

Taking Notes

(or why I do not use your favorite text editor)

Why do you take notes?

- Keep track of things
(TODOs, ...)
- Preserve some interesting nugget
(How to create a new Spanner or Datomic DB, ...)
- Record meeting discussions
(Topics brought up, topics to follow up on, ...)

That is ***not*** why I take notes

- I take notes to think and understand
- I take notes to connect ideas in multiple contexts
- I take notes to talk with my past and future self

A common misconception:

Note archival is ***not*** note taking

- Meeting notes record and archive
- Transcribing does not force you to think
- Archival pushes predefined categories
- Text editors silo ***your*** information
(your siloed info in docs, folders, or drives has no way to surface easily nor in context as part of your daily journey)

Why should you care
about your notes?

1. Cope with the information you get
bombarded with every single day
2. Have a systematic and low energy process
to sift what is relevant to ***you***

3. Separate actionable, from useful and from worth exploring further someday
4. Embrace it as *continuous* learning; the goal? Build and grow ***your*** knowledge

Taking notes should help you with:

1. Intentional thinking
2. Newly connecting existing ideas
3. Enjoy serendipity and foster curiosity
(juxtaposition, recontextualization, insights, ...)
4. Prioritize selecting promising directions

A detour into...

Apparently unconnected research

1. Memex



[Wikipedia Vannevar Bush's portrait](#)

Bush, Vannevar.
"As we may think." The
atlantic monthly 176.1
(1945): 101-108.

[\(Original paper\)](#)

- Collective memory machine (Memex)
- Memex would transform an information explosion into a knowledge explosion (make it available)
- Memex: (1) information archival, (2) fast retrieval and (3) logical thought process

2. Genetic Algorithms



Holland, John H.
*"Outline for a logical theory
of adaptive systems."*
Journal of the ACM (JACM)
9.3 (1962): 297-314.

- A first computational theory of adaptation
- Realization populations, genetic recombination, and selective pressure landscapes as information processing
- A key insight: schemata processing

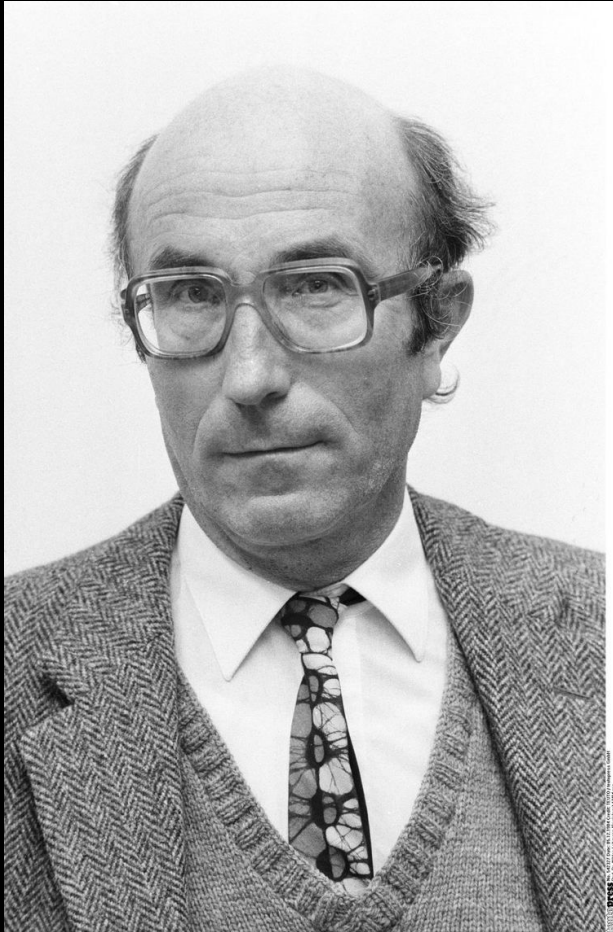


Goldberg, David E.
*“The Design of Innovation:
Lessons from and for
Competent Genetic
Algorithms”*

Vol. 7. Springer Science &
Business Media, 2002.

- Building blocks are the underlying information unit of adaptive processes
- Recombination of blocks with guided selection creates new unseen individuals (**innovation**)
- Small changes and selection lead to continual improvement (**kaizen**)

3. Zettelkasten



[Niklas Luhmann portrait by Fortelabs](#)

Luhmann, Niklas.
*"Kommunikation mit
Zettelkästen."*

Öffentliche Meinung und sozialer
Wandel/Public Opinion and Social
Change. VS Verlag für
Sozialwissenschaften, **1981**. 222-228.
([Springer](#))

- Individual notes describing one idea
- Notes are numbered hierarchically
- Notes inserted at the appropriate place

- Metadata associate notes
- Tags that describe key aspects of the note (think indices)
- Cross-referencing build connections
- Networked notes unearth information that may not be apparent in isolation



[Niklas Luhmann original slip box](#)

Addendum: Evergreen notes
(a.k.a [Andy Matuschak's notes](#))

- Write about what you read
- A reading inbox to capture possibly-useful references
- A writing inbox for transient and incomplete notes
- Executable strategy for writing (routine)

- Evergreen notes should be atomic
- Evergreen notes should be concept-oriented
- Evergreen notes should be densely linked
- Prefer associative ontologies to hierarchical taxonomies

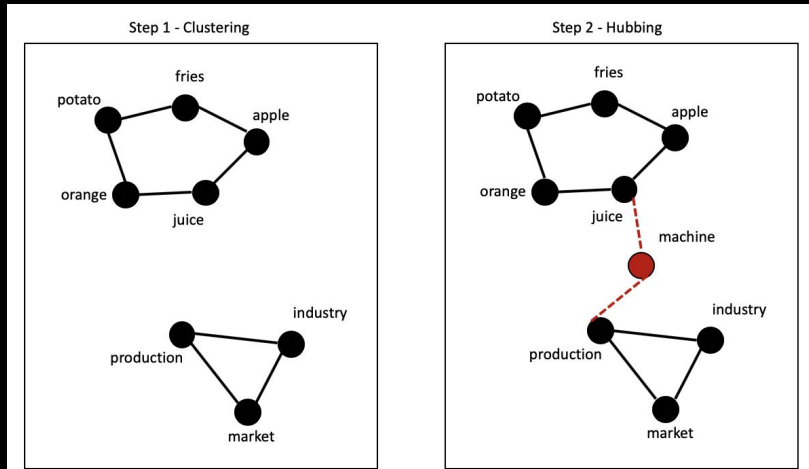
4. KeyGraphs

Ohsawa, Yukio, Benson, Nels E.; Yachida, Masahiko.

