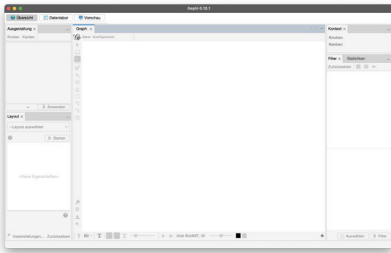


## File, empty

Mace Ojala

Consider the empty file. You will have seen many of them during your computer life. Did you already see one today? Perhaps it was a new document in your familiar word processor, a spreadsheet, a new image in graphics design software, or a new file for code? A configuration file, perhaps? How did you encounter it?

Fig. 1: An empty file (All images by the author)



Although not always, files often start out empty. One convenient way to study empty files is therefore to simply make some. Many programs have *create*, *new* or something equivalent as the top item in the *File* menu. Some software even invites us to do so by default immediately, once they open. What a prominent invitation to potent action!

Fig. 2: Empty file

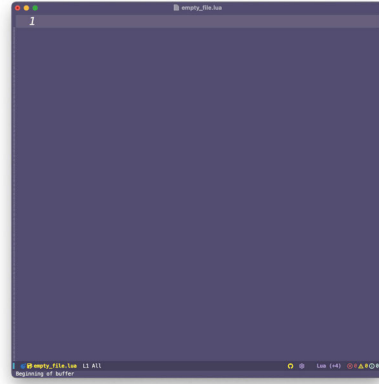
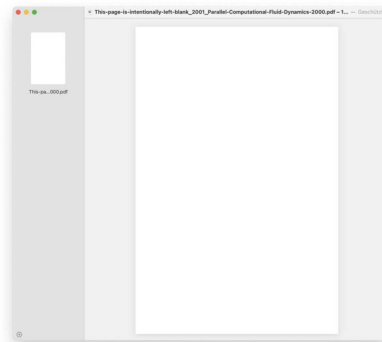


Fig. 3: Empty file



Let's resist intervening in the blankness by typing or pasting with  $\text{⌘-v}$ . Instead, let us hesitate and observe the surface qualities and materialities of the empty file. Suppress the *horror vacui* and welcome the liminal! How does the emptiness appear to us, what does it look like and what does it feel like? In other words, what is the phenomenology of an empty file? Is the file framed by interface elements like buttons, sliders, menus, status bars or ready-made content? Does a tutorial, a wizard, or a tip dialog pop up? The empty file might be a rectangle of white pixels, each at full luminosity (255, 255, 255; blinding enough

to illuminate the room). How many corners are there? What affordances are in place for us to navigate the topology and establish ourselves in this liminal space? A new file may by default extend beyond the screen, activating the scrollbars. Just as well a new file might have no space at all, or extend to infinity in all directions. Can you drag the edges to change the size of the emptiness? Can you move beyond the blank? What's there? Is there a flipside?

It would be reasonable to assume empty files won't take up storage space when saved, but this isn't the case. Further, empty files for different purposes may vary greatly in size: extreme ones can be multiple gigabytes. The implication is that piling enough empty files will fill up your disk or a data center. Wright et al. (2014) studied empty, peer-reviewed academic publications, and evaluated the extent to which they were indeed empty. According to this fascinating and confusing research, and disappointingly for anyone who paid the full price of 30 US dollars for this peer-reviewed publication, most of the single-page PDFs contained the text »This page is intentionally left blank«. The authors discovered one truly empty publication, but it too took 8353 characters of space. You can try this by creating different empty files and comparing their sizes via your familiar file manager.

Besides being multiple and full of fascinating variability, digital emptiness is also modal (→ Multiplizität): while the new file discussed above is still empty, others are possibly empty, and some will always be empty: a useful special file called the »null device« on your computer provides reliable, standard-compliant, high-quality emptiness (POSIX 2018). Others are already empty, empty again, hopefully empty or not, never empty (to-do lists, apparently), or empty by mistake (did you ever lose the

contents of your working file?). If the swap file of your computer runs out of emptiness, the memory reserves have been used up, programs start crashing, and you are in trouble. Following Gilles Deleuze's interpretation of Henri Bergson's philosophy of duration and memory, we can distinguish the virtual not from the possible but from the actual (Deleuze 1988) (→ Virtualität). Virtuality of the digital void undulates and modulates throughout the normal operation of computational systems – in Bergsonian terms, sometimes expanding (*détente*), sometimes contracting.

