

Born-digital Literary Archives

Forensic Perspectives on an Expanding Field, and Current Challenges for Preservation

Thorsten Ries, The University of Texas at Austin

Feb 26, 2024 at 1:00pm

Online DPC event: *Digital forensics and digital preservation: Investigating good practice*



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Best Practices

- What are they?
- Defined by actual forensic practice? (ISO 27050, DEFSOP)
- Effects of Historical Digital Materiality
- Aspects of (my own) practice.

- Preservation
- Discovery, Analysis, Interpretation
- AI?



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Challenges → General, with Baker

- **Time and obsolescence** (physical degradation, software obsolescence, hardware support, forensic hardware support for historical systems)
- **Volume / Storage capacity vs Gaps**
- **Data curation, security management, migration** – is a long-term task
- **Variety, Diversification, Fluidity of technology dev** changes preservation and analytical methods (SSD's).
- **Ethics, Data Security, Policies and Solutions for Safe Research Access** – see GDPR.
- **Environmental** – carbon footprint long term storage.

Challenges → New

- Change of **programming, legal, and forensic paradigms and frameworks** (e.g. cloud computing)
- **Encryption.**
- **AI integrations** in standard software thwart forensic approaches, mostly leave no trace, and change the idea of authorship and agency (whodunnit, this may not be a problem).
- **Long-term interpretability** of historical forensic phenomena, gaps and fragmentation of record, and forensic software artefacts (false positives, C-traces).

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BORN DIGITAL. HISTORY

DIGITAL FORENSICS IN THE HOUSE OF LORDS: SIX THEMES RELEVANT TO HISTORIANS (PART ONE)

🕒 29/03/2019 👤 JWBAKER 💬 LEAVE A COMMENT

This post was originally published at the [Software Sustainability Institute blog](#).

In 2017 the House of Lords Science and Technology Committee [opened an inquiry into forensic science](#). The inquiry is still open and has four areas of focus: the forensic science research landscape, the use of forensic science in the Criminal Justice System, standards and regulation, and digital forensics. Alongside this, the inquiry

James Baker: *Digital Forensics in the House of Lords: six themes relevant to historians (Part One / Two)*, 2019 [Link].

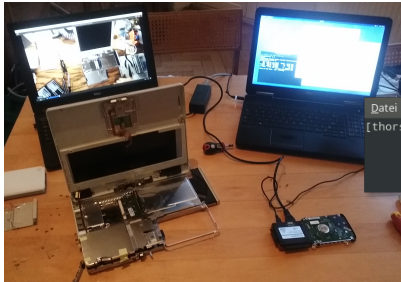
Preservation



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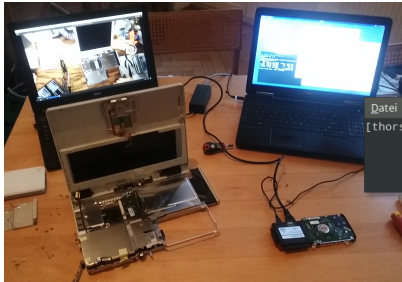
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```
Datei Bearbeiten Ansicht Terminal Hilfe  
[thorsten@localhost ~]$ dd if=/dev/hda of=/mnt/sda1/usw/Forensisches_Image.dd
```

Preservation Formats and Strategies – Forensic Methodology as Approach

- **Securing evidence** – Bitstream-preserving images (»forensic images«, keeps deleted material and original of the system context)
- **Formats** – Sustainable, open formats (e.g. dd vs EnCase), and system context documentation.
- **Authentication** – Hashing (encrypted checksums, MD5, SHA256), alternative: blockchain (sustainable?)
- **Lots of copies keep stuff safe** (LOCKSS, distributed), Repositories with enhanced security mechanisms (bit-flipper, etc).
- **Digital original vs. migration / conversion.**



Datei Bearbeiten Ansicht Terminal Hilfe

```
[thorsten@localhost ~]$ dd if=/dev/hda of=/mnt/sda1/usw/Forensisches_Image.dd
```

Highlights

- Tool documentation (version)! (effects of tools, e.g. dd, ddrescue, recuperabit)
- Careful with image compression, encryption, proprietary formats!
- Hardware documentation (SSD: garbage collection, overprovisioning areas, SSD slack)
- We need system context. Evidence often does not come in expected formats.



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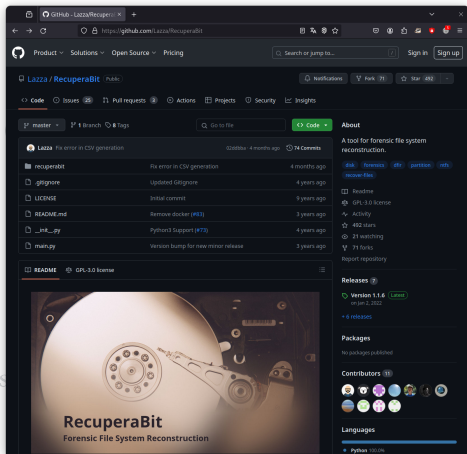
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Tool documentation: Imaging tools

- dd
- ddrescue
- dd_rescue
- recuperabit
(experimental)
- Advanced Forensic Format
(sustainable?)
- FTKimager
(proprietary)
- EnCase
(proprietary)