“KeyGraph: Automatic indexing by co-occurrence graph based on building construction metaphor”.

IEEE Intl forum on research and technology advances in digital libraries, (1998).

ADL 98, pp. 12-18



- How can you identify interesting connections between ideas?
- Ideas are represented by text
- Co-occurrence graphs may surface connections between cluster of ideas
- Visualizing key bridging concepts may provide you with valuable insight

5. Human-based Genetic Algorithm



[Alex Kosorukoff profile on Twitter](#)

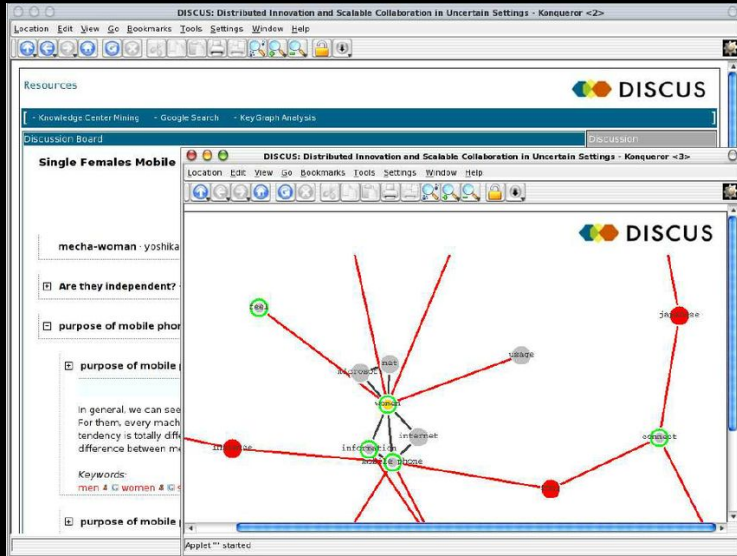
Kosorukoff, Alex.
*"Human based
genetic algorithm."*

2001 IEEE International Conference on
Systems, Man and Cybernetics.
e-Systems and e-Man for Cybernetics in
Cyberspace (Cat. No. 01CH37236).
Vol. 5. IEEE, 2001.

- John H. Holland and David E. Goldberg
adaptation as information processing
- What if individuals were knowledge?
- Humans recombine it
- Humans serendipitously add more
- Humans select promising knowledge

Llorà, Xavier, et al.
*"Chances and Marketing: On-line
Conversation Analysis for Creative
Scenario Discussion."*

[IlliGAL TR 2004025 \(2004\).](#)



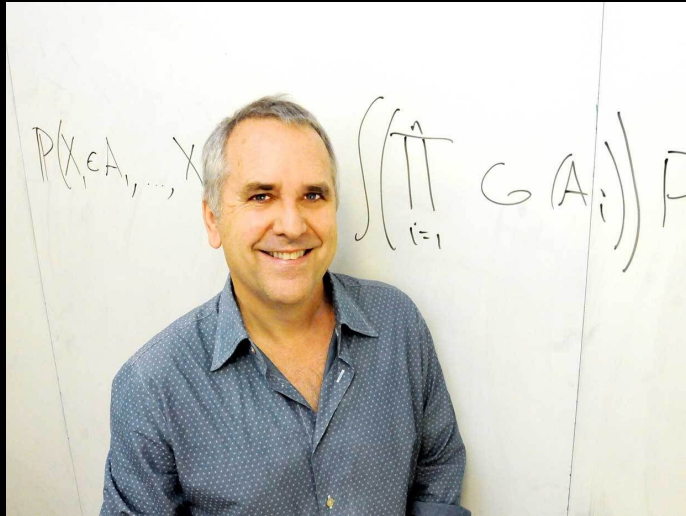
[IlliGAL TR 2004025](#)

Llorà, Xavier, et al.
*"Innovation and creativity support via
chance discovery, genetic algorithms,
and data mining."*

[New Mathematics and Natural
Computation 2.01 \(2006\): 85-100.](#)

- Evolve a population of ideas
- An ever growing pool of knowledge
- Juxtapose ideas in a new context
- A serendipitous insertion and viz of ideas
- A way to favor promising interesting novel idea exploration in a certain context

6. AI and ML



[Michael I. Jordan portrait on IEEE Spectrum](#)

Pretz, Kathy.
“*Stop Calling Everything AI,
Machine-Learning
Pioneer Says*”.
[IEEE Spectrum 2021,](#)
[March 31.](#)

- Michael I. Jordan says AI does not involve high-level reasoning or thought, but can excel at *perception*
- Semantic representations of ideas and inference are still on the human realm

- For the foreseeable future, computers will not be able to match humans in their ability to reason abstractly about real-world situations
- We will need well-thought-out interactions of humans and computers to solve our most pressing problems

- Michael I. Jordan actually points back to the same ideas Vannevar Bush proposed on Memex machines
- It also follows that adaptation driven by human intention is a key player

What do all these efforts
have to do with taking notes!?