Fig. 4: Empty file

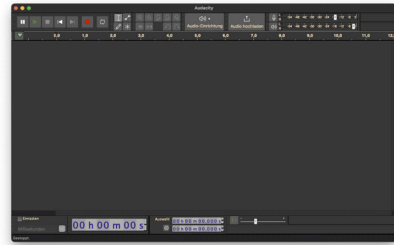


Fig. 5: Empty file

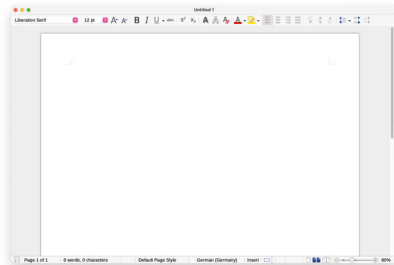
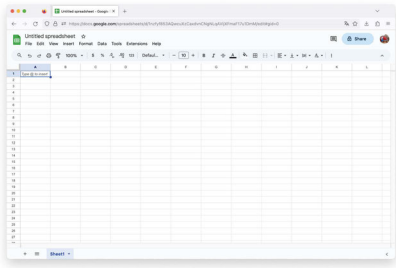


Fig. 6: Empty file



Formats enable and limit how transformations, performativity and information take shape across media (Fahle et al. 2020). To think with Karen Barad, formats are a way how matter comes to matter (Barad 2019). No matter how you live with computers, you will recognize the PDF, Word (.doc, .docx), Excel (.xls, .xlsx), PNG and JPG from your desktop. If you were to dig deeper beneath the graphical user interface, you would encounter JSON, .pem, .h, .c++, .ini and many more. Many computer file formats exist, and perhaps even more have already fallen into obsolescence, meaning fallen out of love, but not quite yet out of existence (Peters 2015). Some formats have re-emerged: famously, of course, the GIF (Wentz 2020), humbly pointing to the contingent and unexpected foldings of digital lifeworlds and legacies therein (Cohn 2016; Ojala 2021). All these formats carry cultural meanings, exemplified by an observant joke appropriate for the 21st century: the relevant difference between Machine Learning and Artificial Intelligence is that the former is achieved in Python (.py, .ipynb), the latter in PowerPoint (.ppt, .pptx) (→ Folienstift).

While file formats are abstract and themselves without content, as constructs and artefacts, they are nevertheless real and exercise material-semiotic agency. Emptiness in one file format is incommensurable with emptiness in another

one. An experiment to conduct on your own computer: try applying the familiar cultural technique (*Kulturtechnik*) of copy-pasting of some emptiness from a Word document and pasting it into an MP3, or from a Unity project into a PDF – it won't do! Instead, you will encounter not a difference in intensity, but a genuine difference in kind: computational emptiness is not interchangeable. Returning now to Bergson, each occurrence of the empty is surrounded by a cloud of virtuality, a cloud of formats to actualize in. To put it precisely, what differentiates one empty file from another are their formats.

What holds for the extreme case of empty files, holds for computation generally. Therefore, where computation finds true difference in kind are lines drawn by the file formats. Attending closely to the expansion and contraction of the multiplicity of empty files and how each one embodies its formats is a method of heightening the sense of these differences at the limits of virtuality.

The actuality of computation in a collection of different empty files invites us to appreciate the beauty and liminality of what was, what could have been, and what might yet become.