```
Datei Bearbeiten Ansicht Terminal Hilfe  
[thorsten@localhost ~]$ dd if=/dev/hda of=/mnt/sda1/usw/Forensisches_Ima
```



Hardware: Solid State Drives

Recovery Problems

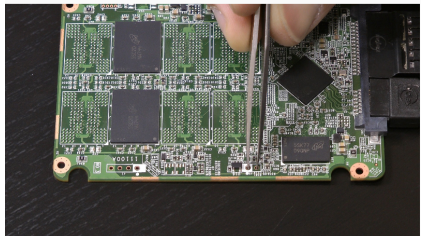
- Wear leveling.
- TRIM (operating system level)
- **Garbage collection** (controller level)
- Major challenges for forensics, **often deleted data is forever lost after a few minutes** to a day, special hardware is required for capture – **garbage collection starts automatically, controller-driven, when the drive is connected, data scrambling, firmware-compression, potentially in the future: encryption.**

Recovery Opportunities / Solutions

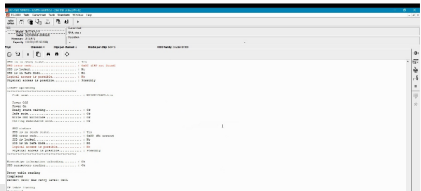
- Wear leveling.
- Implementation is not standard, **sometimes TRIM is not active due to bugs, faulty implementation or incompatibilities, operating systems etc support TRIM.**
- Drive slack, overprovisioning, incompatibilities (USB), nonstandardized builds and bugs. – Overprovisioning areas accessible only with very specialized methods / hardware.
- **Chip-off forensics**
- **Factory access mode to access overprovisioning**



This is how you block access to NAND chips on a Crucial BX100:



Next, we'll connect the SSD to ACELAB PC-3000 in order to switch it into factory access mode. Factory access mode is activated by sending a service command (widely different per OEM/controller) to the SSD controller. Then, we'll upload the LDR code into the controller's RAM.



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Context I: Time Stamps (Glyn Moody Personal Archive)

The image shows a file explorer window displaying a directory structure. The selected directory is '00 - Haunted cloisters'. The files listed are:

Name	Größe	Geändert
00-html	113 Objekte	unbekannt
bill's info at your fingertips speech.doc	17,3 kB	29. Nov 1999
BOOK00.DOC	22,6 kB	19. Jun 2000
CHAP00.DOC	8,1 kB	14. Sep 1999
contacts00.xls	13,8 kB	3. Sep 1999

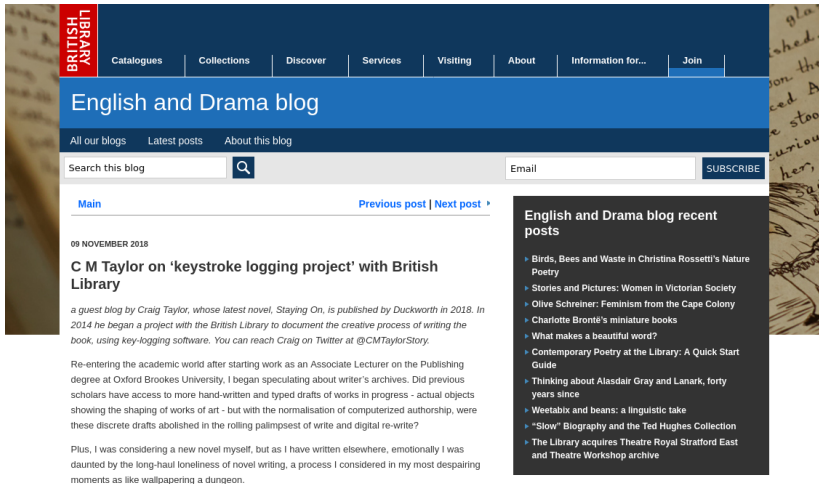
Below the file explorer is a terminal window titled 'Tilix: Standard' showing the output of a command: `export LC_ALL=C; stat BOOK00 bill*`. The output shows the metadata for 'bill's info at your fingertips speech.doc' and 'BOOK00.DOC'. The timestamps are highlighted with colored boxes and arrows:

- Access: 2018-10-15 00:11:44.956411000 (green box, arrow from NTFS)
- Modify: 2000-06-19 07:03:48.000000000 (red box, arrow from FAT32)
- Change: 2018-10-15 00:11:44.956411671 (green box, arrow from NTFS)
- Birth: 2018-10-15 00:11:44.956411671 (blue box, arrow from EXT4)

The terminal output also shows the metadata for 'BOOK00.DOC' with similar timestamps.

Thorsten Ries. "Digital history and born-digital archives: the importance of forensic methods." In: Journal of the British Academy 10 (2022), pp 157-185.

Context II: Keylogger



The screenshot shows the top navigation bar of the British Library website with links for Catalogues, Collections, Discover, Services, Visiting, About, Information for..., and Join. Below this is the 'English and Drama blog' header, followed by sub-navigation for 'All our blogs', 'Latest posts', and 'About this blog'. A search bar and an email subscription box are also visible. The main content area features a post dated 09 NOVEMBER 2018 by C M Taylor, discussing a 'keystroke logging project' with the British Library. The post includes a paragraph of text and a quote. A sidebar on the right lists recent posts with blue arrow icons.

BRITISH LIBRARY

Catalogues Collections Discover Services Visiting About Information for... Join

English and Drama blog

All our blogs Latest posts About this blog

Search this blog

Email

[Main](#) [Previous post](#) | [Next post](#) ▶

09 NOVEMBER 2018

C M Taylor on 'keystroke logging project' with British Library

a guest blog by Craig Taylor, whose latest novel, Staying On, is published by Duckworth in 2018. In 2014 he began a project with the British Library to document the creative process of writing the book, using key-logging software. You can reach Craig on Twitter at @CMTaylorStory.

Re-entering the academic world after starting work as an Associate Lecturer on the Publishing degree at Oxford Brookes University, I began speculating about writer's archives. Did previous scholars have access to more hand-written and typed drafts of works in progress - actual objects showing the shaping of works of art - but with the normalisation of computerized authorship, were these discrete drafts abolished in the rolling palimpsest of write and digital re-write?

Plus, I was considering a new novel myself, but as I have written elsewhere, emotionally I was daunted by the long-haul loneliness of novel writing, a process I considered in my most despairing moments as like wallpapering a dungeon.

I spoke to my friend Mark about these two things - the lost drafts and the loneliness - and in a flash

English and Drama blog recent posts

- ▶ Birds, Bees and Waste in Christina Rossetti's Nature Poetry
- ▶ Stories and Pictures: Women in Victorian Society
- ▶ Olive Schreiner: Feminism from the Cape Colony
- ▶ Charlotte Brontë's miniature books
- ▶ What makes a beautiful word?
- ▶ Contemporary Poetry at the Library: A Quick Start Guide
- ▶ Thinking about Alasdair Gray and Lanark, forty years since
- ▶ Weetabix and beans: a linguistic take
- ▶ "Slow" Biography and the Ted Hughes Collection
- ▶ The Library acquires Theatre Royal Stratford East and Theatre Workshop archive



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[Tweets by @LEnglish_Drama](#)

Context II: Keylogger

CTC-KS

Name

CTC-ks-item-001.rtf
CTC-ks-item-002.rtf
CTC-ks-item-003.rtf
CTC-ks-item-004.rtf
CTC-ks-item-005.rtf
CTC-ks-item-006.rtf
CTC-ks-item-007.rtf
CTC-ks-item-008.rtf
CTC-ks-item-009.rtf
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CTC-ks-item-028.rtf
CTC-ks-item-029.rtf
CTC-ks-item-030.rtf
CTC-ks-item-031.rtf
CTC-ks-item-032.rtf
CTC-ks-item-033.rtf
CTC-ks-item-034.rtf

CTC-ks-item-026.rtf

Application: soffice
Start: 15/11/2016 08:33:40
Title: More Em November 16.odt - OpenOffice.org Writer

[More Em November 16.odt - OpenOffice.org Writer]

<08.33>
<PGUP>3<DOWN>26<UP>3<RIGHT>25<DOWN><LEFT>8<RIGHT><DOWN>3<UP><RIGHT><DOWN>136<UP>136<DOWN>2
3<LEFT>13<UP><RIGHT>19<RIGHT>16<apart>SPACE<DELETE>18<DOWN><LEFT>42<DOWN>57<UP>2<LEFT>16<A>SPACE>3
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<SPACE><head>SPACE<towards>SPACE<home><SPACE><Then>SPACE<she>SPACE<stopped><SPACE><took>SPACE<her>SPACE<of
ACE><out>SPACE<again><SPACE><tested>SPACE<Nick>SPACE<you're>SPACE<flying>SPACE<solo>SPACE<Have>SPACE<to>SF
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CTC-ks-item-031.rtf
CTC-ks-item-032.rtf
CTC-ks-item-033.rtf
CTC-ks-item-034.rtf

Keystrokes Typed

Application: soffice
Start: 15/11/2016 08:33:40
Title: More Em November 16.odt - OpenOffice.org Writer

[More Em November 16.odt - OpenOffice.org Writer]

<08.33>
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3<LEFT>13<UP><RIGHT>19<RIGHT>16<apart>SPACE<DELETE>18<DOWN><LEFT>42<DOWN>57<UP>2<LEFT>16<A>SPACE>3
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6SPACE<walked>SPACE<to>SPACE<the>SPACE<top>SPACE<and>SPACE<started>SF
<SPACE><head>SPACE<towards>SPACE<home><SPACE><Then>SPACE<she>SPACE<stopped><SPACE><took>SPACE<her>SPACE<of
ACE><out>SPACE<again><SPACE><tested>SPACE<Nick>SPACE<you're>SPACE<flying>SPACE<solo>SPACE<Have>SPACE<to>SF
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29<I>SPACE<do>SPACE<not>SPACE<need>SPACE<fixing>SPACE<CTRL+S><PGUP>52<DOWN>305<UP>34<DOWN>15<UP>5<
34<DOWN>3<LEFT>25<DOWN>12<UP>2<DOWN><RIGHT>7<SPACE><RIGHT>8<DOWN>5<LEFT>11<DOWN>2<UP>3<RIGHT>
13<DOWN>10<LEFT><DOWN>9<UP><LEFT>12<RIGHT><had>SPACE<RIGHT>57<DOWN><LEFT>49<RIGHT><DOWN>8<RGHTE
66<UP><RIGHT>7<SPACE><P><RIGHT>42<DOWN>2<LEFT>20<RIGHT>2<ENTER><TAB><DOWN>13<UP>4<LEFT
3<DOWN><UP><RIGHT>4<ENTER>SPACE<s><DOWN>17<LEFT>16<RIGHT>14<LEFT>2<ENTER><TAB><DOWN>3<UP>2<DOWN
141<DOWN>50<UP>3<RIGHT>48<LEFT>2<DOWN>13<UP>41<DOWN>14<UP>10<DOWN>134<CTRL+S>
<08.19>
<09.22>
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<09.15>
<PGUP>20<PGDOWN>36<PGUP>57<DOWN>15<UP>5<DOWN>20<UP>3<RIGHT>14<DOWN>11<UP><RIGHT>
32<The>SPACE<line>SPACE<had>SPACE<DOWN>5<UP>3<RIGHT>21<LEFT>8<DOWN>77<PGDOWN>12<OO
10<UP>2<RIGHT>12<LEFT>SPACE<DOWN>3<RIGHT>23<DOWN>3<UP><RIGHT>27<DOWN>77<UP>2<DOWN>2<UP>4<DO
8<UP>3<DOWN><LEFT>14<UP><RIGHT>14<DOWN><LEFT>2<SPACE><up><DOWN><LEFT>37<RIGHT><DOWN>2<UP><DOWN>

Context II: Keylogger

The screenshot shows a web browser window with the URL <https://journals.openedition.org/variants/1245>. The page header includes the OpenEdition Journals logo, the University of Texas Libraries logo, and navigation options for language (English) and sharing. The main navigation bar shows the breadcrumb: Home > Issues > 15-16 > Essays > The Reconstruction of the Author's... The main content area features a large illustration of a man in a hat writing at a desk, with the journal title "Variants" and subtitle "The Journal of the European Society for Textual Scholarship" overlaid. A search bar is located on the left side of the page. The article title is "15-16 | 2021 Textual Scholarship in the Twenty-First Century" with a sub-section "Essays". The main article title is "The Reconstruction of the Author's Movement Through the Text, or How to Encode Keystroke Logged Writing Processes in TEI-XML" by Lamyk Bekius, published on pages 3-43. The DOI link is <https://doi.org/10.4000/variants.1245>. At the bottom, there are links for Abstract, Index, Outline, Text, Bibliography, Notes, Illustrations, References, and About the author.

The Reconstruction of the Author's Movement Through the Text, or How to Encode Keystroke Logged Writing Processes in TEI-XML

Lamyk Bekius

p. 3-43

<https://doi.org/10.4000/variants.1245>

[Abstract](#) | [Index](#) | [Outline](#) | [Text](#) | [Bibliography](#) | [Notes](#) | [Illustrations](#) | [References](#) | [About the author](#)

Context II: Keylogger

15-16 | 2021 Textual Sci x The Reconstruction of t... Dynamic Facsimiles: Not x +

← → ↻ 🔒 https://journals.openedition.org/variants/1245

OpenEdition Journals

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writing processes that take place in a word processing environment that the author is already familiar with: Microsoft Word (Leijten and Van Waes 2013).⁴ Each time an author activates Inputlog to start a new writing session, the Word document in which the author is working is saved in the background, in a folder that contains the session's date and number. Subsequently, the Word document is saved again when the author ends the writing session by deactivating Inputlog. This results in a session-version of the text for each session, which shows the text's gradual expansion. But Inputlog does not just save Word documents. When the program is running, every keystroke and mouse movement is recorded with a timestamp (Leijten and Van Waes 2013). While writing, authors retain control of the process: they can start and stop the logging when they choose, and the data is stored on their local PC or laptop.

5 Although Inputlog is developed for textual and cognitive study of writing, the data output from the writing process of Bogaert's Roosevelt, generated in Inputlog, is not immediately suitable for literary textual research. While Inputlog provides a video replay of the recorded writing session, some issues emerge when replaying Bogaert's writing process. Short writing sessions comprising linear text production are replayed accurately, but as soon as larger segments of text are relocated or deleted, when the writing is characterized with non-linearity, or when the logged session is of considerable length, the replay mode is affected and represents the revisions and text production at the wrong location in the text. Moreover, relying solely on a video replay of the writing session for text genetic analysis also seems undesirable, as one would need to watch a writing session of, say, two hours in its entirety, while constantly pausing to analyse the effect of the revisions. A static reconstruction of the writing session — whether or not in combination with a video replay, as in Dirk Van Hulle's proposal for a "Dynamic Facsimile" in the present issue (Van Hulle 2021) — is favoured to ensure adequate analysis. Hence, in order to be able to study the revisions (contained in the keystroke logging data) in their textual context, the twofold output of Inputlog — the Word document and the keystroke logging data — requires some reassembly.⁵

6 Since TEI-conformant XML is widely used to create a digital form of humanities data — texts, manuscripts, archival documents and so on — I opted to encode the keystroke logging data in TEI-XML to visualize and analyse revisions in their textual context (Burnard 2014). For me, these transcriptions function as a tool to gain more insight into the textual genesis. They could eventually be used for visualizations of the writing process, but a proper discussion of the latter lies outside the scope of this article. In order to reflect on how keystroke logging

5 Within cognitive writing process research, a method has been developed to study revisions in context (...)

Context III: System crashes