1. Record thoughts that ***you*** run into
2. Revisit your recorded thoughts to pick nuggets driven by ***your*** interests
3. Distill ***your*** insights into atomic concepts and note them down as units

4. Link ***your*** atomic insight to create larger contexts
5. Understand how ***your*** insight recombine atomic concepts creating new insights on different contexts
6. Tend to ***your*** knowledge intentionally evolving and grow it to ***your*** interests

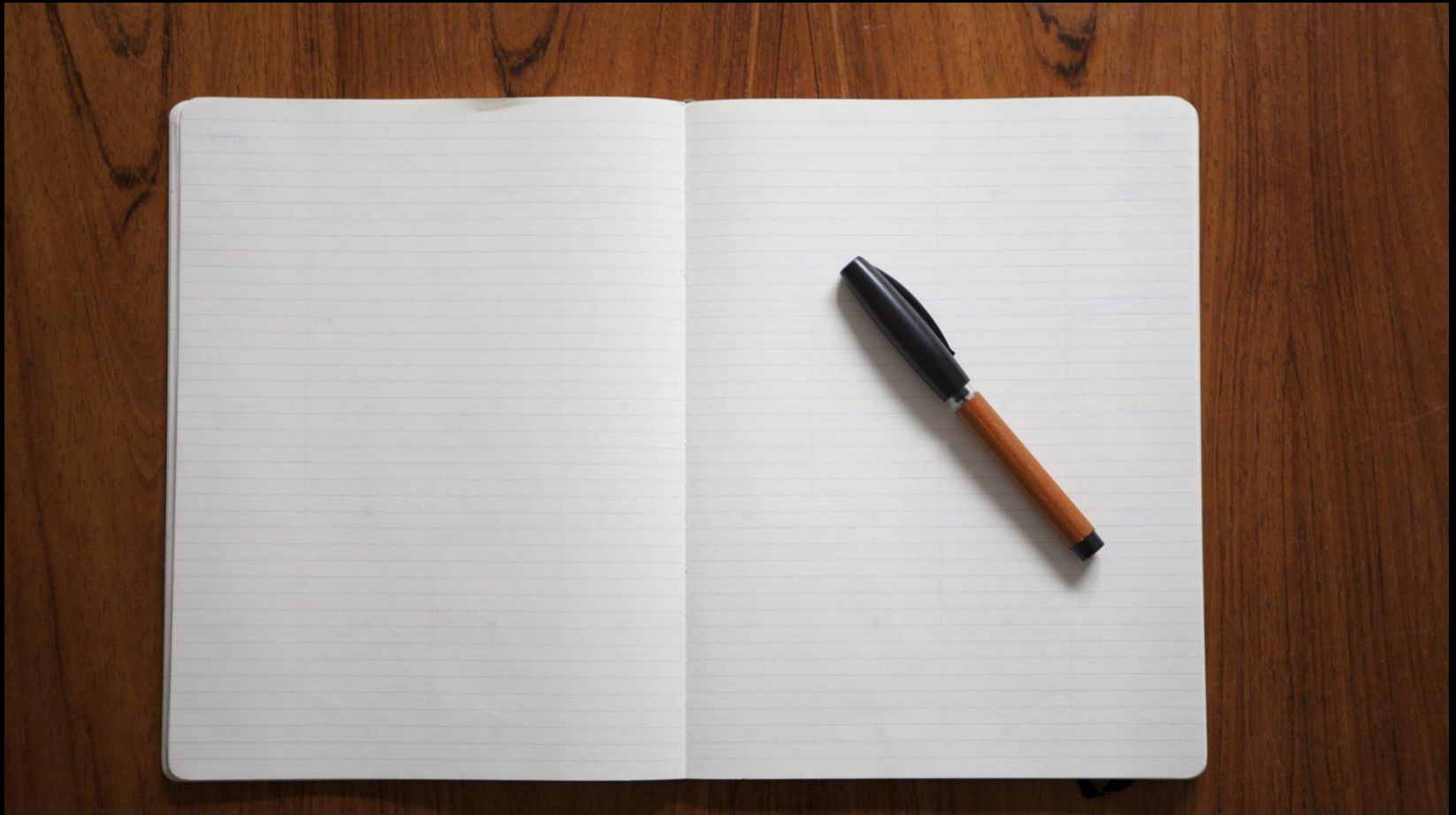
Enough theory

Tools can help you!

Warning!

The medium is not the workflow

Tools can help,
but this is ***your*** journey



- Tactile and great for reflection
- Forces to write in ***your*** own words
- Not good at indexing and fast retrieval
- Extremely flexible workflow
(e.g. Bullet journaling, spaced repetition, etc.)

1. Open source tools

Notation

NIHL-study protection dosages

Title	Date Modified
NIHL-study protection dosages -- (noise-induced h...	Today 1:58 PM
First Party At Ken Kesity's With Hell's Angels -- Cool...	Today 1:50 PM
Colemak -- Colemak is a modern alternative to the ...	Today 1:50 PM
excellent shock absorbtion -- barrymount cupmou...	Jan 22, 2011 9:15 PM
origin of significance of number 41 -- Arthur C. Cla...	Jan 22, 2011 7:53 PM
purifying water with calcium hypochlorite -- From ...	Jan 22, 2011 7:45 PM
wristies order number -- 4018 adult large black re...	Jan 22, 2011 7:34 PM
Christiania -- The Free City of Christiania is a quart...	Jan 22, 2011 7:33 PM
Song (Ginsberg) -- The weight of the world is love. ...	Jan 22, 2011 7:31 PM
Wild Orphan -- Blandly mother takes him strolling ...	Jan 22, 2011 7:31 PM
Directions: -- Mix flour, baking soda, salt and oat...	Jan 22, 2011 7:30 PM
wearable features -- glasses-mounted display wirel...	Jan 22, 2011 7:30 PM

(noise-induced hearing loss)

for human weight:

Vitamin A / beta-carotene: 150 mg
 Vitamin C: 5000 mg
 Vitamin E: 1800 mg
 Magnesium Sulfate Citrate: 24 g!

