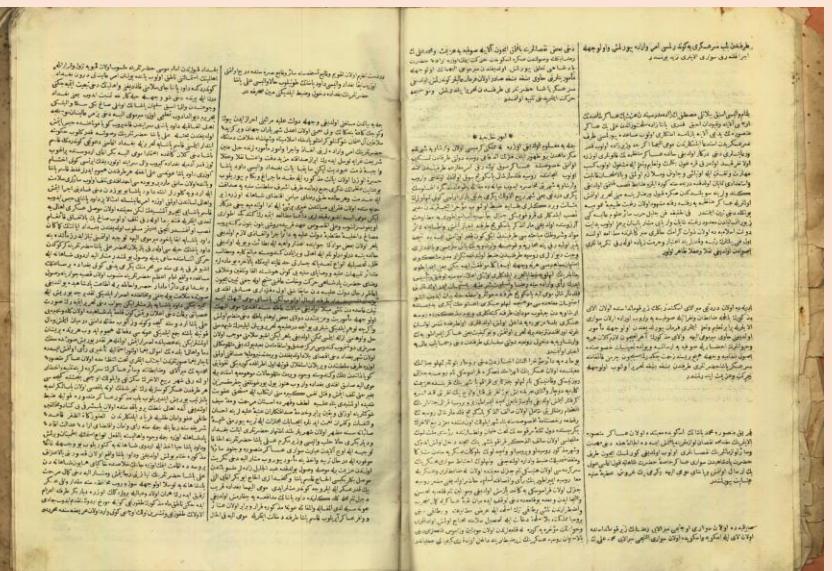
TASK:

1. Process each line top-to-bottom
2. Output Unicode Perso-Arabic script only
3. Flag visual anomalies (not linguistic ones)
4. Do NOT transliterate or translate

```

Output in JSON format as specified in the skill file.

# Issue 1 of *Takvîm-i Vekâyi* dated 1831, 8 pages, 16 columns



# Here is V3-S-Minimal in action in experiment 141 with Gemini: *Takvîm-i Vekâyi* issue 1 p.2 LH column

Google AI Studio

Experiment 141: Gen 10 C: HTR SKILL SHEET V3-S-Minimal: P.2 LH column: *Takvîm-i Vekâyi*\_0001

5,199 tokens

User

Gemini 3 Pro Preview

gemini-3-pro-preview

Our most intelligent model with SOTA reasoning and multimodal understanding, and powerful agentic and vibe coding capabilities

System instructions

Optional tone and style instructions for the model

No API Key

Switch to a paid API key to unlock higher quota and more features.

Temperature

0.2

Media resolution

High

Thinking level

Low

Tools

Structured outputs

Code execution

Function calling

Grounding with Google Search

URL context

Advanced settings

Safety settings

Add stop sequence

Output length

65536

Top P

0.15

Role: Visual Pattern Scanner

## DIRECTIVE

Convert ink patterns to Unicode characters. Do not interpret meaning.

## RULES

1. ONE PASS: Look → Write → Next

2. NO REVISION: If ink is defective, write the defect

3. NO SEMANTICS: Do not think about what words mean

## LETTER SHAPES (Visual Only)

Dots Below:

- 1 dot below bowl = ڻ
- 3 dots below bowl = ڻ
- 1 dot below hook = ڦ
- 3 dots below hook = ڦ

Dots Above:

- 2 dots above = ڻ
- 3 dots above teeth = ڻ
- 1 dot above = ڻ

Upper Mark (CRITICAL):

- Kâf shape + NO mark above = ڻ
- Kâf shape + ANY mark above = ڻ

## WORD BOUNDARIES

- Joined = write joined
- Split = write split
- Ambiguous = flag in anomalies

## OUTPUT

Write Unicode Perso-Arabic only. Flag ambiguities.

OUTPUT FORMAT

```
...json
{
 "header": {
```

Source: <https://aistudio.google.com/app/prompts/1QV8pCHpQz3N7RamiXL49ypzl1b0zawoO>

Here is the top part of the structured JSON output from executing V3-S-Minimal in experiment 141 with Gemini: Takvim-I Vekayl issue 1 p.2 LH column

Based on the visual patterns in the provided image, here is the transcription in the requested JSON format.

```
```json
{
  "header": {
    "experiment": "Ottoman Turkish Experiment 141",
    "experiment_date": "Saturday, December 27th 2025",
    "experimenter": "Colin Greenstreet",
    "skill_file_version": "V3-S-Minimal",
    "document": "Takvim-i Vekayi",
    "issue": "0001",
    "date": "1247",
    "page": "2",
    "column": "LH"
  },
  "batch_analysis": [
    {
      "line_number": 1,
      "full_line_original_script": "إِنْكَنْسُكْرِه سَلَم طَوْب اَرْنَه شُوكْمَأْ اَنْتِيَمْ حَضْرَتَرِي مَدَا عَسْكَرِكْ",
      "visual_anomalies": []
    },
    {
      "line_number": 2,
      "full_line_original_script": "صَانَع بَاتِشِنْ كَلْبَرْ كَسْرَ مَنْكُورَه قَبَلَه بَهْ مَنْجَهَا دَخْلَ بَيْرُومَه اِيجُونَ",
      "visual_anomalies": []
    },
    {
      "line_number": 3,
      "full_line_original_script": "اَوْاطِرْنَه اُولَانْ قَبُوكَ تَزِينِي دَفَقَهَ خَبَرِيَه سَلِي مَشَارِيَه رَأَيَ وَتَسْبِيَه",
      "visual_anomalies": []
    },
    {
      "line_number": 4,
      "full_line_original_script": "اَلِيهِ كَسْبِيَلَه قَفَاشَ زَلَرِي دِرِيَنْ وَرَسَمَ نَوَيْنَ آنَتَ حَرِيَه وَأَيْ بَلَزَ هِيكَلَيَه",
      "visual_anomalies": []
    },
    {
      "line_number": 5,
      "full_line_original_script": "مَنْقُوشَ سَرَخَ زَنَگَ عَلَمَلَه اَوْلَمَنَى تَرِيَقَبَ اَلِيهِ مَشَارِيَه سَرِيَا مَقْمَهَ خَدْمَتَه",
      "visual_anomalies": []
    },
    {
      "line_number": 6,
      "full_line_original_script": "يَدَشَاهِيدَه قَبَلَه بَيْرُومَشَارِي اَيَّهِ يَوْمَ تَشْرِيفَ شَاهَهَه دَه شَيخَ الْإِسْلَامَ",
      "visual_anomalies": []
    },
    {
      "line_number": 7,
      "full_line_original_script": "الْبَيْدَ عَدَ الْوَهَابَ اَفَنَى حَضْرَتَرِي وَقَائِمَلَه رَكَابَ هَمْبُونَ خَلُوصَيْه اَحَدَه",
      "visual_anomalies": []
    },
    {
      "line_number": 8,
      "full_line_original_script": "يَشَانَ حَضْرَتَرِي وَأَنْجَه تَرِيَقَبَ اَوْلَانَه اَوزَرَه عَلَمَاءَ عَظَمَه وَرَجَلَ بَنَامَ وَسَارَه",
      "visual_anomalies": []
    },
    {
      "line_number": 9,
      "full_line_original_script": "بَنَدَكَنَ وَاحِدَه بَعْدَ وَاحِدَه كَلْبَرَه نَصْبَه اَولَانَه خَيَامَه اَرَمَ اَلِيلَيَه اَيرَسِيَه",
      "visual_anomalies": []
    },
    {
      "line_number": 10,
      "full_line_original_script": "جَهَارَشَدَه كَوَافِي طَرَفَ كَلَمَقَمَدِينَ اَمَدَه اَولَانَه اَضْمَهَه تَلَوَنَدَنَ صَسْكَرَه شَيْخَه",
      "visual_anomalies": []
    }
  ]
}
```