```
C:\WINDOWS>chkdsk c: /P
Volume created 12/18/08 03:16p
The volume Serial Number is dc9b-cf0a
CHKDSK is checking the volume...
CHKDSK is performing additional checking or recovery...
CHKDSK is performing additional checking or recovery...
CHKDSK is performing additional checking or recovery...
CHKDSK found one or more errors on the volume.
20956760 kilobytes total disk space.
15563168 kilobytes are available.

4096 bytes in each allocation unit.
5239190 total allocation units on disk.
3890792 allocation units available on disk.
```

Think also about system files and areas like pagefile.sys, hiberfil, VSS shadow partitions, file history feature storage ...

FILE0013.CHK — /run/media/thorsten/KlingAnalyseDate/hitachi/1_sichtbare_dateien — Atom

FILE0013.CHK

494 die lachse, alles wie im tierfilm!, tierfilmlicht - durch das die lachse
495 sprengten. als pfellförmig die wasser gingen wie stöde
496
497 in alten, springenden sprachen.
498
499
500
501
502
503
504 Motto:
505 K.Kraus, zwei kriegsberichterstatter mit kodak..
506 Die WAHRNEHMUNG
507
508 I
509 ihr hinterleib in stöndiger bewegung, und in bewegung ihre föhler mit
510 dem schwarzen haar, die sie mit schwarzen fößen stöndig wieder putzen
511 müö, wobei der schwarze kopf, ihr dunkles wespenhaupt, gesenkt müö
512
513 werden. mit föhlern und mit schwarzen zangen versucht die wespe im
514 oktober das schwarze zifferblatt zu knacken; mit gutgeputzten föhlern
515 gutgeputzten zangen will sie die zeit, die hinter panzerglas an meinem
516
517 handgelenk, einfangen. die wespe achtet nicht des worts des trögers von
518 der armbanduhr. den tröger schauerts, von frösteln, kaltem herbst spör-

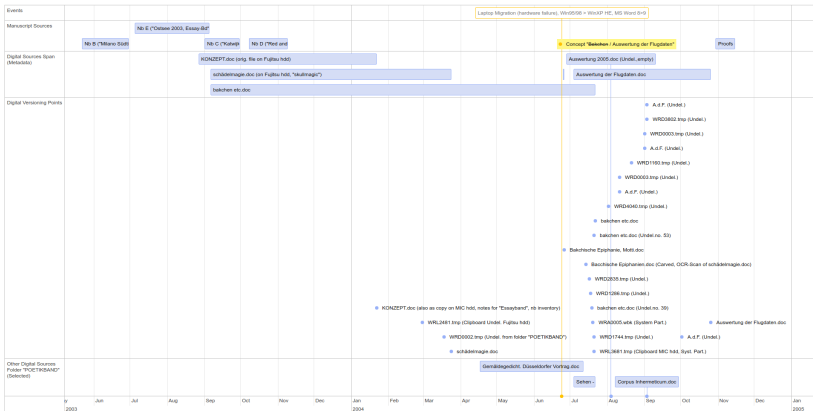
Thorsten Ries. "The rationale of the born-digital dossier génétique: Digital forensics and the writing process: With examples from the Thomas Kling Archive." In: Digital Scholarship in the Humanities (DSH) 33.2 (June 2018), pp. 391-424.

Context III: System crashes

Thomas Kling's "Projekt Vorbildung" ("project reactivation of prehistory") - timeline, a limited selection of materials represent the recoverable stages

Set in main event | Set in main sub-annotation | Mark digitally born/unborn recoverer files and versions | Mark system crash, migration and its context | Full list items

Select set 1 | Select set 2 | Select set 3 | Select set 4 | Select set 5 | Select set 6 | Select set 7



Discovery, Analysis, Interpretation

Highlights

- Document every tool (with version)
- Know the tool's C-trace potential
- Test historic software behavior

Impact of the tool: The case of Photorec 7

The screenshot displays a Linux desktop environment with a file manager window and a PhotoRec utility window. The file manager window shows a directory listing of files recovered in the /home/caine/Documents/Recovery directory. The PhotoRec utility window shows the completion of a recovery process, displaying a progress bar at 100% and a summary table of recovered files.

File Manager Window: /home/caine/Documents/Recovery

Name	Size	Type	Date Modified
recup_dir.1	6 items	Folder	mar 20 nov 2018 15:10:01 CET
f0001709.jpg	29,5 kB	JPEG image	mar 20 nov 2018 15:10:01 CET
f0001782.docx	10,6 kB	Microsoft Word Document	mar 20 nov 2018 15:10:01 CET
f0001883.lnk	544 bytes	unknown	mar 20 nov 2018 15:10:01 CET
f0001904.docx	13,7 kB	Microsoft Word Document	mar 20 nov 2018 15:10:01 CET
f0060759.txt	512 bytes	Text Document	mar 20 nov 2018 15:10:01 CET
f0075147.txt	512 bytes	Text Document	mar 20 nov 2018 15:10:01 CET

PhotoRec (as superuser) Window:

PhotoRec 7.1-WIP, Data Recovery Utility, June 2018
Copyright (C) Christophe GRENIER <grenier@cgsecurity.org>
<https://www.cgsecurity.org>

Disk: /home/caine/Desktop/Workshop_Images/Workshop_image_Win7_word2007.img - 204 MB / 195 MiB (RO)

Destination: /home/caine/Documents/Recovery

Recovery completed 100% 6 files found

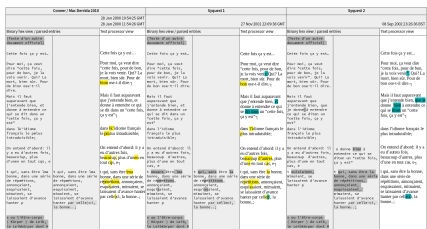
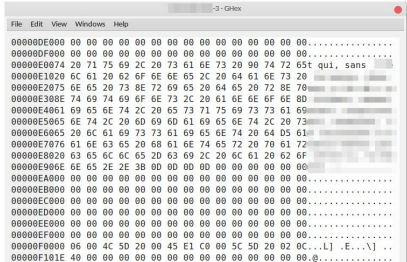
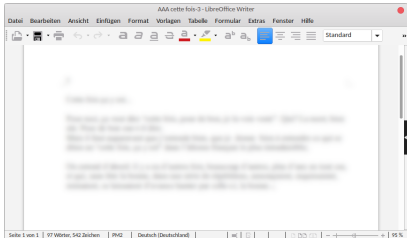
File family	Number of files recovered
dxt	2
zip	2
jpg	1
lnk	1

Quit

Impact of the tool: foremost and MacWrite Pro



MacWrite Pro 1.0 artefacts



- MacWrite Pro 1.0 file viewed in the word processor / hex editor.
- The file exists in four versions spread over all harddrives (also Syquest!). → Synopsys.
- Two files dated 28 Jan 2000 are text-identical, two further are dated 27 November 2001, 8 September 2002.

[in Print:] Thorsten Ries. Pour la reconstruction des processus d'écriture numériques de Derrida grâce à la computer forensics : reconstruction des données et matérialité numérique historique ... 2021 [in print] [preprint available (HAL)].

Impact of the tool: foremost and MacWrite Pro