Guinea pigs were divided into four groups. All groups received once daily treatments beginning one-hour prior to noise exposure and continuing once daily at 24-hour intervals until day 5 post-noise, for a total of 6 daily treatments. Control animals (N=9) received saline injections (1 cc, i.p.). The second group was treated with vitamins A (2.1 mg/kg **beta-carotene**, p.o.), C (71.4 mg/kg **L-threoascorbic acid**, s.c.), and E (26 mg/kg (\pm)-6-hydroxy-2,5,7,8-tetramethylchromane-2-carboxylic acid, "**trolox**", s.c.) ("ACE", N=8). Trolox is a cell-permeable, water-soluble derivative of vitamin E. The third group was treated with **magnesium sulfate** ("Mg", 2.85 mmol/kg, equivalent to 343 mg/kg, s.c., N=6). The fourth group received a combination of ACE and Mg (at the same doses as groups 2 and 3, "ACEMg", N=6). All test substances were purchased from Sigma-Aldrich (St. Louis, MO) (beta-carotene, #C9750, CAS 7235-40-7; L-threoascorbic acid, #A5960, CAS 50-81-7; Trolox, Fluka Chemika #56510, CAS 53188-07-1; magnesium

Notational Velocity

[nv](#), [nvAlt](#), [nvUltra](#)*

- Fast and simple
- Local files or encrypted database
- Search for it; not there? It is now
- Labels (before tags were a thing)
- Killer feature: labels are text searches!


```
* Tasks
** DONE Start new org file for tutorial
   CLOSED: [2006-05-04 Thu 11:29]
** DONE Outline document
   CLOSED: [2006-05-04 Thu 11:43]
** DONE Write introduction
   CLOSED: [2006-05-04 Thu 11:55]
** TODO Finish document

* Introduction

Org-mode is a personal information management and outlining tool for
Emacs. This document is intended to give the reader a "feel" for
org-mode and to teach basic operations.

** Obtaining org-mode

You can download org-mode from the
[[http://staff.science.uva.nl/~dominik/Tools/org/]org-mode home page.[]

** Installation
** Configuration

~u:** OrgTutorial.org Top L19 (Org)----Thu May 4 11:58AM 1,84 [#da
```

Org Mode

orgmode.org, [tech talk](#)

- Note taking, TODO list manager, GTD
- Highly influence by “Literate Programming”
(Donald E. Knuth)
- Markdown became a first-class citizen
giving you just plain text files
- Killer feature: Transclusion
(All TODOs extracted into dedicated view, etc.)

The screenshot shows the Zettlr application window with a sidebar on the left containing a file explorer and a list of documents. The main content area displays a tutorial page titled "Welcome to Zettlr!". The page features a green header bar with the text "Welcome to Zettlr!". Below the header, the main heading is "## How to use Markdown" with a pencil icon. The text explains that Zettlr is a Markdown editor and lists several key elements: bold and italic formatting, headings, lists, and blockquotes. A list of four items follows, detailing how to create bold and italic text, how to create headings of different levels, how to create numbered lists, and how to create blockquotes. Below the list, there is a paragraph explaining that there are many other elements and that the tutorial will cover some special elements like footnotes and Zettelkasten. The final heading is "## Links" with a link icon. The text explains that links are a powerful tool in Markdown and provides an example of a link to the Zettlr website.

File Edit View Window Help

Zettlr

Find...

1,434 words
11

Zettlr Tutorial

0 Directories 4 Files


Citing with Zettlr
July 6, 2020 5:21 PM #5

Pandoc and LaTeX Guide
July 6, 2020 5:21 PM


Welcome to Zettlr!
July 6, 2020 5:21 PM #3

Working with Zettelkästen
July 6, 2020 5:21 PM #30

How to use Markdown

Zettlr is a Markdown editor, which means that it mostly works like apps you already know, such as Microsoft Word, LibreOffice, or OpenOffice. But instead of having to click through an armada of toolbar buttons, you can apply structure to your elements using only characters, which means you never have to leave your keyboard! How cool is that?! 

Let's quickly go over the most important elements:

1. You can make text **bold** and *italic* by surrounding it with either underscores or asterisks. Which one you choose is completely up to you. One single character makes text italic, two makes it bold and — you guessed it — three make it both ***bold and italic***! 
2. Headings are created almost like hashtags — simply write a # -character followed by a space. You can use up to six ##### -characters to create headings from level one through six.
3. Lists are created literally — simply write *, -, or + on a new line. Numbered lists consist of a number followed by a dot.
4. Finally, blockquotes are written exactly as quoted text is displayed in e-mails: Simply demarcate them using > !

Of course, there are a lot of other elements. Footnotes for instance — hover over this one with your cursor:^[^1] During this tutorial, you will also learn about some special elements that Zettlr uses to enable truly academic work, as well as knowledge management using a Zettelkasten!

Links

While they are not used very often in academic texts, links are a powerful tool of Markdown, which Zettlr takes to the next level. Zettlr acts really cleverly when it comes to links. Let's quickly create one! Select the following link to our Twitter account, and copy it to the clipboard: <https://www.twitter.com/Zettlr>

Zettlr

zettlr.com/

- As you guessed Zettelkasten centric
- Local markdown files
- Searchable, tags, modern rendering
- Killer feature: Keep it ***nv*** simple

The screenshot shows a code editor with a README file open. The README content is as follows:

```
1 # Foam
2
3 **Foam** is a personal knowledge management and sharing system inspired by [Roam Research]
4 (<https://roamresearch.com/>), built on [Visual Studio Code](<https://code.visualstudio.com/>)
5 and [GitHub](<https://github.com/>).
6
7 You can use **Foam** for organising your research, keeping re-discoverable notes, writing
8 long-form content and, optionally, publishing it to the web.
9
10 **Foam** is free, open source, and extremely extensible to suit your personal workflow.
11 You own the information you create with Foam, and you're free to share it, and
12 collaborate on it with anyone you want.
13
14 > **In a rush?** You could jump to [Getting started](#getting-started), but I highly
15 recommend reading the introductory sections first. **Foam** isn't obvious.
16
17 ## Table of Contents
18
19 Table of Contents (up to date)
20 - [Foam](#foam)
21 - [Table of Contents](#table-of-contents)
22 - [How do I use Foam?](#how-do-i-use-foam)
23 - [What's in a Foam?](#whats-in-a-foam)
24 - [Getting started](#getting-started)
25 - [Features](#features)
```