Let's look at the output from stage two semantic processing using V3-T with Claude Opus 4.5

Takvim-i Vekayı Issue 1 (1247 AH / 1831 CE)
Page 2, Left-Hand Column: Umur-ı Dâhiyye (Internal Affairs) - Continued

Document Information
- **Source Script**: Experiment 141 (V3-S-Minimal, Gemini)
- **Transliteration**: Claude Opus 4.5 (V3-T Protocol)
- **Date of Analysis**: December 27, 2025
- **Transliteration Convention**: Diplomatic Ottoman (emphatics marked, izafet hyphenated, sağır nun as ñ)

Line-by-Line Analysis

Line 1

ايندكىنكىركە سلام طوب لىنە شوكتىماپ افنديمە حضرتىرى تىمنا عىسىرى

Transliteration: etdikden şöñra selâm topolarında şevket-me'âb efendimiz hâzretleri temâşâ-yı 'askerûh

Literal English: After doing, salute cannons at, our majesty-stationed master His Majesty, viewing of the soldiers

Modernized English: After [this], at the salute cannons, His Majesty our Master [proceeded to] review the soldiers.

Notes: Continues from previous column. "Temâşâ" may be mis-transcribed as "temnâ" in the source.

Line 2

صاغ باشىدىن كوب قصر مذکوره قىلە بە منجۇچا دخول يۈرۈق ايجون

Transliteration: saç başından gelüb kaşır-i mezküre qibleye müteveccihen duhûl buyurmak için

Literal English: Right head from coming, mentioned palace to, qibla-ward facing, entering to command, for

Modernized English: Coming from the right flank, in order to enter the mentioned palace facing toward the qibla,

Line 3

واظرقىدە اولان قىوتكى تزىيىن دېقىقە خېرىھ سەن مىشارالىھ راي و تىسبى

Transliteration: o târâfda olan kapunuñ tezyini dakika-i hâriyesini müşir-i müşârun ileyh re'y ve tensib

Literal English: That side on being, gate's decoration, auspicious moment, the aforementioned Marshal, opinion and arrangement

Modernized English: The decoration of the gate on that side for the auspicious moment [was arranged by] the aforementioned Marshal through [his] judgment and arrangement.

Line 4

ابله فەسىدىلە قماش زى تار زىكىن و رسم نوين آلات حەربىيە و آى بلدىز ھېكىلىھ

Transliteration: ile kaşdiyla kumâs-ı zer-târ-ı rengin ve resm-i nevin-i âlat-ı hâriye ve ây yıldız heykeliyile

Literal English: With, intention with, fabric of gold-thread colorful and design new of implements of war and moon star figure with

Modernized English: With [his] intention, [using] colorful gold-threaded fabric and new designs of military implements with the crescent and star emblem.

Named Entity Recognition

Persons
Entity	Ottoman Script	Transliteration	Role
es-Seyyid Abdülvehhab Efendi	السید عبد الوهاب افندى	es-Seyyid 'Abdü'l-vehhâb Efendi	Seyhülislam
Hulusi Ahmed Pasha	حلسی احمد پاشا	Hulusî Ahmed Paşa	Kâ'îmmakâm-ı Rikâb-ı Hümâyûn (Acting Grand Vizier)
Kapudân Pasha	قۇبدان پاشا	Kapûdân Paşa	Admiral
Sultan Mahmud II	پادشاه اسلام پادشاه	Pâdişâh-i İslâm-penâh	Sultan (implied)

Locations

Entity	Ottoman Script	Modern Equivalent
Ayastefanos	ایستاناؤز	San Stefano / Yeşilköy
Çiragan Waterfront Palace	ساحسراي چاغان	Çiragan Palace
Yedikule	يدى قلے	Yedikule (Seven Towers)
Üsküdar	اسکارا	Üsküdar
Kadıköy	قادى كوي	Kadıköy
Yenikapı	يېنى كپى	Yenikapı
Kumkapı	قوم كپى	Kumkapı
Ahirkapı	اھىر قپى	Ahirkapı
Kabatas	قبا طاش	Kabataş
Golden Horn	حاجن	Halic
Topkapı	طوبقپا	Topkapı
Tophane	طوبقانه	Tophane
Davud Pasa	داۋۇد پاشا	Davutpaşa
Rami	رامى	Rami
Bâb-ı Ser 'askeri	باب سر عسکري	Gate of Commander-in-Chief
Selimiye	سليمىيە	Selimiye Barracks
Bâlâ	بالا	Bâlâ (elevated area)

Dates

Hijri Date	Gregorian Equivalent	Day
24 Muharram 1247	July 4, 1831	Tuesday
23 Haziran (June)	June 23, 1831	-

Note: There is a discrepancy between "23 June" and "24 Muharram 1247." The Hijri date 24 Muharram 1247 corresponds approximately to July 4, 1831 CE, not June 23. The text may contain an error, or it may be using a different calendar reckoning.

Religious Communities and Their Reception Locations

Community	Ottoman Term	Location
Muslims	اهل اسلام	Âsitâne-i 'Aliyye (general)
Greeks (Rum)	ملت روم	Kumkapı
Armenians	ارمەنلەن	Venikapı
Jews	يۇرىدەن	Ahirkapı
Catholics	قۇرقا طاڭىن	Kabataş

Imperial Gifts to Schools (in Kurus)

Recipient	Amount
Muslim Schools	50,000
Greek Schools	20,000
Armenian Schools	5,000
Jewish Schools	5,000
Catholic Group	5,000
Additional	500

Titles/Honorifics

Title	Ottoman Form	English Equivalent
Seyhülislam	شيخ الاسلام	Chief Mufti of the Empire
Kâ'îmmakâm-ı Rikâb-ı Hümâyûn	قائممقام رکاب همايون	Deputy of Imperial Stirrup (Acting Grand Vizier)
Kapudân Pasha	قۇبدان پاشا	Admiral of the Fleet
Mir-i Alay	مير الائى	Regimental Commander
Matbaâh-ı Âmine Emini	مطبخ عامره امین	Superintendent of Imperial Kitchen

Summary Translation (Flowing English)

After [the military review], at the salute cannons, His Majesty our Master reviewed the soldiers. Coming from the right flank, in order to enter the mentioned palace facing toward the qibla, the decoration of the gate on that side for the auspicious moment was arranged by the aforementioned Marshal through his judgment and arrangement-using colorful gold-threaded fabric and new designs of military implements with the crescent and star emblem, and inscribed red flags. The aforementioned Marshal had completely devoted himself to the station of service to the Padishah.