```
SECRET - GHox
File Edit View Windows Help
000028B00E 68 01 3C 54 10 4F 8E 85 33 F8 E0 AF 27 73 F6,h,<T.O..3...\'s.
000028C0A5 3C 27 53 00 91 04 F8 EE 53 94 1F 3A 05 30 3F.<\'S.....S...:07
000028D027 F7 90 13 21 39 0E 68 01 3C 54 10 AF 27 6E E1\'...!9,h,<T...\'n
000028E0A0 F8 80 4F 8E E5 39 41 09 10 85 7F 2C 09 10 81...0..9A.....
000028F080 6C 21 80 5F 75 09 10 81 80 E1 38 F8 E1 8F 2C.l!..u.....8..
000029000F 88 04 F8 EE 53 94 10 91 0A F2 76 F7 52 41 01....S.....v.RA.
0000291020 91 F7 66 32 0A F2 76 F7 52 41 F2 E0 F4 52 02 ..f2..v.RA...R.
000029205F 75 21 0A 60 F6 71 3F 8F 81 09 10 A6 04 18 ES u!..`q?.....
0000293038 6F 62 7A 72 F8 E0 0F 71 F7 51 0F 76 60 E4 5E8obzr...q.Q.v.^
0000294058 14 0F 50 62 75 CF 68 60 31 09 F8 EC 47 46 0BX..Pbu.k`l...GF.
00002950E6 80 81 F7 5A 1F 6D 13 20 F7 53 10 B7 82 57 41...Z.m...S...WA
0000296009 10 A6 04 1A 7F 67 75 3F 2C 09 10 A6 04 1A 7F.....gu?.....
0000297067 75 87 2F 8E 09 10 A6 04 1A 7F 67 75 3F 2E 0Fgu./.....gu?..
0000298045 AA 10 81 0C 53 05 39 46 02 5F 75 21 01 32 7FE...S.S.9F..u!..2.
000029908F 41 06 F7 61 C0 F7 53 10 F6 7F 8E 3F 8E 6A 5F.A..a..S...7.j_
000029A067 71 09 F7 50 8F 75 F6 A1 20 5F 75 09 F7 50 F6gg..P.u...u..P.
000029B005 7F 2C 09 F7 50 46 EE 54 20 F8 80 85 70 9F 75....PF.T...p.u.
000029C00F 6D 57 0C 5F 6D F6 D1 00 73 82 63 C1 09 10 A6.mM..m...S.C...
000029D00A 7F 62 14 2F 8E F2 C0 91 0A 60 87 3F 67 F7 5A..b./.....7g.Z
000029E064 72 FR FA 12 00 10 A6 04 1R F5 3R 6F 62 7A 72d.....Robzr
Offset: 0x0
```



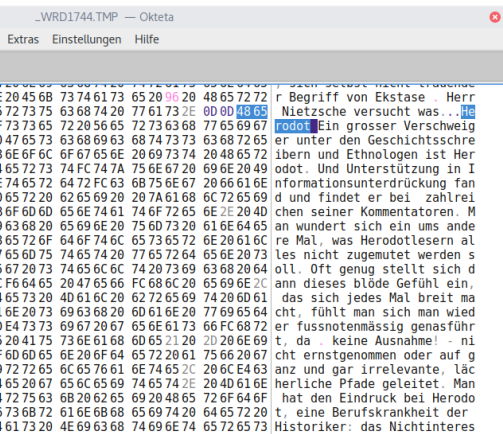
- MacWrite Pro 1.5 compressed datastream.

- Diff view of fastsave artefact from decompressed SECRET datastream compared to doc text.
- The decompression algorithm was reengineered.

[in Print:] Thorsten Ries. Pour la reconstruction des processus d'écriture numériques de Derrida grâce à la computer forensics : reconstruction des données et matérialité numérique historique ... 2021 [in print] [preprint available (HAL)].

Testing needed! The case of MS Word GUID's

0000CB20	00 00 00 06 00 00 00 54 69 74 65 6C 00 03 00 00Titel....
0000CB30	00 01 00 00 00 00 00 00 98 00 00 00 03 00 00 00
0000CB40	00 00 00 00 20 00 00 00 01 00 00 00 36 00 00 006...
0000CB50	02 00 00 00 3E 00 00 00 01 00 00 00 02 00 00 00>.....
0000CB60	0A 00 00 00 5F 50 49 44 5F 47 55 49 44 00 02 00_PID_GUID...
0000CB70	00 00 E4 04 00 00 41 00 00 00 4E 00 00 00 7B 00A...N...{.
0000CB80	36 00 39 00 45 00 42 00 38 00 44 00 41 00 30 00	6.9.E.B.8.D.A.0.
0000CB90	2D 00 43 00 35 00 35 00 33 00 2D 00 31 00 31 00	-.C.5.5.3.-.1.1.
0000CBA0	44 00 35 00 2D 00 42 00 43 00 35 00 43 00 2D 00	D.5.-.B.C.5.C.-.
0000CBB0	33 00 34 00 38 00 31 00 30 00 42 00 43 00 31 00	3.4.8.1.0.B.C.1.
0000CBC0	30 00 30 00 30 00 30 00 7D 00 00 00 00 00 00 00	0.0.0.0.}.....



..WRD1744.TMP — Okteta

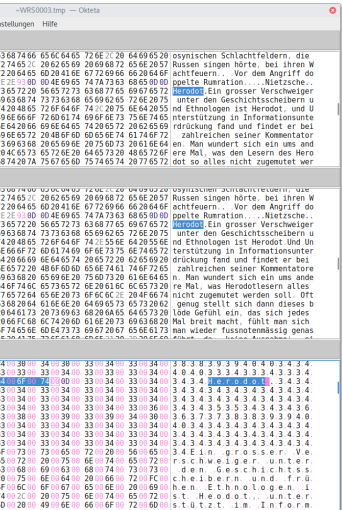
Extras Einstellungen Hilfe

204568	73746173	65209620	48657272	r Begriff von Ekstase . Herr
727375	63687420	7761732E	0D0D4865	Nietzsche versucht was...He
737365	72205665	72736368	77656967	rodut Ein grosser Verschweig
476573	63686963	68747373	63687265	er unter den Geschichtsschre
6E6F6C	6F67656E	20697374	20486572	ibern und Ethnologen ist Her
657273	74FC747A	756E6720	696E2049	odot. Und Unterstützung in I
746572	6472FC63	6B756E67	2066616E	nformationsunterdrückung fan
657220	62656920	207A6168	6C726569	d und findet er bei zahlrei
6F6D6D	656E7461	746F7265	6E2E204D	chen seiner Kommentatoren. M
636820	65696E20	756D7320	616E6465	an wundert sich ein ums ande
65726F	646F746C	65736572	6E20616C	re Mal, was Herodotlesern al
656D75	74657420	77657264	656E2073	les nicht zugemutet werden s
672073	74656C6C	74207369	63682064	oll. Oft genug stellt sich d
F66465	20476566	FC686C20	65696E20	ann dieses blöde Gefühl ein,
657320	4D616C20	62726569	74206D61	das sich jedes Mal breit ma
6E2073	69636820	6D616E20	77696564	cht, fühlt man sich man wied
E47373	69672067	656E6173	66FC6872	er fussnotenmässig genasführ
204175	736E6168	6D652120	2D206E69	t, da . keine Ausnahme! - ni
6D6D65	6E206F64	65722061	75662067	cht ernstgenommen oder auf g
727265	6C657661	6E74652C	206CE463	anz und gar irrelevante, läc
652067	656C6569	7465742E	204D616E	herliche Pfade geleitet. Man
727563	6B206265	69204865	726F646F	hat den Eindruck bei Herodo
736B72	616E6B68	65697420	64657220	t, eine Berufskrankheit der
617320	4E696368	74696E74	65726573	Historiker: das Nichtinteres



Thorsten Ries. "Philology and the digital writing process." In: Cahier voor Literatuurwetenschap 9 (2017), pp. 129–158

Projekt Vorzeitbelegung WRL, WBK, WRS / Synopsis



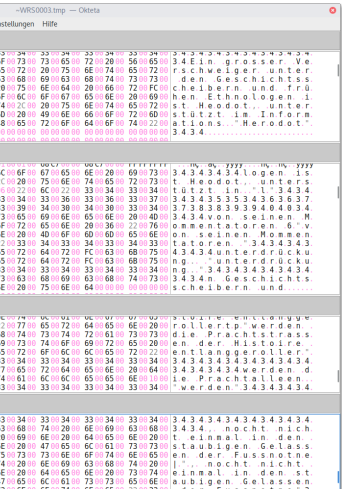
-WRL3681.tmp	-WRA1775.wbk
Herodot Ein grosser Verschwäger unter den Geschichtsschreibern und Ethnologen ist Herodot und Unterstützung in Informationsunterdrückung fand und findet er bei zahlreichen seiner Kommentatoren. Man wundert sich ein ums andere Mal, was <u>Herodotesein</u> alles nicht zugemutet werden soll. <u>Oft genug</u> stellt sich dann dieses blöde Gefühl ein, das sich jedes Mal breit macht, fühlt man sich man wieder fusnotenmäßig genasführt, da <u>keine Ausnahme - nicht emstgenommen</u> oder auf ganz und gar irrelevant... <u>lächerliche</u> Plade geleitet. <u>Man hat den Eindruck bei</u> Herodot, eine Berufskrankheit der Historiker: <u>das Nichtinteressante</u> , das Geröll, die tauben Nüsse werden die Prachtalleen der Historie entlanggerollt. Und mit Verve nichttransportiert und nichtbereitgehalten noch nicht einmal in die staubigen Gräberfeldern die den Fussnoten reserviert sind wird <u>immer</u> an Urserösem, Nichtsicherchertem, vor allem Nicht-Sicherungswürdigen von vorne herein als <u>anebüchervom akademischen Diskurs ausgeschlossen</u> .	