On the right side of the editor, a 'Markdown Links' window displays a graph visualization of the document's internal links. The central node is 'Foam', which is connected to several other nodes: 'Recipes', 'Recommended Extensions', 'Contribution Guide', 'Roadmap', 'Testing', 'Publishing pages', 'Principles', 'Known Issues', 'Graph visualisation', and 'Backlinking'. The graph also shows a link from 'Recipes' to 'Recommended Extensions'. Statistics for the graph are: 36 files, 11 links, and 0.80x.

Foam

foambubble.github.io

- Visual Studio Code plugin party
(Foam plugin, markdown, backlinks, image pasting, ...)
- Local markdown files
- Searchable, tags, highly customizable
- Killer feature:
Backlinks and network visualization

Find or Create a Page

Open-Source

Click here to add content...

Linked References

A Brief History of Hackerdom

Contents: The Proprietary-Unix Era

- There were several attempts to tame workst MIT with contributions from hundreds of ind **developers were willing to give the source them over the Internet.** X's victory over pro important harbinger of changes which, a few Microsystems

July 3, 2020

Caleb Porzio | PHP | Larav... | Introducing Spi

Forces

Local options

Athens

github.com/athensresearch

- Block oriented outliner to fully manage *your* knowledge graph
- Many local databases ([DataScript](#))
- Markdown, transclusion, block zooming and embedding, network viz...
- Killer feature: *all of the above!*

2. Storing and sharing notes

- Cloud storage

(Pick you favorite cloud sharing services, Drive, Dropbox, etc.)

- Version control system

(Allows you to manage history, GitHub, GitLab, etc.)

- Your local filesystem

(Do not forget to back up!)

3. Closed source and/or commercial alternatives

Obsidian 0.9.2

Graph view

Habits MOC

links: [Mindsets](#), [Walking through the 3 phases of MOCs](#)

Habits MOC - Unifying Phase

Enjoy and Use - Enjoy the spatial constellation you created. It's certainly meaningful to you. Use it for different purposes: for final products (content creation), as a reference point in the future, or for the inherent joy the ideas provide.

Here's an assembly of the notes in some sort of formalized structure. I have continued adding to this whenever it made sense.

Understanding Habits

- [Defining a habit](#)
- [Habit formation provides an evolutionary advantage](#)
- [Habits carry a ton of hidden inertia](#)
- [The neural formation of habits is additive](#)
 - [The truest habit metaphors are additive](#)

Designing Habits

- [Understanding the habit cycle and habitual cues](#)
 - [How Atomic Habits fit into the conversation on habits](#)
 - [Resiliency Routines help regain a sense of control](#)
 - [Improving Micro Habits at the Point of Contact](#)
- [Small Wins foster a Sense of Control](#)
- [An asymptotic curve models the development of skills, strength, habits, and more](#)
 - [The mechanism for breaking through development plateaus](#)

Example of Habit Design

- [Charting out habit cycles in my life circa 2013](#)

Important Habits

[important habits preserve mental clarity and a sense of control](#)
[Preparing for the next day is an important habit](#)
[Journaling in the morning is an important habit](#)
[Writing down daily goals in the morning is an important habit](#)

Related Concepts

[Positive Feedback Loop](#), [Like hegets like](#)
[Cobwebs into Cables](#), [Rings](#), [Sense of Control](#)

Graph View Details:

- Central node: **Habits MOC**
- Nodes: The mechanism for breaking through development plateaus, Charting out habit cycles in my life circa 2013, Habit formation provides an evolutionary advantage, Defining a habit, The neural formation of habits is additive, The truest habit metaphors are additive, Improving Micro Habits at the Point of Contact, Understanding the habit cycle and habitual cues, Resiliency Routines help regain a sense of control, Habits MOC - Colliding Phase, Habits MOC - Assembling Phase, Habits MOC - Unifying Phase, Habits MOC - Designing Habits, Habits MOC - Important Habits, Habits MOC - Related Concepts, Habits MOC - Example of Habit Design, Habits MOC - Other.

Right Sidebar:

- Habits MOC - Unifying Phase
 - Understanding Habits
 - Designing Habits
 - Example of Habit Design
 - Important Habits
 - Related Concepts
 - Other
- Linked mentions: 10
 - 010 Mindsets MOC | [\[\[Habits MOC\]\]](#)
 - 030 Interests MOC | [\[\[020 Concepts MOC|Concepts MOC\]\]](#) | [\[\[Habits MOC|Habits MOC\]\]](#) | [\[\[LVT System\]\]](#)
 - Being able to adapt is an important habit | [\[\[Habits MOC\]\]](#)
 - Cobwebs into Cables | [\[\[020 Concepts MOC|Concepts MOC\]\]](#), | [\[\[Habits MOC\]\]](#), | [\[\[LVT System\]\]](#)
 - Habits MOC - Colliding Phase | Next: | [\[\[Habits MOC\]\]](#)
 - Important habits preserve mental clarity and a sense of control | [\[\[Habits MOC\]\]](#)
 - Improving Micro Habits at the 1

Left Sidebar:

LYT Kit

- Resources
- Sources
- Timestamps
- Workspaces
- _START HERE
- 000 Home
- 010 Mindsets MOC
- 020 Concepts MOC
- 030 Interests MOC
- 040 Writings MOC
- 050 Sources MOC
- 060 People MOC
- 070 Health MOC
- 080 Goals MOC
- 085 Compass MOC
- 090 PKM MOC
- 095 Lists MOC
- 100 Projects MOC
- 2020-06-02 0- On the proc
- 2020-08-08 0- In what way