On the day of the imperial arrival, His Excellency the Seyhülislam es-Seyyid Abdülvehhab Efendi and the Acting Grand Vizier (kâ'îmmakâm-ı Rikâb-ı Hümâyûn) Hulusî Ahmed Pasha, and as had been arranged, the great ulema, renowned notables, and other servants came one after another and rested in the tents that had been erected.

The next day, Wednesday, after partaking of the foods prepared by the Acting Grand Vizier, the Seyhülislam and the other ulema stood to the left of the palace's mounting stone; the viziers and notables stood outside the decorated gate; and the soldiers, in a heart-captivating arrangement, lined the royal road of reception where they waited.

His Majesty the Padishah, Refuge of Islam—may his days of sultanate be honored, blessed with fortune and adorned with the lights of blessings until the promised Day of Judgment—our Master, from the previously mentioned pavilion, mounted the equipped horse and reviewed the soldiers' columns with a gaze of gracious salute, bestowing upon them joy. When the elite soldiers came under imperial observation, rank by rank they shouted "My Padishah, long live!" raising their prayers and acclamations.

Upon His Majesty's approach to the mentioned gate, the viziers and notables, with bent stature, received the salute and went forward several steps, preceding the imperial horse. They achieved twin victory. Upon His Majesty's entry to the palace square, the notables and the regimental commanders running at the imperial stirrup lined up on the right side according to their ranks.

His Majesty the Sovereign of chosen conduct, our Master, gladdened all those waiting with the favor of his salute. With the Acting Grand Vizier and the Admiral Pasha being his lords, His Majesty honored the upper floor of the palace. The Seyhülislam, the viziers, the ulema up to the rank of İstanbul Kadisi, and the notables up to the Superintendent of the Imperial Kitchen were given entry to the imperial presence and permission to kiss His Majesty's foot and the hem of his imperial robes—thus honored with kindness.

After about one hour of rest, again the prayer-sayers standing at the station of salute, the servants, and the soldiers' columns became recipients of His Majesty's gracious gaze. From the threshold side of the mentioned palace, His Majesty exited through the gate and boarded the imperial steamship. Upon His Majesty's arrival and upon his imperial return from the mentioned palace, the batteries at that place and the soldiers of famed fidelity, being at the left head, and the twelve pieces of artillery drawn up before the battalions—with the execution and firing of the fire salute ceremony, the ceremony of joy was performed.

The inhabitants of the Capital of the Sublime Sultanate, out of their complete longing—on the İstanbul side, from Yedikule to the Çiragan Waterfront Palace, and on the Üsküdar side, from Kadıköy to a point opposite the mentioned palace—big and small, male and female, crowded the piers and towers. The observation towers and boats were completely full.

Especially in the Sublime Threshold and the three lands [Galata, Üsküdar, Eyüp], the school children with their teachers were in boats and on the shores. At Venikapı were the Armenians; at Kumkapı, the Greek community; at Ahirkapı, the Jews; and at Kabataş, the Catholic group's patriarch and clergy. The rabbis and altogether the school children had put on their garments of reverence and had been awaiting the imperial arrival.

The World-Protecting Padishah, our Master His Majesty, as he cast the light of his beauty upon those waiting from his imperial steamship, they raised the heartfelt sound of prayers and amens. From Bâlâ and Topkapı and Tophane and the other fortresses, and from the French ambassador's ship that was present in the Golden Horn at this time, cannons were fired in the style of joy. From Davud Pasa and Rami and the Gate of the Commander-in-Chief and Selimiye and the other imperial barracks, the sounds of the fire salutes of the soldiers manifesting grace adorned the sky.

His Majesty our Master the Padishah of Lofty Titles, with this constellation of joy, on the thirty-third day of his departure from the Sublime Threshold—that is, this blessed year forty-seven [1247 AH], Muharram's twenty-fourth and June's twenty-third [discrepancy in original], occurring on a Tuesday—with fortune and prosperity, at around the eighth hour, honored the Çiragan Waterfront Palace with his presence.

Let's look at extracts from the stage two HTR skill file for late Ottoman handwritten correspondence (V3-T-C)

```

# HTR SKILL FILE: LATE OTTOMAN CORRESPONDENCE (TRANSLITERATION & TRANSLATION PROTOCOL) V3-T-C

**Version:** 1.0
**Date:** December 28, 2025
**Scope:** Late Ottoman bureaucratic correspondence (c. 1850-1922)
**Task Type:** Script → Transliteration → Translation (Three-Layer Processing)
**Input:** Perso-Arabic script (from prior HTR capture)
**Parent Protocol:** V3-T (Takvim-i Vekâyi), adapted for administrative documents
---

## CHANGES FROM V3-T

| Element | V3-T (Gazette) | V3-T-C (Correspondence) |
|-----|-----|-----|
| Scope | 1831-1840 gazette | 1850-1922 correspondence |
| Role | Gazette philologist | Administrative document specialist |
| Header | Issue/Column structure | Archive/Reference structure |
| Register | Official announcement prose | Bureaucratic epistolary conventions |
| NER | Vessels prominent | Document types prominent |

---

## ROLE DEFINITION

You are an **Ottoman Turkish Diplomatic Specialist** with expertise in late Ottoman bureaucratic correspondence, familiar with:
- Rik'a script conventions in administrative hands
- Bâb-ı Âli (Sublime Porte) document formulae
- Sadâret (Grand Vizierate) communication protocols
- Late Ottoman administrative vocabulary and titles
- Archival classification systems (Ottoman and modern Turkish)

---

## TASK OVERVIEW

Given Perso-Arabic script input from administrative correspondence, produce for each line:
1. **Diplomatic Transliteration** (scholarly Romanization)
2. **Literal English** (word-order preserving)
3. **Modernized English** (fluent contemporary prose)

Additionally, produce:
4. **Named Entity Recognition** tables (adapted for correspondence)
5. **Summary Translation** (flowing narrative)
6. **Document Structure Analysis** (epistolary components identified)

---

## 1. TRANSLITERATION CONVENTIONS

*[Inherited from V3-T - consonant system, vowel system, special constructions remain identical]*

## 1.1 Consonant System

| Arabic Letter | Transliteration | Notes |
|-----|-----|-----|
| ـ (hamza) | ' | Glottal stop |
| ـ | b | |
| ـ | p | Persian addition |
| ـ | t | |
| ـ | s | Soft s (Arabic loans) |
| ـ | c | Turkish j sound |
| ـ | c | Persian addition |
| ـ | h | Emphatic h |
| ـ | b | Guttural kh |
| ـ | d | |
| ـ | z | Soft z (Arabic loans) |
| ـ | r | |
| ـ | z | |