Herodot Ein grosser Verschwäger unter den Geschichtsschreibern und Ethnologen ist Herodot und Unterstützung in Informationsunterdrückung fand und findet er bei zahlreichen seiner Kommentatoren. Man wundert sich ein ums andere Mal, was <u>Herodotesein</u> alles nicht zugemutet werden soll. <u>Oft genug</u> stellt sich dann dieses blöde Gefühl ein, das sich jedes Mal breit macht, fühlt man sich man wieder fusnotenmäßig genasführt, da <u>keine Ausnahme - nicht emstgenommen</u> oder auf ganz und gar irrelevant... <u>lächerliche</u> Plade geleitet. <u>Man hat den Eindruck bei</u> Herodot, eine Berufskrankheit der Historiker: <u>das Nichtinteressante</u> , das Geröll, die tauben Nüsse werden die Prachtalleen der Historie entlanggerollt. Und mit Verve nichttransportiert und nichtbereitgehalten noch nicht einmal in die staubigen Gräberfeldern die den Fussnoten reserviert sind <u>wird</u> <u>alzu</u> oft <u>was</u> an <u>vermeintlich</u> Urserösem, <u>vor</u> <u>allem</u> <u>Nicht-Sicherungs</u> <u>würdigem</u> von vorne herein als <u>anebüchervom akademischen Diskurs ausgeschlossen</u> .

Bakchen etc.doc (Auswertung der Flugdaten.doc, _WRD1744TMP, drive slack fragment)	Auswertung der Flugdaten (2005)
Herodot Ein grosser Verschwäger unter den Geschichtsschreibern und Ethnologen ist Herodot und Unterstützung in Informationsunterdrückung fand und findet er bei zahlreichen seiner Kommentatoren. Man wundert sich ein ums andere Mal, was <u>Herodotesein</u> alles nicht zugemutet werden soll. <u>Oft genug</u> stellt sich dann dieses blöde Gefühl ein, das sich jedes Mal breit macht, fühlt man sich man wieder fusnotenmäßig genasführt, da <u>keine Ausnahme - nicht emstgenommen</u> oder auf ganz und gar irrelevant... <u>lächerliche</u> Plade geleitet. <u>Man hat den Eindruck bei</u> Herodot, eine Berufskrankheit der Historiker: <u>das Nichtinteressante</u> , das Geröll, die tauben Nüsse werden die Prachtalleen der Historie entlanggerollt. Und mit Verve nichttransportiert und nichtbereitgehalten noch nicht einmal in die staubigen Gräberfeldern die den Fussnoten reserviert sind <u>wird</u> <u>alzu</u> oft <u>was</u> an <u>vermeintlich</u> Urserösem, <u>vor</u> <u>allem</u> <u>Nicht-Sicherungs</u> <u>würdigem</u> von vorne herein als <u>anebüchervom akademischen Diskurs ausgeschlossen</u> .	Herodot Ein grosser Verschwäger unter den Geschichtsschreibern und Ethnologen ist Herodot und Unterstützung in Informationsunterdrückung fand und findet er bei zahlreichen seiner Kommentatoren. Man wundert sich ein ums andere Mal, was <u>Herodotesein</u> alles nicht zugemutet werden soll. <u>Oft genug</u> stellt sich dann dieses blöde Gefühl ein, das sich jedes Mal breit macht, fühlt man sich man wieder fusnotenmäßig genasführt, da <u>keine Ausnahme - nicht emstgenommen</u> oder auf ganz und gar irrelevant... <u>lächerliche</u> Plade geleitet. <u>Man hat den Eindruck bei</u> Herodot, eine Berufskrankheit der Historiker: <u>das Nichtinteressante</u> , das Geröll, die tauben Nüsse werden die Prachtalleen der Historie entlanggerollt. Und mit Verve nichttransportiert und nichtbereitgehalten noch nicht einmal in die staubigen Gräberfeldern die den Fussnoten reserviert sind <u>wird</u> <u>alzu</u> oft <u>was</u> an <u>vermeintlich</u> Urserösem, <u>vor</u> <u>allem</u> <u>Nicht-Sicherungs</u> <u>würdigem</u> von vorne herein als <u>anebüchervom akademischen Diskurs ausgeschlossen</u> .

Thorsten Riese. "Philylog and the digital writing process." In: Cahier voor Literatuurwetenschap 9 (2017), pp. 129-158

Projekt Vorzeitbelegung, Herodot

~WRS0003.tmp (Rel. Chr. I)



¹Herodot

Ein grosser Verschweiger unter den Geschichtsschreibern und [frühen]¹⁷⁽¹⁾

Ethnologen ist He¹⁷[r]odot^{[1,]17.} unterstützt [[i¹m]¹⁷]n¹Informations²unterdrückung

³darin]³[¹⁷u]¹⁷]nd Unterstützung⁴ in Informationsunterdrückung] ²von seinen¹ fand

und findet er bei⁴ [zahlreichen]⁵ [seiner]¹ [M]¹ Kommentatoren. ⁶Man wundert sich

ein ums andere Mal, was [[den]¹⁸ seinen]⁶ [L]¹⁹ Herodotus¹⁹] [des H¹⁷[e]¹⁷] rodot¹⁷ [d¹

⁸s]o alles nicht zugemutet werden soll. ¹⁸[[Immer steht dann dies zu vermuten, ein

blödes]¹⁹ Oft genug stellt sich das blöde Gefühl¹⁹ [ein], das sich da jedes Mal breit

macht, fühlt man sich man wieder [¹⁵F]¹⁹ fussnotenmässig genasführt¹⁹, [da [²⁰nicht

selten gerade]²¹ - keine Ausn^{[21]ha}[²²ah]me! -] nicht ernstgenommen) oder auf [¹⁵nicht

interessante]¹⁶ ganz und gar irrelevante²³, lächerliche Pfade geleitet¹⁰[T]]. ²³[Man hat

den Eindruck bei Herodotus: ²⁵[²⁶], eine [²⁶b]²⁷ B]erufskrankheit der Hist¹⁷[r]oriker²⁷ [P]]

[das [²³P]²⁴N]²⁴ichtinteressante ²⁷(wird)] ²⁷, das Geröll, die tauben Nüsse [²⁷werden]

²⁸wird] die Pracht^{[27]strassen}²⁸ allein der Histoire entlanggerollt] ³⁰[mit Verve

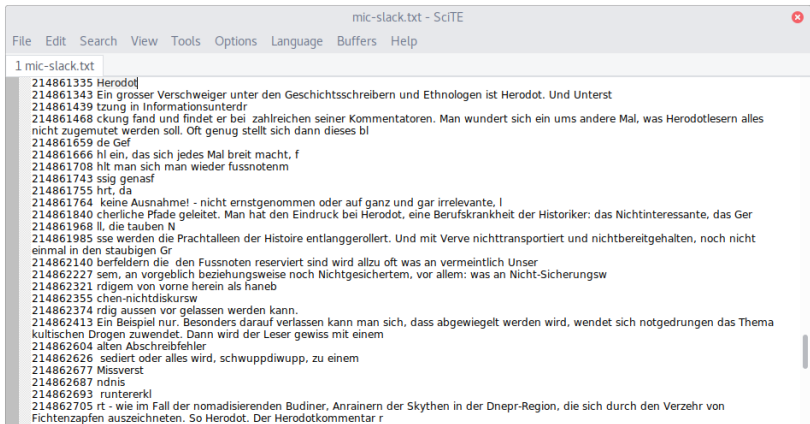
nicht] transportiert³⁴[³⁴,³⁵ und] nicht bereitgehalten]⁹,³⁰ und noch³³[t] nicht einmal in

den staubigen³⁰ Gelassen der³² Gräberfeldern die den Fussnot^{[30]ne}³¹en

³²[reserviert sind.]] ³Vermutlich immer an [⁹u]¹³U]nserem, [⁹n]¹²N]icht^{[9_]14}.

[gesichert]^{[9]etem}¹⁰em], ¹¹[vor allem: [¹¹n]¹⁴N]icht-Sicherungs-würdigem!] von vorne

herein als Hanebüchen [⁹c]¹⁰]om akademischen <[⁹d]¹⁰D]iskurs ausgeschlossen