Bottom Left:

#	
#PKM	47
#concept	32
#habit	31
#MOC	25
#PD	14
#source	13
#quote	11
#develop	9
#AQ	8
#output	8
#ave	7

Obsidian

obsidian.md

roamresearch.com

Find or Create Page

October 12th, 2019

- 08:05 - woke up #groggy, did a [[meditation]]
- 08:45 - [[Daily Goals]]
 - Send [[Grant Proposal v3]] to [[Michael Karpeles (MEK)]]
 - Expense party supplies for [[Gentle Mesa]]
 - Get dinner with [[Taylor Rogalski]]
- 09:30 - working on [[Grant Proposal v3]]. Incorporate feedback from [[10.6.19 Jam Session]]
 - **Abstract:** Roam is an online workspace for organizing and evaluating knowledge. The system is built on a directed graph, which frees it from the constraints of the classic file tree. Users can remix and connect ideas in multiple overlapping hierarchies, with each unit of information becoming a node in a dynamic network. Any given node can occupy multiple positions simultaneously, convey information through defined relationships, and populate changes throughout the graph.

roamresearch.com

Find or Create Page

meditation

- Meditating is good for you!

7 linked references to "meditation"

October 12th, 2019

- 08:05 - woke up #groggy, did a [[meditation]]

October 2nd, 2019

roamresearch.com

Find or Create Page

Grant Proposal v3

Latest Version

Past Versions

3 linked references to "Grant Proposal v3"

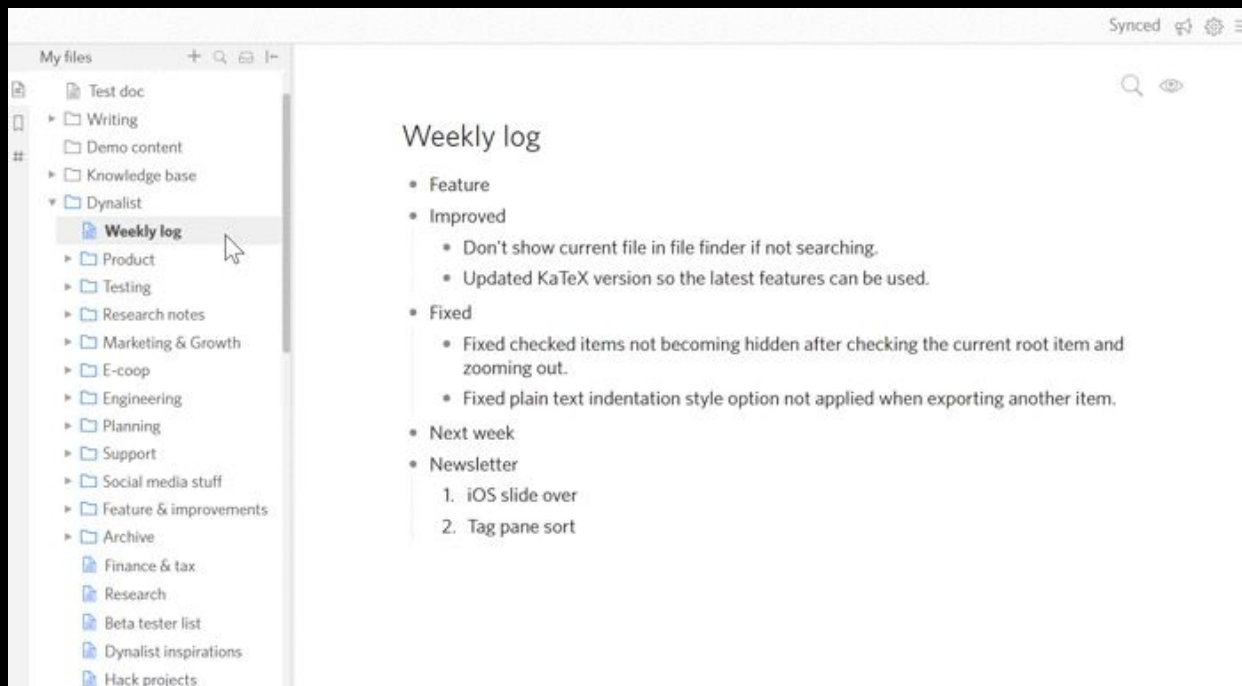
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Roam Research

roamresearch.com



Dynalist

dynalist.io

Mac window title bar: To Do

Top right: Share, Updates, Favorite, ...

To Do

Everything ▾ Properties Group by Status Filter Sort Search ... New ▾

No Status 35 Next 2 In Progress 5 Hidden columns

WORKSPACE

- Brad's Workspace
- Quick Find
- All Updates
- Settings & Members

WORKSPACE

- To Do
 - Everything
 - Work
 - Personal
 - Clients
 - Client 1
 - Client 2
 - Speaking
 - Side Projects
 - Melissa
 - Calendar
 - Habits
 - CRM
 - Projects
 - Notes
 - Links
 - Life, Love, and Finances
 - Meal Planner
 - Brad Frost Web

PRIVATE

- Media
- To Eat
- To Visit
- Diet
- To Buy
- Packing List

+ New page

Workshop teaser video

Brad Frost

Speaking

SmashingConf

Clean up slide formatting

Brad Frost Melissa Frost

Admin

Technical audit

Brad Frost

Client

Client 2

Follow up about court case

Brad Frost

Personal

Add food log to Notion

Brad Frost

Admin

Develop v9 theme

Brad Frost

Side project

Brad Frost Web

Fix home alarm

Brad Frost Melissa Frost

Personal

Set up local dev environment

Brad Frost

Side project

Brad Frost Web

Sort out utility shit

Brad Frost Melissa Frost

Personal

Sell stuff on Craigslist and/or eBay

Brad Frost Melissa Frost

Personal

DS SOW

Brad Frost

Client

Client 2

Allstate Claim

Brad Frost

Personal

Watchlist Step 4

Brad Frost

Client

Client 1

Sort through remaining bins

Brad Frost Melissa Frost

Completed 367

+ New

?