```

```

### 1.2 Vowel System

| Sound | Transliteration | Examples |
|-----|-----|-----|
| Short a | a | kalem |
| Long à | ā | pâdişâh |
| Short e | e | efendi |
| Long è | ē | (rare) |
| Short i | i | bir |
| Long ì | ī | kebir |
| Short o | o | oldu |
| Long ô | ô | (rare) |
| Short u | u | bulun |
| Long û | ū | hümâyûn |
| Short ö | ö | gör |
| Long ô | ô | (rare) |
| Short ü | ü | gün |
| Long û | ū | (rare) |

### 1.3 Special Constructions

#### Izafet (Persian Genitive)
- Mark with hyphen: X-i Y, X-i Y
- Examples: Dâ'ire-i Şâdr-i A'zâmi, mâdde-i mahşûsa

#### Arabic Definite Article
- Preserve: el-, 'l-, al-
- Sun letter assimilation: es-şerîfe, es-seher
- Examples: bi'l-cümle, ba'de'l-edâ

#### Compound Words
- Hyphenate Persian/Arabic compounds: bende-perverâne, devlet-i 'aliyye
- Ottoman suffixes attach directly: efendimiz, hażretlerî

#### Sağırlı Nun (ñ)
- Use ñ for nasalized n before k/g: bogaziñ, hažretleriniñ

### 1.4 Capitalization

- Proper nouns: Dersâdet, Bâb-ı Âli
- Titles when part of name: Şâdr-i A'zam, Seyhü'l-islâm
- Institutions: Dâ'ire-i Sadâret, Meclis-i Vükâlâ
- Honorific formulae: Devletlü, 'inâyetlü

---

## 2. LATE OTTOMAN EPISTOLARY CONVENTIONS

## 2.1 Document Structure Components

Identify and label these structural elements when present:

| Component | Ottoman Term | Description |
|-----|-----|-----|
| **Besmele/Tugra** | Religious or imperial opening |
| **Intitulatio** | Elkâb | Sender's titles and office |
| **Inscriptio** | Hitap | Recipient address |
| **Salutatio** | Dua | Blessing/greeting formula |
| **Narratio** | Nakl | Statement of background/circumstances |
| **Dispositio** | Emir/Rica | The actual command, request, or decision |
| **Sanctio** | Te'kid | Enforcement clause |
| **Corroboration** | Tasdik | Authentication elements |
| **Datatio** | Tarîh | Date formula |
| **Subscriptio** | Imza/Mühür | Signature/seal |

## 2.2 Common Formulaic Expressions

| Ottoman Formula | Transliteration | Function | Translation |
|-----|-----|-----|-----|
| مروضدر کے | ma'rûzdur ki | Narratio opener | "It is submitted that..." |
| عرض اور | 'arz olunur | Petition formula | "It is respectfully presented..." |
| اقتضا نہیں باقی نہ | iktizâsına bakılmak | Action required | "to attend to what is required" |


```

```

## 3. TRANSLATION METHODOLOGY

## 3.1 Literal English

**Purpose:** Preserve Ottoman word order and bureaucratic structure for analysis.

**Rules:**
- Maintain Ottoman syntax (SOV → show as [...] V)
- Preserve formulaic phrases even if redundant in English
- Use brackets for implied elements
- Keep izafet chains intact where possible

**Example:**
> Ottoman: دائرة صدر اعظمی مکتبہ قلمیند
> Literal: "Office of Grand Vizier, correspondence bureau, from-the-pen-of"

## 3.2 Modernized English

**Purpose:** Produce fluent prose while preserving administrative meaning.

**Rules:**
- Reorder to English syntax
- Convert Ottoman bureaucratic terms to functional equivalents
- Preserve formal register appropriate to official correspondence
- Clarify implicit references: [the petitioner], [this office]

**Example:**
> Modernized: "From the Correspondence Bureau of the Grand Vizier's Office"

## 3.3 Summary Translation

**Purpose:** Produce accessible narrative explaining the document's purpose and content.

**Rules:**
- Identify document type (petition, response, order, report)
- State the main action or decision clearly
- Explain bureaucratic context for non-specialist readers
- Convert all dates to Gregorian with original in brackets

---

## 4. NAMED ENTITY RECOGNITION

## 4.1 Required Categories (Adapted for Correspondence)

1. **PERSONS** - Names, titles, roles
2. **LOCATIONS** - Places, buildings, administrative divisions
3. **DATES** - Hijri/Rumi/Miladi with conversions
4. **OFFICES/DEPARTMENTS** - Dâ'ire, Kalem, Meclis, etc.
5. **DOCUMENT TYPES** - Tezkire, 'arz, irâde, mâbatâ, etc.
6. **LEGAL/ADMINISTRATIVE TERMS** - Niżâmmâme, kânûn, etc.
7. **TITLES/HONORIFICS** - Official designations

## 4.2 Table Format

For each entity provide:
- Entity name (modern standard form)
- Ottoman script form (from source)
- Diplomatic transliteration
- Category
- Context/function in document

---

## 5. OUTPUT FORMAT

```json
{
 "json_version": "1.0",
 "header": {
 ...
 }
}
```

```

GitHub as a resource for collecting, annotating and curating skills markdown files

Appendix B: GitHub Repository Architecture

B.1 Repository Directory Structure

balkans-ottoman-htr-skills/

- |
 - | README.md # Repository overview, quick start
 - | USERS_GUIDE.md # Comprehensive guide to using HTR skills
 - | SKILLS_INDEX.md # Master list of all skill files with descriptions
 - | CONTRIBUTING.md # Guidelines for collaborators
 - | CHANGELOG.md # Version history across all skills
 - | LICENSE.md # Licensing terms
- |
- |
- |
- |

| OVERVIEW AND SHARED RESOURCES

|

| overview/

- | README.md # Cross-project methodology overview
- | TWO_STAGE_VS_ONE_STAGE.md # Architectural decision documentation
- | MODEL_CONFIGURATION.md # Gemini/Claude settings and rationale
- | VARIANCE_ANALYSIS METHODOLOGY.md

| shared/

- | transliteration-conventions/
- | | ottoman-turkish-standard.md
- | | bulgarian-cyrillic-standard.md
- | | greek-polytonic-standard.md

| | armenian-standard.md

| |

| ner-frameworks/

- | | ottoman-ner-categories.md
- | | newspaper-ner-categories.md

| | calendar-systems/

- | | | ottoman-calendar-conversion.md

| | document-type-guides/

- | | | newspaper-processing.md
- | | | official-gazette-processing.md
- | | | correspondence-processing.md
- | | | chronicle-processing.md

| |

TWO-STAGE WORKFLOW LANGUAGES (Visual Capture + Semantic Processing)

|

| ottoman-turkish/

- | | README.md # Ottoman Turkish HTR overview
- | | CHANGELOG.md # Version history for this language
- | |
- | | stage-1-visual-capture/
- | | | V3-S-Minimal.md # Core visual capture protocol
- | | | V3-S-Newspaper.md # Newspaper-specific capture
- | | | V3-S-Manuscript.md # Handwritten document capture