```
mic-slack.txt - SciTE
File Edit Search View Tools Options Language Buffers Help
1 mic-slack.txt
214861335 Herodot|
214861343 Ein grosser Verschweiger unter den Geschichtsschreibern und Ethnologen ist Herodot. Und Unterst
214861439 tzung in Informationsunderdr
214861468 ckung fand und findet er bei zahlreichen seiner Kommentatoren. Man wundert sich ein ums andere Mal, was Herodotlesern alles
nicht zugemutet werden soll. Oft genug stellt sich dann dieses bl
214861659 de Gef
214861666 hl ein, das sich jedes Mal breit macht, f
214861708 hlt man sich man wieder fussnotenm
214861743 ssg genasf
214861755 hrt, da
214861764 keine Ausnahme! - nicht ernstgenommen oder auf ganz und gar irrelevante, l
214861840 cherliche Pfade geleitet. Man hat den Eindruck bei Herodot, eine Berufskrankheit der Historiker: das Nichtinteressante, das Ger
214861968 ll, die tauben N
214861985 sse werden die Prachtalleen der Histoire entlanggerollert. Und mit Verve nichttransportiert und nichtbereitgehalten, noch nicht
einmal in den staubigen Gr
214862140 berfeldern die den Fussnoten reserviert sind wird allzu oft was an vermeintlich Unser
214862227 sem, an vorgeblich beziehungsweise noch Nichtgesichertem, vor allem: was an Nicht-Sicherungs
214862321 rdigem von vorne herein als haneb
214862355 chen-nichtdiskursw
214862374 rdig aussen vor gelassen werden kann.
214862413 Ein Beispiel nur. Besonders darauf verlassen kann man sich, dass abgewiegelt werden wird, wendet sich notgedrungen das Thema
kultischen Drogen zuwendet. Dann wird der Leser gewiss mit einem
214862604 alten Abschreibefehler
214862626 sediert oder alles wird, schwuppdwupp, zu einem
214862677 Missverst
214862687 ndnis
214862693 runtererk|
214862705 rt - wie im Fall der nomadisierenden Budiner, Anrainern der Skythen in der Dnepr-Region, die sich durch den Verzehr von
Fichtenzapfen auszeichneten. So Herodot. Der Herodotkommentar
```

Thorsten Ries. "Philology and the digital writing process." In: Cahier voor Literatuurwetenschap 9 (2017), pp. 129–158

System crashes can lead to preservation!

```
C:\WINDOWS>chkdsk c: /P
Volume created 12/18/08 03:16p
The volume Serial Number is dc9b-cf0a
CHKDSK is checking the volume...
CHKDSK is performing additional checking or recovery...
CHKDSK is performing additional checking or recovery...
CHKDSK is performing additional checking or recovery...
CHKDSK found one or more errors on the volume.
20956760 kilobytes total disk space.
15563168 kilobytes are available.