## References

- Barad, Karen (2018): »Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter«, in: Cecilia Åsberg/Rosi Braidotti (Hg.), *A Feminist Companion to the Posthumanities*, Cham: Springer International Publishing, p. 223–239.
- Cohn, Marisa Leavitt (2016): »Convivial Decay: Entangled Lifetimes in a Geriatric Infrastructure«, in: Proceedings of the 19th ACM Conference on Computer-

- Supported Cooperative Work & Social Computing, CSCW '16. New York, NY, USA: ACM, p. 1511–1523.
- Deleuze, Gilles (1988): *Bergsonism*, New York, NY: Zone Books.
- Fahle, Oliver/Jancovic, Marek/Linseisen, Elisa/Schneide, Alexandra (2020): »Medium | Format. Einleitung in den Schwerpunkt«, in: *Zeitschrift für Medienwissenschaft* 12(1), p. 10–18.
- Ojala, Mace (2021): *Maintain-Ability. On Life Alongside Computer Software*. Master's Thesis, Tampere: Tampere University/Trepo. Online at: <https://urn.fi/URN:NBN:fi:tuni-202202031820> (last accessed: 16.05.2024).
- Peters, John Durham (2015): »Proliferation and Obsolescence of the Historical Record in the Digital Era«, in: Babette B. Tischleder/Sarah Wasserman (Hg.), *Cultures of Obsolescence: History, Materiality, and the Digital Age*, New York: Palgrave Macmillan US, p. 79–96.
- Portable Operating System Interface (POSIX) (2018): IEEE Standard 1003.1-2017, Institute of Electrical and Electronics Engineers, Volume 1, section 10.1. Online at: <https://pubs.opengroup.org/onlinepubs/9699919799/> (last accessed: 16.05.2024).
- Wentz, Daniela (2020): »Das GIF. Geschichte und Geltung eines Formats aus dem Geist des Tanzes«, in: *Zeitschrift für Medienwissenschaft* 12(1), p. 41–52.
- Wright, Glen/Coudert, FX/Bentley, Martin/Deville, Sylvain/Steel, Graham (2014): »This Study Is Intentionally Left Blank – A Systematic Literature Review of Blank Pages in Academic Publishing«, in: *figshare.com* (06.11.2014). Online at: <https://doi.org/10.6084/m9.figshare.1230110.v6> (last accessed: 16.05.2024).

## Folienstift

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Kristin Flugel

Forschungsmemo vom 12.05.2023: *In ihr GoodNotes-Seminarnotizbuch, das ich als PDF-Datei von der Studentin nach Seminarende per AirDrop erhalten habe, hat die Studentin sechs Folien als ganzseitige Bilder/Notizbuch-Seiten eingefügt. Die Originalfolien wurden mit verschiedenfarbigen und unterschiedlich dicken Folienstiften beschriftet. Auf einer Folie ist bspw. die Schrift schwarz, die Kurzdefinition von [Begriff] rot eingerahmt. Offensichtlich sind die Folien Ergebnisse einer Gruppenarbeit, in der alle dieselbe Aufgabe bearbeitet haben. Nach einer linierten Notizbuchseite (GoodNotes-Standardvorlage, weiß), auf der unterhalb handschriftlicher Notizen auch der Screenshot einer PowerPoint-Folie der Dozentin eingefügt wurde, finden sich erneut sechs Folien als ganzseitige Bilder/Notizbuch-Seiten. Die Folien sind teilweise mit Nummern überschrieben, etwa »Gruppe 1« oder »Gruppe 3«, sind also ebenfalls Ergebnisse einer Gruppenarbeit. Alle Folien sind gut lesbar, lediglich eine, die mit einem mitteldicken grünen Stift beschriftet wurde, ist an einigen Stellen verschmiert. In der Folienstiftfarbe haben sich Fingerabdrücke verewigt. Auf anderen Folien sind Spuren von Korrekturen zu sehen: Wie Nebel bildet verwischte Folienstiftfarbe je den Hintergrund für das korrigierte, nun zu lesende Wort. Auf einer Folie sind zwei Begriffe dick durchgestrichen. Insgesamt wirken die Folien ein wenig schmutzig, chaotisch und unfertig. Sie fallen in dem zunächst sehr »clean« wirkenden, als bloß digitales Objekt gegebenen Notizbuch mit unbeschriftetem schwarzem Coverbild sofort auf. Die Beschriftung der Folien scheint um Struktur (z.B. in ihrer Ausrichtung – ob da jemand beim Schreiben ein liniertes oder kariertes Papier unter die Folie gelegt hat?), Sauberkeit und Ordnung bemüht, aber ihr haftet der Status*