Notion

notion.so

Example time!

How do I chose a tool for my workflow?

- Speed to get to information
- Simplicity of input
- Support quick linking
- Help me reason visualizing concepts

What tool am I currently using?

Athens Research

Example:

*Research for **this** presentation*

Lots of historical reading

- Collecting highlights that matter to *me*
- Rewording the concept in my words
- Sifting for what is the basic idea

matuschak2019:tfft

#reading #book #creativity #thought

• **Title:** How can we develop transformative tools for thought?

• **Author:** [Andy Matuschak] and [Michael Nielsen]

Abstract

Citation

• [Original source](#)

• [Archived PDF](#)

```
@electronic{matuschak2019tfft, Author = {Matuschak, Andy and Nielsen, Michael}, Date-Modified = {2020-08-06 20:55:47 -0700}, Keywords = {productivity, creativity}, Title = {How can we develop transformative tools for thought?}, Url = {https://numinous productions/tfft/}, Year = {2019}}
```

Highlight and notes

- Computers were supposed to change the way we think
- Aspirationally, the mnemonic medium makes it almost effortless for users to remember what they read
 - This sound a bit far fetched
 - He claims that cognitive scientist know how we store in long term memory
 - Steps to achieve so poorly supported by current media (e.g. books)
- Questions about the mnemonic medium:
 - How could you build a medium to better support a person's memory of what they read?
 - What interactions could easily and enjoyably help people consolidate memories?
 - And, more broadly: is it possible to 2x what people remember? 10x?
 - And would that make any long-term difference to their effectiveness?
- The first prototype on_Quantum Country_
 - It is an essay with 112 questions scattered through it in the form of flash cards.
 - Few days later they get an email to sign in for a review session.
 - The review session follows the same original flash cards
 - As the review sessions advance, these sets the knowledge on their long term memory.
 - The idea is to grow the review interval: when reading, 5 days, 2 weeks, a month, and so on. (5 intervals -> four months)
 - Failure to remember drop down the interval automatically one level.
- This takes advantage of a fundamental fact about human memory: *as we are repeatedly tested on a question, our memory of the answer gets stronger, and we are likely to retain it for longer.*
- Exponential scheduling of the reviews is more efficient than traditional one long session.
- The experimental data shows that the time between successful recalls also grows following the same exponential trend.
- This results are interesting since they provide exponential returns vs the traditional experience of diminishing ones.

- The local graph as a thinking tool
- Surfaces previous connections
- Are there connections I miss that may be relevant?

matuschak2019:ttft

- Add Shortcut
- Show Local Graph k #creativity #thought
- Delete Page we develop transformative tools for thought?

Abstract by Matuschak and Michael Nielsen

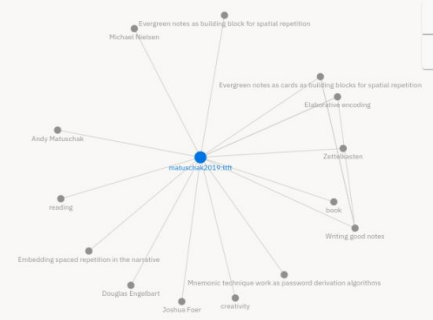
Citation

- Original source
- Archived PDF
- @Electronic{matuschak2019ttft, Author = {Matuschak, Andy and Nielsen, Michael}, Date-Modified = {2020-08-06 20:55:47 -0700}, Keywords = {productivity, creativity}, Title = {How can we develop transformative tools for thought?}, Url = {https://numinous productions/ttft/}, Year = {2019}}

Highlight and notes

- Computers were supposed to change the way we think
- Aspirationally, the mnemonic medium makes it almost effortless for users to remember what they read
 - This sound a bit far fetched
 - He claims that cognitive scientist know how we store in long term memory
 - Steps to achieve so poorly supported by current media (e.g. books)
- Questions about the mnemonic medium:
 - How could you build a medium to better support a person's memory of what they read?
 - What interactions could easily and enjoyably help people consolidate memories?
 - And, more broadly: is it possible to 2x what people remember? 10x?
 - And would that make any long-term difference to their effectiveness?
- The first prototype on _Quantum Country_
 - It is an essay with 112 questions scattered through it in the form of flash cards.
 - Few days later they get an email to sign in for a review session.
 - The review session follows the same original flash cards
 - As the review sessions advance, these sets the knowledge on their long term memory.
 - The idea is to grow the review interval: when reading, 5 days, 2 weeks, a month, and so on. (5 intervals -> four months)
 - Failure to remember drop down the interval automatically one level.
- This takes advantage of a fundamental fact about human memory: *as we are repeatedly tested on a question, our memory of the answer gets stronger, and we are likely to retain it for longer.*
- Exponential scheduling of the reviews is more efficient than traditional one long session.
- The experimental data shows that the time between successful recalls also grows following the same exponential trend.
- This results are interesting since they provide exponential returns vs the traditional experience of diminishing ones.

matuschak2019:ttft



- Forces >
- Local options >

- Create dedicated notes
- Only for things that matter to *me*
- Rule of thumb:
No more than a paragraph

Evergreen notes as cards as building blocks for spatial repetition

- If evergreen notes are atomic and concept oriented, they seem like the perfect candidates for spacial repetition. I have seen folks on YouTube rave about Notion being useful for spacial repetition. They achieve this by collapsible divs. They treat the subject, or tittle, as the question, and the body as the answer.
- You may argument that evergreen notes also follow a similar construct. They force you to synthesize a cue or concept with a concise title. They provide you a way to elaborate the meeting of that atomic concept on the body. It conduces to uphold [Ideas as building blocks](#). With one extra feature, they allow you to put them in variable context (links and backlinks) as opposed to being immovable in a doc. [Roam research](#) also helps by providing [transclusion](#), or allowing you to embed the note elsewhere.
- Hence, it seems reasonable to think that writing good cards follows the same steps of [Writing good notes](#).