4096 bytes in each allocation unit.
5239190 total allocation units on disk.
3890792 allocation units available on disk.
```

FILE0013.CHK — /run/media/thorsten/KlingAnalyseDate/hitachi/1_sichtbare_dateien — Atom

FILE0013.CHK

494 die lachse, alles wie im tierfilm!, tierfilmlicht - durch das die lachse
495 sprengten. als pfellförmig die wasser gingen wie stöde
496
497 in alten, springenden sprachen.
498
499
500
501
502
503
504 Motto:
505 K.Kraus, zwei kriegsberichterstatter mit kodak..
506 Die WAHRNEHMUNG
507
508 I
509 ihr hinterleib in stöndiger bewegung, und in bewegung ihre föhler mit
510 dem schwarzen haar, die sie mit schwarzen fößen stöndig wieder putzen
511 muß, wobei der schwarze kopf, ihr dunkles wespenhaupt, gesenkt muß
512
513 werden. mit föhlern und mit schwarzen zangen versucht die wespe im
514 oktober das schwarze zifferblatt zu knacken; mit gutgeputzten föhlern
515 gutgeputzten zangen will sie die zeit, die hinter panzerglas an meinem
516
517 handgelenk, einfangen. die wespe achtet nicht des worts des trögers von
518 der armbanduhr. den tröger schauerts, von frösteln, kaltem herbst spör-

Thorsten Ries. "The rationale of the born-digital dossier génétique: Digital forensics and the writing process: With examples from the Thomas Kling Archive." In: Digital Scholarship in the Humanities (DSH) 33.2 (June 2018), pp. 391-424.

Old and new types of sources,
formats, and: AI

Challenges → General, with Baker

- **Time and obsolescence** (physical degradation, software obsolescence, hardware support, forensic hardware support for historical systems)
- **Volume / Storage capacity vs Gaps**
- **Data curation, security management, migration** – is a long-term task
- **Variety, Diversification, Fluidity of technology dev** changes preservation and analytical methods (SSD's).
- **Ethics, Data Security, Policies and Solutions for Safe Research Access** – see GDPR.
- **Environmental** – carbon footprint long term storage.

Challenges → New

- Change of **programming, legal, and forensic paradigms and frameworks** (e.g. cloud computing)
- **Encryption**.
- **AI integrations** in standard software thwart forensic approaches, mostly leave no trace, and change the idea of authorship and agency (whodunnit, this may not be a problem).
- **Long-term interpretability** of historical forensic phenomena, gaps and fragmentation of record, and forensic software artefacts (false positives, C-traces).



BORN DIGITAL. HISTORY

DIGITAL FORENSICS IN THE HOUSE OF LORDS: SIX THEMES RELEVANT TO HISTORIANS (PART ONE)

🕒 29/03/2019 👤 JWBAKER 💬 LEAVE A COMMENT

This post was originally published at the [Software Sustainability Institute blog](#).

In 2017 the House of Lords Science and Technology Committee [opened an inquiry into forensic science](#). The inquiry is still open and has four areas of focus: the forensic science research landscape, the use of forensic science in the Criminal Justice System, standards and regulation, and digital forensics. Alongside this, the inquiry

James Baker: *Digital Forensics in the House of Lords: six themes relevant to historians* (Part One / Two), 2019 [Link].

Types of Born-digital Archives – Continuous Diversification and Development

- **Personal Archives, Institutional Archives** (floppy disks, hard drives, CD, DVD, tape)
- **Distributed, Networked Archives** – Web Archives, Cloud Archives, Databases, Platforms, Social Media
- **Software, Hardware-Software ensembles.**
- **Other AI models** (?), hacking archives, digital art installations.

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- **Software, Hardware-Software ensembles.**
- **Other AI models** (?), hacking archives, digital art installations.

Historical Digital Materiality – These Archives are Material and Not

- **Double character of digital materiality** – immaterial (*not-unique* digital objects: lossless copying btw states/ media, multiple physical instances of same digital object, storage as processing instead shelf-»existence«, MK: »formal materiality«) vs. **material** (*physically unique*: logical-material, context-dependent, MK: »forensic materiality«)
- **Historic specificity** – formats, and their designed dependencies on historical softwares, file- and operating systems, hardware, etc.
- **Digital Object / Context** – Layered, Distributed aspects (filesystem metadata) and processing traces (e.g. temp files, spool files, drive slack, VSS shadow partitions, etc).
- **Changing historical concepts** – »document« / »file« vs. cloud datastream object, clusters; »memory« as RAM, storage vs. NVRAM. (Blanchette 2011: »design histories«)
- **Gaps / Loss / Threat** – the digital forensic record is per definitionem incomplete, discontinuous (snapshot character), and contains gaps, is not reversible.

Nick Montfort: Curveship.js

The image shows two browser windows side-by-side. The left window displays the Curveship website, featuring a logo and text about automatic narrative variation. The right window shows the GitHub repository for Curveship.js, including a list of users who forked the project and the README content.

Curveship
AUTOMATIC NARRATIVE VARIATION

TAGS: PUBLICATIONS · CURVESHIP · LEVEL · CONVERSION · CURVESHIP · LEVEL · LEVEL

Curveship is a system for automatic narrative variation. It relates the same underlying events in different ways, expressing the same content as different narrative discourses. Curveship can tell events out of order, as with Flashback, it can describe different characters as the narrator or narratee, it can tell the story in the past or in the future, and, for instance, can tell the story from a viewpoint before, during, or after the events themselves.

Curveship is the organizational system that is able to sign changes to work in system. It is a recursive theory system that provides several models of users, binary, rooms, and events, and also modeling the narrative structure, so that the conversion and observation of the modeled work is a change. The system uses a grammar and an event generator from which this system is derived, and has been used for several research and creative projects, but is not being actively updated or maintained.

Curveship.js has been an underlying representation of a library of books, things, places, and events, and is intended to be used by a system to generate a narrative. It does not include all the aspects of an interactive fiction, although it can be used to generate a narrative. For instance, it can be used to generate a narrative, but it is not intended to be used to generate a narrative. It is a system that is intended to be used to generate a narrative, but it is not intended to be used to generate a narrative.

The system was originally developed with advanced users, with no reason that anyone would want to use it. It was developed as a system for generating a narrative, and it was developed as a system for generating a narrative. It was developed as a system for generating a narrative, and it was developed as a system for generating a narrative.

Since creation, that you can use it to actually generate a narrative, but it is not intended to be used to generate a narrative. You can use it to generate a narrative, but it is not intended to be used to generate a narrative. You can use it to generate a narrative, but it is not intended to be used to generate a narrative.

Narrative Variation

Narrative variation means telling the same underlying events in different ways. It is a way of telling the same underlying events in different ways, expressing the same content as different narrative discourses. Curveship can tell events out of order, as with Flashback, it can describe different characters as the narrator or narratee, it can tell the story in the past or in the future, and, for instance, can tell the story from a viewpoint before, during, or after the events themselves. More will hopefully be coming soon.

This system has an underlying representation of a content level or abstracted facts about things, places, and events, and is intended to represent narrative variation within. It can be used to tell the same underlying story in different ways, which was the main goal of the original Curveship project from 2003. It is currently in a very preliminary state. This is a version 0.1, which does not include any narrative generation or event tracking. It is a system that is intended to be used to generate a narrative, but it is not intended to be used to generate a narrative.

oxoa – AI generated (mock) literature

The screenshot shows a web browser window with the address bar displaying <https://frohmmanverlag.de/products/poetisch-denken-3-ann-cotten>. The page content includes a navigation menu, a logo, and a central book cover. The book cover is white with the text: "0x0a (Hg.)", "Ann Cotten", and "Poetisch denken 3". At the bottom of the cover is the publisher's name "FROHMANN / 0x0a". Below the cover, the product title "0x0a (Hg.), Poetisch denken 3: Ann Cotten" is displayed, followed by the price "€12,00" and the note "inkl. MwSt. zzgl. Versandkosten".

0x0a (Hg.)
Ann Cotten
Poetisch denken 3

FROHMANN / 0x0a

0x0a (Hg.), Poetisch denken 3: Ann Cotten
€12,00
inkl. MwSt. zzgl. [Versandkosten](#)

AI text generation / AI Assisted Writing



Write an ironic love poem to Dante Alighieri in the style of Ann Cotten, in Italian!



Oh Dante, mio amore infinito,
Il tuo Inferno brucia nel mio cuore,
Le tue parole scivolano, come vino,
Lasciandomi avvolta da un dolce torpore.

Come il tuo amor per Beatrice,
Così è il mio per te, o poeta celebre,
Ma la mia passione è solo un capriccio,
Un omaggio ironico, un amore da intendere.

Le tue rime diventano un gioco,
Nel tuo Purgatorio, mi perdo e mi ritrovo,
Ma non so se il tuo Paradiso
Possa donarmi un amore vero e nuovo.

Document6.docx

https://utexas-my.sharepoint.com/personal/thorsten_nee_austin_utexas_edu/_layouts/15/doc.aspx?hour...

Word Document6

Search (Alt + Q)

File Home Insert Layout References Review View Help Script Lab Comments

Calibri (Body) 11 B I U ...

Editor Text Predictions

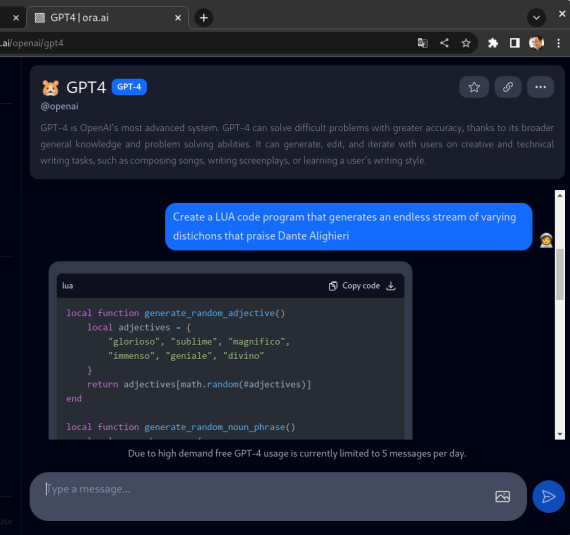
To help you write faster, Editor anticipates your next words and suggests words or phrases as you type. [Give feedback](#) on recent suggestions, or [learn more](#).

Suggest words or phrases as I type

OK Cancel

Page 1 of 1 0 words English (U.S.) Text Predictions: On Editor Suggestions: Showing 100%

GPT-4 generating a (simple) digital poem in LUA (and Italian)



GPT-4 | ora.ai

@openai

GPT-4 is OpenAI's most advanced system. GPT-4 can solve difficult problems with greater accuracy, thanks to its broader general knowledge and problem solving abilities. It can generate, edit, and iterate with users on creative and technical writing tasks, such as composing songs, writing screenplays, or learning a user's writing style.

Create a LUA code program that generates an endless stream of varying distichons that praise Dante Alighieri