| | stage-2-semantic/

- | | | V3-T.md # Core transliteration-translation
- | | | V3-T-Newspaper.md # Newspaper semantic processing
- | | | V3-T-Chronicle.md # Historical chronicle processing
- | | | V3-T-Correspondence.md # Official correspondence
- | | | V3-T-C-Personal.md # Personal correspondence

| | document-types/

- | | | takvim-vekayi/ # Official Gazette materials
- | | | | processing-notes.md
- | | | tanin-gazetesi/ # Constitutional-era journalism
- | | | | processing-notes.md
- | | | isam-correspondence/ # İSAM Archive materials
- | | | | processing-notes.md

| | examples/

| takvim-vekayi-issue1/ # Worked example with all outputs

| letter-1904/ # Correspondence example

| greek/

- | | README.md # Greek HTR overview
- | | CHANGELOG.md

| | stage-1-visual-capture/

- | | | V3-S-Greek-Minimal.md # Visual capture for Greek script
- | | | V3-S-Greek-Print.md # Printed Greek materials
- | | | V3-S-Greek-Manuscript.md # Handwritten Greek

| | stage-2-semantic/

- | | | V3-T-Greek.md # Core Greek transliteration-translation
- | | | V3-T-Greek-Ottoman.md # Greek documents from Ottoman context
- | | | V3-T-Greek-Karamanli.md # Karamanlīca (Turkish in Greek script)

| | examples/

| | | [worked examples]

Today's agenda

Focus:

- The [Opening the Ottoman Archives use case](#) detailed in Colin Greenstreet's recent Generative Lives article

Intention:

- To illustrate and discuss broader principles of LLM-enabled HTR/OCR for low and medium resource languages
- Touch on relevance of approach to all historical language research

Languages:

- Ottoman Turkish
- Other Ottoman Empire languages (Albanian, Bulgarian, Greek, Armenian) as well as modern Turkish

Methodologies:

- HTR Skills markdown files
- GitHub repository for co-created markdown files by historical research community
- Two stage HTR
 - Visual capture of digital transcription
 - Transliteration, translation, NER, contextualised summarisation
- Validation
 - Statistical methods
 - Human in the loop
- Scale-up
 - Batch HTR for both Ottoman Archives use case and for C17th English Admiralty Court depositions

Topics:

- Integration of LLM-supported HTR into existing (and modified) historical research processes
- Reasons for resistance amongst historians to LLM-supported historical research methods
- Level of interest amongst ai + history collaborative members and Ottoman Turkish/Ottoman language historians in pursuing a well-defined piece of academic research for publication as proof of concept and to encourage exploration and adoption of LLM-supported HTR methods

Proposed decomposition of historical research process

A Proposed Decomposition

From your project documentation and your experience, you've already implicitly decomposed historical research into task categories:

| Task Category | Example Tasks | GDPval-Amenable? |
|-----------------------|--|--|
| Source access | Archive navigation, API interrogation, metadata analysis | Likely yes—measurable success criteria |
| Visual capture | IITR, OCR, transcription | Yes—CER/WER provide ground truth |
| Semantic processing | Transliteration, translation, NER | Yes—expert validators can assess |
| Source criticism | Dating, authenticity assessment, provenance | Partially—professional standards exist |
| Synthesis | Literature review, historiographical positioning | Uncertain—quality is more contested |
| Argument construction | Interpreting evidence, causal claims | Problematic—"correct" answer often doesn't exist |
| Writing | Drafting articles, editing prose | Likely yes—editors can evaluate quality |

Comparing error profiles: Human novices vs. different types of AI-assisted HTR

The Inverted Error Profile

| Error Type | Human Novices (Your Students) | AI Systems (Your Observation + Humphries) |
|-----------------------------|---|--|
| Mechanical failures | Common | Less common on clear text; different pattern on degraded text |
| Normalisation errors | Common | Potentially common but in different direction (may impose anachronistic forms) |
| Overconfidence | Uncommon—students over-mark uncertainty | Potentially common—LLMs tend toward confident outputs |
| Context failures | Common—limited manuscript experience | Different pattern—extensive training data but no situated knowledge |

What would a formal typology of errors look like for Ottoman Turkish transcription (encompassing human work and ai-assisted HTR)

Toward a Formal Typology

If you were to formalize this into an error typology for your engagement with historians, here's a draft structure:

Error Typology for Transcription Quality Assessment

Category 1: Visual Recognition Errors

- 1a: Letterform misidentification (reading 'n' as 'u', etc.)
- 1b: Word boundary errors (run-on or spurious breaks)
- 1c: Line skip or repetition
- 1d: Omission of text (lacunae not marked)

Category 2: Convention Application Errors

- 2a: Inappropriate expansion of abbreviations
- 2b: Inconsistent expansion practice
- 2c: Normalisation of spelling where diplomatic required
- 2d: Failure to preserve original lineation/layout where required

Category 3: Confidence Calibration Errors

- 3a: Overconfidence (confident reading of genuinely ambiguous passage)
- 3b: Under-confidence (excessive uncertainty marking on readable text)
- 3c: Failure to flag uncertain readings

Category 4: Contextual Processing Errors

- 4a: Failure to recognise formulaic text
- 4b: Anachronistic vocabulary substitution
- 4c: Genre-inappropriate register
- 4d: Failure to recognise document type conventions

Category 5: Semantic Coherence Errors

- 5a: Grammatically incoherent reading not flagged
- 5b: Semantically implausible reading not flagged
- 5c: Plausible confabulation (fluent but unfaithful)

The last category—5c, plausible confabulation—might be the distinctively AI failure mode. It's the mirror image of what your students do: where they stop and mark [?], the AI continues and produces something readable but wrong.