Linked References

Writing good notes

- [matuschak2019:tft](#) put forward three principles an how to write good questions when thinking of [Evergreen notes as cards as building blocks for spatial repetition](#). They put forward three main points to keep in mind:
 1. Most questions and answers should be atomic, or [Ideas as building blocks](#).
 2. Make sure the early questions in a mnemonic essay are trivial: it helps many users realize they are not paying enough attention as they read. [Writing craft](#) can take advantage of such realization to keep the reader engage with the text. Such engagement is crucial to be able to deliver the intended points across.
 3. Avoid orphan cards that do not connect to anything else. Ideally you should target for a densely interconnected web or cards. [Elaborative encoding](#) or the view that network density is important for leaning and recall among others.

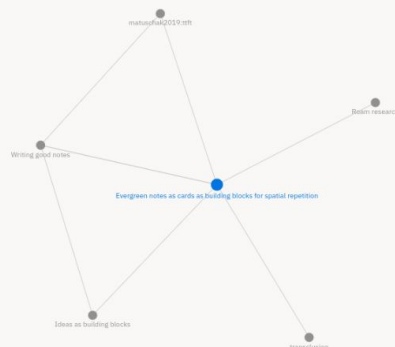
matuschak2019:tft

Highlight and notes

- Actually the authors eventually also make the explicit point around [Evergreen notes as cards as building blocks for spatial repetition](#):
 - For *Quantum Country* they mention they achieved by: “[...]many detailed strategies for constructing cards capable of encoding this kind of understanding[...]”.
 - They highlight that the medium [Embedding spaced repetition in the narrative](#).

Unlinked References

Evergreen notes as cards as building blocks for spatial repetition



Forces

Local options

Ideas as building blocks

Ideas as building blocks

- [Sönke Ahrens](#) | [ahrens2017:smartnotes](#) describes [Niklas Luhmann](#)'s [Zettelkasten](#) as a way to organize the creativity process. Originally focused on academic productivity, it describes the concept of self-contained ideas and how they can be fluid beyond the context they originally appeared. Ideas may propel new arguments on different contexts that the ones they originated in.

Linked References

allosso2020:mynotesonluhmannzettelkastenarticle

Highlights and notes Interestingly he points out that [Niklas Luhmann](#) hinted that this model works thanks to [evolution](#).

- Ideas show up in cards (like [Ideas as building blocks](#).)

Writing as therapy

- Using writing exercises can help unblock and find new directions. Writing on a regular basis can also help reprogram habits and expand views. It can help also refine [Ideas as building blocks](#).

The medium is not the workflow

- [Tevin Zhang](#) | [zhang2020:digitalzettelkasten](#) proposed a digital version of the [Zettelkasten](#) method or [Ideas as building blocks](#). He attempts to implement it on a digital system with files and links. It changes subtle things merging the reference and the slip box together.

Writing good notes

“I just work on the things that are easy”

--Niklas Luhmann

*“If you can't explain it simply,
you don't understand it well enough.”*

-- Albert Einstein

Nodes >
Forces >



- Preparing this presentation was playing with blocks I already had
- Shaping a narrative was just finding a coherent linear argument for the blocks

Note taking (or why I do not use Google Docs nor Keep)

- #personal knowledge management #presentation
- Title:** Note taking (or why I avoid Google Docs and Keep)

Working outline

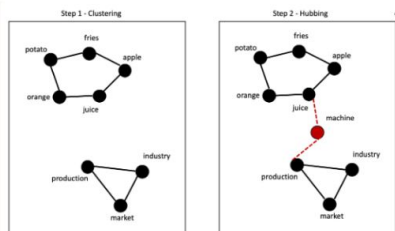
- Why do you take notes?
- That is not why I take notes
- A misconception: Note archival is not note taking
- Why you should care about your notes?
- Taking notes should help you with

Recurrent models through

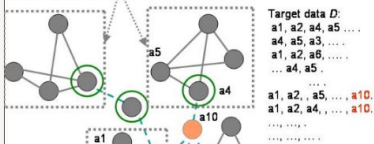
- [Memex](#)
- [Zettelkasten](#)
- [evergreen notes](#)
- [genetic algorithms](#)

KeyGraphs

- How can you identify interesting connections between ideas? [ohsawa1998:keygraph](#)
- Ideas are represented by text
- Co-occurrence graphs may surface connections between cluster of ideas
- Focusing on bridging concepts may provide you with valuable insight



KeyGraph-Step 1) Obtain islands, i.e., co-occurring groups of frequent items in the data.



Note taking (or why I do not use Google Docs nor Keep)



holland1962:adaptivesystemstheory

holland1962:adaptivesystemstheory

- #reading pending #article #adaptive systems
- Title:** Adaptive systems theory

Abstract

- Growing automata theory can reasonably be said to begin with the work of [Allan M. Turing](#): "On computable numbers with an Application to the Entscheidungsproblem". Turing's theory originated in his investigation of expressions calculable by finite means. In order to give rigorous formulation to this kind of calculation, he conceived of it as being carried by a machine. A tape, divided into squares and indefinitely extendible, supplies instructions to the machine and records the result of the computation.

Citation

- [Original article](#)
- [Archived copy](#)
- `@article{holland1962outline, title={Outline for a logical theory of adaptive systems}, author={Holland, John H}, journal={Journal of the ACM (JACM)}, volume={9}, number={3}, pages={297-314}, year={1962}, publisher={ACM New York, NY, USA} }`

Notes and highlights

- TBD

Linked References

[Note taking \(or why I do not use Google Docs nor Keep\)](#)

Working outline Recurrent models through [genetic algorithms](#)

What is *note taking* for me?

It is just *my* learning journey

Taking Notes

(or why I do not use your favorite text editor)