```
lua
local function generate_random_adjective()
    local adjectives = {
        "glorioso", "sublime", "magnifico",
        "immenso", "geniale", "divino"
    }
    return adjectives[math.random(#adjectives)]
end

local function generate_random_noun_phrase()
```

Due to high demand free GPT-4 usage is currently limited to 5 messages per day.

Type a message...

```
thorsten@thorsten-main-laptop:~/Downloads — lua dan
[thorsten@thorsten-main-laptop Downloads]$ lua dante.lua
Dante, sublime poeta senza pari,
il tuo talento illumina le menti;
Dante, divino poeta senza pari,
il tuo talento illumina le menti;
Dante, glorioso maestro dell'arte,
il tuo talento illumina le menti;
Dante, divino poeta senza pari,
il tuo talento illumina le menti;
Dante, sublime scrittore supremo,
il tuo talento illumina le menti;
Dante, geniale scrittore supremo,
la tua Commedia è fonte d'ispirazione;
Dante, glorioso poeta senza pari,
la tua Commedia è fonte d'ispirazione;
Dante, divino scrittore supremo,
la tua Commedia è fonte d'ispirazione;
Dante, magnifico scrittore supremo,
la tua Commedia è fonte d'ispirazione;
Dante, glorioso scrittore supremo,
il tuo talento illumina le menti;
Dante, immenso scrittore supremo,
le tue parole risuonano nei secoli.
Dante, sublime maestro dell'arte,
```

Challenges → Mission

→ These challenges are really an opportunity for Research and Development in the Humanities, History, Social and Political Sciences to cooperate with Information Science to maintain long-lasting and indispensable impact in society, including social justice, culture, and archives.

→ **Professional change** – added skillsets as data accession, safeguarding and curation specialists, historical digital forensics, and specialists in critical data verification for humanists as well as information scientists create a unique data science profile for humanities professions that offers transferable skills reaching in the the data security and legal sector.

→ **Specialists in Curation, Chain of Custody / Evidence, Safeguarding of Information with open standards** will be even more important as our verification / falsification methods continue to fail in the light of AI.

→ Our **basic research concepts** in the humanities, e.g. »human authorship« and »human experience«, will continue to shift as AI progresses to be integrated into everyday workflows (writing). Is this really a problem, if digital forensics does not properly distinguish human and AI contribution? (AI forensics, membership inference attacks, XAI)

→ **Specialism** in forensic analysis and AI verification.

SEPTEMBER 28, 2020

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PEER REVIEWED

The weaponization of web archives: Data craft and COVID-19 publicis

An unprecedented volume of harmful health misinformation linked to the coronavirus pandemic has led to the appearance of misinformation tactics that leverage web archives in order to evade content moderation on social media platforms. Here we present newly identified manipulation techniques designed to maximize the value, longevity, and spread of harmful and non-factual content across social media using provenance information from web archives and social media analytics. After identifying conspiracy content that has been archived by human actors with the Wayback Machine, we report on user patterns of "screenshotting," where images of archived misinformation are spread via social platforms. We argue that archived web resources from the Internet Archive's Wayback Machine and subsequent screenshots contribute to the COVID-19 "misinformation" in platforms. Understanding these manipulation tactics that use sources from web archives reveals something veiling about information practices during pandemics—the desire to access reliable information even after it has been moderated and fact-checked, for some individuals, will give health misinformation and conspiracy theories more traction because it has been labeled as spurious content by platforms.

BY AMELIA AAKER

School of Information, the University of
Texas at Austin, USA

MITON CHAIET

Wesley College of Communication, the
University of Texas at Austin, USA

HARVARD KENNEDY SCHOOL | BOSTONIAN CENTER ON MEDIA, POLITICS, AND PUBLIC POLICY

JANUARY 14, 2020

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PEER REVIEWED

Cross-platform disinformation campaigns: Lessons learned and next steps

We conducted a mixed-method, interpretative analysis of an online, cross-platform disinformation campaign targeting the White Helmets, a rescue group operating in rebel-held areas of Syria that have become the subject of a persistent effort of delegitimization. This research helps to conceptualize what a disinformation campaign is and how it works. Based on what we learned from this case study, we conclude that a comprehensive understanding of disinformation requires accounting for the spread of content across platforms and that social media platforms should increase collaboration to detect and characterize disinformation campaigns.

BY TOM WILSON

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USA

SPECIAL ISSUE: COVID-19

This essay was published as part of a special issue on Misinformation COVID-19, guest-edited by Dr. Meghan McGinty (Director of Emergency Management, CDC Health + Hospitals) and Dr. Cynthia (Shawna) Macken (Mackin Health Lab).

VIEW MORE FROM THIS SPECIAL

ARTICLE METRICS



CURRENT
VIEWERS

ARTICLE
SCORE

New Corpora

- Tech (Sub-)Culture Archives (e.g. national cyberfeminism archives, queer online history archives, etc).
- Disinformation Archives.
- Hacking Culture Archives,
- Hacking History, Online Threat Event, Vulnerability Archives.

AARON MAURO



HACKING IN THE HUMANITIES

> CULT OF THE
> DEAD COW



How the Original
Hacking Supergroup Might
Just Save the World

JOSEPH MENN



TLP Taxonomy Library

id: x
description: The Public Light Edition of Aaron TLP, was designed with the intention to create a collaborative space to
provide a common reference where everyone can contribute to the distribution of their resources.
reference: [TLP](#)

categories:

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Digital history and born-digital archives: the importance of forensic...

Digital history and born-digital archives: the importance of forensic methods

by Thorsten Rics

AI in forensic analysis?

- AI is already the subject of forensic inquiry (membership attacks, etc).
- AI is already being used in forensic investigations to find data more quickly on evidence images.
- Caveat I: non-reproducible, it is often unclear what it finds (and what it doesn't).
- Caveat II: the use scenario in an archive is much different from a forensic lab, which processes a lot of very similar devices, whereas in an archive the historical variation differentiates every device.

Thank you for your attention!



The University of Texas at Austin

Department of Germanic Studies

College of Liberal Arts