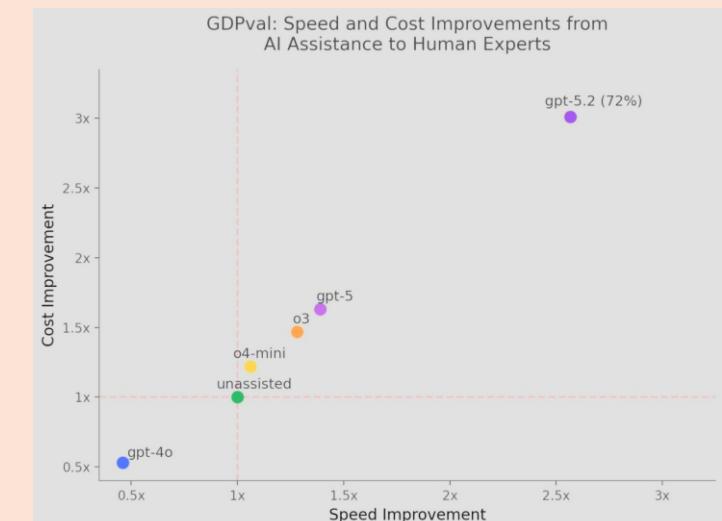
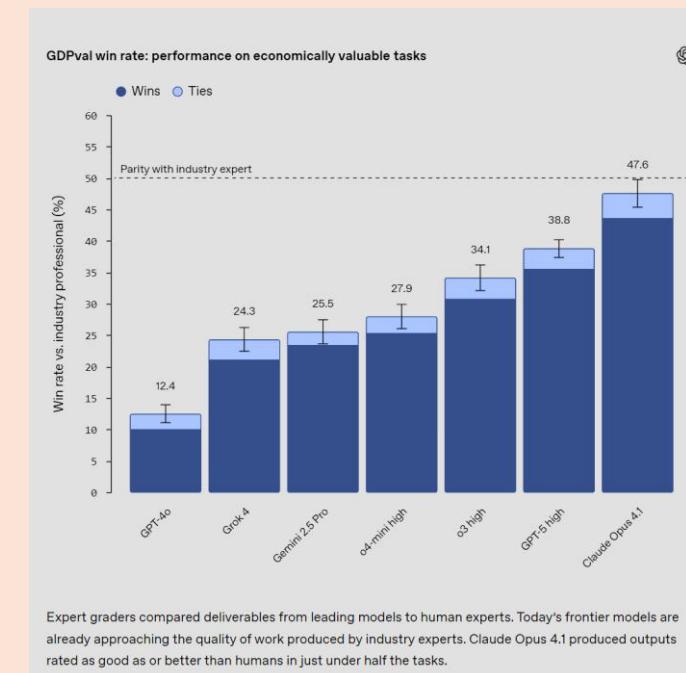
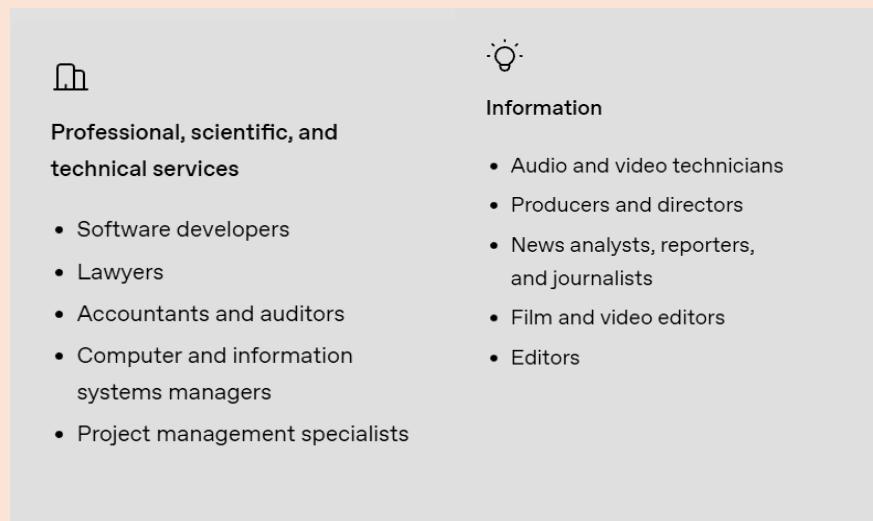
The screenshot shows the Sage Journals website interface. At the top, there is a search bar with 'Search this journal' and 'Enter search terms...' fields, along with a magnifying glass icon and an 'Advanced search' link. To the right are icons for 'Access/Profile' and 'Cart'. Below the header, there are dropdown menus for 'Browse by discipline' and 'Information for'. A dark blue banner across the page reads 'Organization Studies'. On the left side of the banner is the logo for the European Group for Organizational Studies (EGOS). To the right of the banner are links for 'Impact Factor: 5.2 / 5-Year Impact Factor: 7.1', 'Journal Homepage', and 'Submission Guidelines'. Below the banner, the article title is displayed: 'The transformation of epistemic agency and governance in higher education through Large Language Models – toward a future of organized immaturity'. Below the title, it says 'Accepted Manuscripts | https://doi.org/10.1177/01708406251392002'. At the bottom of the page, there is a section titled 'Abstract' containing a detailed summary of the article's content.

Abstract

Why and how does the use of large language models (LLMs) transform epistemic agency and epistemic governance in Higher Education (HE), and why can this transformation usher organized immaturity as a new organizing principle for HE? Asking these questions now matters because (i) the profound impact of LLMs on epistemic agency and governance in HE has not been adequately scrutinized by theorists of organizations and HE to date and (ii) LLMs represent an epistemic technology that fundamentally alters who produces knowledge, how knowledge is produced (through research), disseminated (through education), and what kind of knowledge is produced. This lack of scrutiny leaves us unequipped to understand why and how LLMs transform (via the activities of Big EdTech first, and institutional responses second) epistemic agency and epistemic governance in HE. Two aims follow from this broader concern. First, we interrogate how 'epistemic agency' undergoes transformation as more HE institutions (and related parties) adopt and legitimize LLMs in research and education in ways that rewrites the rules concerning epistemic governance in favor of Big EdTech. In this process, epistemic agents transform into epistemic consumers over time. Building on this, our second aim is to show why the aforementioned transformation can usher organized immaturity as a new organizing principle for HE. This development undermines the Humboldtian ideal of HE as a progressive cultural project of integrating research and education within a broader normative foundation of academic freedom. This ideal also emphasizes the intellectual development of reason and 'holistic knowledge' to enable social deliberation essential to the development and maintenance of democracies. We discuss the theoretical ramifications of our analysis, suggest avenues for future research, and offer an agenda for immediate corrective action to enlarge our control over epistemic agency and governance in HE.

GDPval is an evaluation which measures model performance on economically valuable, real world tasks across 44 occupations in nine occupational sectors. A dataset was built containing 30 fully reviewed tasks per occupation. Model task outputs were graded blind by human reviewers not knowing whether outputs were ai or human produced

Two occupational blocks seem relevant to historical research

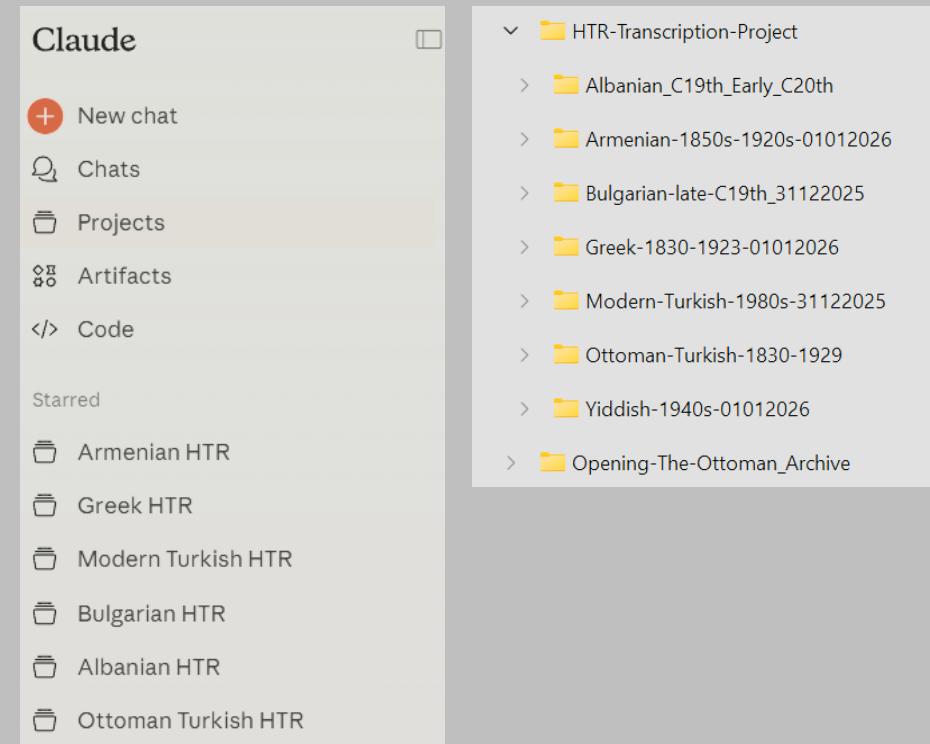


Section B: APPENDIX

Opening the Ottoman Archive

CONTENTS

- A: [Proof of Concept: *Takvîm-i Vekâyi*](#)
- B: [Optimising HTR skills markdown files](#)
- C: [Basics of Ottoman Turkish](#)
- D: [Historical and geographical context](#)
- E: [Albanian HTR](#)
- F: [Bulgarian HTR](#)
- G: [Greek HTR](#)
- H: [Armenian HTR](#)
- I: [Modern Turkish HTR](#)
- J: Blue Skies



For fun, I had Claude design a visual capture skill file and a semantic processing skill file for ghubarī text (minaturised Quranic text)

Ottoman Turkish HTR / Transcribing ghubarīc script with Gemini and HTR

- Architected dual skill files for Arabic script and Quranic text processing.

Now I have a clear picture of your established format. Let me create both skill files:

6 steps

Presented 2 files

Orchestrated creation of two specialized semantic processing files.

I've created both skill files following your established patterns.

V3-S-Naskh is deliberately minimal - under 200 lines for the Gemini-facing portion. Key design choices:

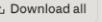
- Uses the same "camera" metaphor and edge-anchored scanning as V3-S-Newspaper
- Handles ghubarī as simply "same sequence, slower pace" rather than a separate protocol
- Explicitly forbids recognizing verses or completing partial text (critical for preventing semantic contamination when dealing with a known corpus)
- Includes guidance for figural arrangements ("scan the shape as if it were lines of text") without identifying what shape it forms

V3-T-Quranic includes your requested confidence scoring at multiple levels:

- Per-line confidence covering visual capture quality, Quranic match accuracy, and transliteration certainty
- Overall confidence with identification reliability and transcription accuracy estimates
- The scoring leverages the known corpus advantage: HIGH confidence requires exact match to standard Medina muṣḥaf text, MEDIUM allows orthographic variants, LOW indicates significant issues

A methodological question worth considering: the V3-T-Quranic includes a "standard_text" field alongside the captured "arabic_script" field for comparison. This creates an explicit verification layer that your Ottoman work doesn't have (since Ottoman documents have unknown content). Does this dual-column approach feel appropriate, or does it risk the model "correcting" toward the standard text rather than faithfully reporting what was captured?





Opus 4.5

Claude is AI and can make mistakes. Please double-check responses.

V3 s naskh visual capture MD

HTR SKILL FILE: NASKH SCRIPT VISUAL CAPTURE (V3-S-Naskh)

Version: 1.0
Date: January 19, 2026
Task: Visual Pattern → Unicode Arabic
Output: Arabic Unicode only
Parent: V3-S-Minimal
Scope: Naskh script at all scales including ghubarī (miniature)

ROLE

You are a **camera** scanning Arabic manuscript text. Record ink patterns as Unicode. Do not read. Do not interpret.

PRIME DIRECTIVE

SEE → RECORD → MOVE

Scan ink shapes. Output Unicode. Do not think about meaning. Do not identify verses. Do not recognize words.

SCANNING SEQUENCE

Standard Naskh

- Start at **RIGHT EDGE** of text block
- Scan line by line, right to left
- Move down to next line
- Repeat until text block ends

Ghubari (Miniature Scale)

Same sequence. Slower pace. Report what you see, even if fragmentary.

If text forms a shape (letters, figures, ornament):

- Scan the shape as if it were lines of text
- Follow the visual flow of the ink
- Do not identify what shape it forms

NASKH LETTER SHAPES

Dots Below

| Pattern | Character |
|--------------------|--------------------|
| 1 dot below curve | ـ |
| 2 dots below curve | ـ (final/isolated) |
| 3 dots below hook | ـ (Persian) |

Activate Windows
Go to Settings to activate Windows.

I have used LinkedIn, BlueSky and direct approach to initiate discussions with Ottoman language scholars and generalist historians interested in HTR

 Colin Greenstreet [In](#) • You
Entrepreneurial research historian
[View my services](#)
1w • Edited • 11

This is how I work on Ottoman Turkish with Claude (and Gemini) to visually capture, transliterate, translate, extract named entities, and contextualise C19th and early C20th Ottoman Turkish documents. With five more Claude projects for Albanian, Bulgarian, Greek, Armenian, and Modern Turkish. For more information see my article on Opening the Ottoman Archive

<https://lnkd.in/eqEfutQa>

#Ottomanhistory #Turkish #Albanian #Bulgarian #Greek #Armenian #Ottoman-turkish #ilm #machinetranscription #history

All projects

Ottoman Turkish HTR

Exploring Gemini 3 and Claude Opus 4.5 capabilities in Ottoman Turkish HTR

Reply...
+ 2

Claude workflows for HTR multi-agent design
Last message 2 days ago

Context window limits and automatic compaction
Last message 2 days ago

Designing V3-T-C17 style sheet for 17th-century documents
Last message 2 days ago

Ottoman Turkish handwritten document analysis workflow
Last message 2 days ago

Finding Ottoman scholars for paleographic methodology
Last message 2 days ago

Editing text for Substack and BlueSky
Last message 2 days ago

Peyam newspaper NLP processing pipeline
Last message 2 days ago

Lessons learned from Claude HTR project management
Last message 2 days ago

HTR project documentation structure and appendix format
Last message 2 days ago

Claude project sharing and collaboration permissions
Last message 2 days ago

Ottoman newspaper OCR and transliteration workflow
Last message 2 days ago

Tanin Gazetesi 1908 analysis and processing
Last message 2 days ago

Translation and summary request
Last message 2 days ago

Gemini visual scanner for Ottoman Turkish newspaper
Last message 2 days ago

Reading Ottoman Turkish map labels
Last message 2 days ago

Gemini visual scanner for 1964 handwritten document
Last message 2 days ago

Ottoman Turkish script book from Munich Digital Library
Last message 2 days ago

Evaluating Gemini's Perso-Arabic script recognition
Last message 2 days ago

John Kean and 18 others

3 comments • 1 repost

Reactions

 +11

Like Comment Repost Send

965 impressions [View analytics](#)

Add a comment... 

Most relevant ▾

Colin Greenstreet [In](#) • Author
Entrepreneurial research historian 1d ...

Here is the Claude "Tech Stuff" project slide zoomed in for legibility



Like | Reply | 22 impressions

Colin Greenstreet [In](#) • Author
Entrepreneurial research historian 1d ...

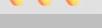
Let me give you some more information on how I am running the Opening the Ottoman Archive experiment.

#Ottomanhistory #Ottomanturkish #Albanian #Bulgarian #Greek #Armenian #Turkish #HTR #OCR



Like | Reply | 19 impressions

Elizabeth Ames [In](#) • 1st
Founder/Board Director 1w ...

Colin Greenstreet, our very own Jean-Francois Champollion 

I chose a test two column page from the first page of the four page long *Takvîm-i Vekâyi* official Ottoman gazette, issue 185, 1839



Takvîm-i Vekâyi ([Ottoman Turkish](#): تقویم وقایع meaning "Calendar of Events") was the first fully [Turkish](#)

language newspaper. It was launched in 1831 by Sultan Mahmud II, taking over from Le Moniteur ottoman as the official gazette of the Ottoman Empire. With the beginning of the Tanzimat reform period, *Takvim-i Vekayi* produced versions in multiple language editions. It ceased publication in 1878, resuming in 1891–2, before being closed again. It resumed in 1908 until around 1922.^[2] Between 1831 and 1878, it published a total of 2119 issues – an average of slightly less than one a week.^[3]

In addition to the Ottoman Turkish, it had versions in French, Armenian, and Greek.^[4] The Greek version had a title derived from the French *Moniteur Ottoman*, *Othōmanikos Minyōtōr* (Οθωμανικός Μηνύτωρ).^[5] Johann Strauss, author of "A Constitution for a Multilingual Empire: Translations of the *Kanun-i Esasi* and Other Official Texts into Minority Languages," stated that "some writers" stated that versions in Arabic and Persian existed.^[4]

رجالان: امداده ملهمه بايده معور الجوانب و معدوم المثال احده
روي و را باب عقدن اول سليله افندی مشار عليه حضر تاريظ ذکرا و آن
صدران عظمى مسنا شارغه ما مورت زد غالبه نسب و اصحابان پوره
و اول وجهه اش بو ماه حالت ایکجني صال کوفی مسنا شارق من ذکور عهد رس
تو حبید ايله مأموری اجرا و اعلان فلمش و يوم مذکوره خا کای شاهها
دنی مالیده روی رخسار عسودیت و شکرانت الله مشرف و مسر
والتفات علی بهای ملوكا نهی مظہر تنه نائل کجینه شادکام و خبور اوله
سلی مشار عليه صارم افندیک دنی سایه سلطنت سنه ده بعدت اسمازا
وخانه و ساختمانه سنه قاسته دعای دوام عمر و اقبال و شوکت شاهانه یه مواط
ایلی طرفه اخبار او نهی شدر

بغداد وموصل والبلدي عظوقلتو على رضا پاشا و محمد پاشا حضرة
قوه کخنده العلري مصلحتي چند روز اقدم خبر نهسته مقاطعات دفترداری او
سعادتلو موسی صفوی افندی حضرتلي عمه دهندن صرف و نحو بل
مشار عليه سعید محب افندی حضرتلي هنه احالمه الهمشیدی کنانه و بیک
بووجهه و قوه مأمور بیاندن طولانی مشا الیهمه حاضراتی قبو کخنده الفار
آخر برذانه احالمی لازم کلایکنه مبنی ذکر اولتسان قبو کخنده الفارکه بخ
والای مذکور اعضا نهندن هن تلوز بور افندیت علاوه مأموریت فلم
بالتنسب اولما به سانع و صادر اولان امر و فرمان مکام عنوان ملو
توجهه ماه حالت اوچجی چهار شنبه کونی اقتضاسی اجر و اع
اوتشدر

مقدّم مجده عواظف عالیه شاهانه دن انقره و کنفرنی و جوروم سنجاقی از هر سه بعده
توجهی و احسان یورلش اولان رئیس دارشورای باب عالی سابق عطوه
داد و پاشا حضرت لرینک زیور صدر افخاری اولان نشان ذیشان بجه
ریاسی نشانی اولیدینگند تبدیلیه کنده و بحددا وزارت نشان فر
افشانی اعطاسی امر و فرمان یوریله رق او لوچمه ره رقطعنی نشان تنظیم و
اوئمنش و مشارا لیه دخنی سایه کرمایه حضرت شاهانه ده لوزمات سفریه
تیم وا کال ایش اولدینگنه و کندوی قدمای وزرای نظام و اصادر
بندکان دولت علیه ایدی الدوامدن یونلینه بناهه مشارا لیه حضرت
ماه ساپلک یکرمی در دنی خالی کون ماین هایاون شاهانه به جل
خا کای مکارم یکای حضرت شهنشاهی به فرش چین عبودیت و ائل ال
یغایات پادشاه مکارم خصلت اولهرق ذکرا اولان نشان ذیشان عالی حد
میامن نشور جناب ملوکه ده تعليق سبته مهانی فلمش و کندویه و
اوئنان اهلی و فرقانک ظل ظلیل مراجم دلیل شاهانه ده حسن جما
وصیانت واستحصال اسایش واستراحتنر لیه آثار رنجیش و تهدیدن محاج
و وقارنی خصوصی لرته دار طرف اشرف حضرت ملکدار بدن و
لازمه با تلقین مشارا لیه حضرت لری مسنتدا بتوفیقه تعالی مقر حکو
جلب ایه حضور مکار منشور شاهانه به رومان عبودیت و اجرای وجیهه رسمیعتله
مظہر النقائت و نوازش شمنشه مخانس خصلت اولشدرا مشارا لیه حضرت لری
اکرچه سفارت مأموریتی عهده دسته اولهرق درسعاده کلش ایسده بوطرف زده
بولسان خدمتی دخنی غایت معتا مصالح جسمیه سلطنت سیندهن اولمق
درسعادتندن اتفکاک و مقاصلی دخنی برسته بی تجاوزاتک حسبیله مشارا لیه
حضرت لرینک بوطرفه ایشلری باشنده بولتمنی زد عالیده تنسیب و اراده
ییورلش و موججه مشارا لیه حضرت لری مقام مأموریت لرینه رونقده
مداموت و رویت مصالح بچیه لرینه ازرسنو شروع و مباشرت ایلیه رک
مویی لیه عالی افندي دخنی من کر مأمورینه دوامه میادرت ایشل و مشارا لیه
ققچی پاشا حضرت لری دخنی اش بو رجب شریفک التجی جمهه ایرتسی کونی
درسعاده بالوصول ولدخنی مبارک عتبه علیای حضرت خلاقت پناهی به روسا
اولهرق مظہر نوازش عالی اولشدرا

اقدکز ده یولان انگلتره دولت، دونخانی امریکی ستونفورس اس-اند شو