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Extending your Brain through Effective Note Taking

Don't Trust Your Memory

Human Memory is Volatile

- We can't remember everything, especially details
 - ▶ Specific numbers
 - ▶ Arcane flags in scripts
- Need to write things down
 - ▶ Externalize thoughts and ideas
 - ▶ Your mind is for having ideas not keeping them
- Problem: How to structure your notes
 - ▶ Easily search and find related elements

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Obsidian (<https://Obsidian.md>)

- Freeware (not Open Source)
 - ▶ All data is plain text
 - ▶ Offline-first
 - ▶ No lock-in
- Markdown based
- Highly popular
 - ▶ Many plugins available

Alternatives to Obsidian

- Trillium, Joplin
 - ▶ Open Source
 - ▶ Not plain text data
 - ▶ No large plugin ecosystem
- LogSeq
 - ▶ Open Source
 - ▶ Plain text data
 - ▶ No large plugin ecosystem
 - ▶ Not as feature complete
- Emacs Org-mode
 - ▶ Open Source
 - ▶ Only for wizards not mortals

Obsidian Features

- Markdown editor with live preview
 - ▶ Including preview for PDFs, images, etc.
 - ▶ Code highlighting
- Same folder structure as on disk
- Multiple tabs (similar to IDE)
- Massive plugin ecosystem
- Full-text search with filters
- Link notes into graphs
 - ▶ Smart updating of links

Notes as Graphs

- Use `[[Note Name]]` to link to another note
- Given a concept, link to it from all relevant notes
 - ▶ In concept note, check back-links to see all nodes that link to it
- Ideas in research papers are best represented as graphs
 - ▶ Connect based on references and shared concepts

Where to Put a Note?

- You made some notes regarding
 - ▶ Regarding a new project
 - ▶ A script that solves a common issue
 - ▶ For a presentation in 2 weeks
- Where to put these notes?

P.A.R.A.

- Projects, Areas, Resources, Archive
- Projects
 - ▶ Everything with an end date
 - ▶ Can run days, month or even years
- Areas
 - ▶ Ongoing personal things
 - ▶ Work contract, vacation requests
- Resources
 - ▶ Sharable notes, everything not in Projects or Areas
 - ▶ Notes on papers, common scripts and workarounds
- Archive
 - ▶ Finished projects, retired Areas and Resources

Implementing P.A.R.A.

- Create root folders
 1. Projects, 2. Areas, 3. Resources, 4. Archive
- Create projects as YYYY-MM-DD-Project-Name
 - ▶ Once a project concludes, move it to Archive
- For Areas, Resources no date needed in folder names
- Graphs can be across folders or within
 - ▶ For example, Paper-Notes in Resources, sub-folders per paper project
- Alternatives to P.A.R.A.
 - ▶ PPV, ICOR, ACCESS, ATLAS, ...

Zettelkasten

- No folders, all notes on the same level
- Note title is or includes unique id, for example, timestamp
- Hub notes for structuring, references to other notes
 - ▶ Hierarchical hub notes
- Each note has title, content and references
- Steep learning curve

Taking Notes while Reading Papers

- Note down your understanding, questions
- Link to other concepts, papers
- Answer the questions
 - ▶ Why is this significant?
 - ▶ How is this relevant to me?

Reference Manager Zotero

- Open Source Research Manager
- Desktop app + browser extension
- Workflow
 - ▶ Find interesting paper (or web page) in browser
 - ▶ Click browser extension to download paper and metadata
 - ▶ Read paper in Zotero embedded viewer
 - ▶ Takes notes in Obsidian
 - ▶ Export references as bibtex or biblatex
- Recommended extension: Better BibTeX

Zotero Obsidian Integration

■ Via Citations plugin

■ Setup

- ▶ In Zotero, right click on My Library, Export, Better Bib(la)tex and Keep Updated
- ▶ In Obsidian Citations plugin settings, set path to exported library via database path and `[[{{citekey}}]]` for Markdown primary citation template

■ Usage

- ▶ In Obsidian command palette, Citations: Insert literature note content in the current pane and Citations: Insert Markdown citation
- ▶ Bind these to hotkeys

■ Name new paper notes same as cite key in Zotero

Recommended Plugins

- Dataview
 - ▶ Markdown pages can include YAML metadata
 - ▶ Dynamic tables via powerful queries
- Excalidraw
 - ▶ Quick drawing and sketching tool
 - ▶ Share drawings E2EE online
- Canvas (built-in)
 - ▶ Draw and place notes in 2D space

Syncing via Owncloud

- Obsidian data is all plain text
- Create vault under Owncloud synced folder
 - ▶ Done
- Can use on multiple devices, configs/plugins synced

Purpose of ToDo Lists

- Keep track of open tasks
 - ▶ Reoccurring tasks
- Plan out a given day
- Batch tasks based on
 - ▶ Location
 - ▶ Context
- Consider mental energy
 - ▶ Light and heavy load tasks

Housekeeping ToDo Lists

- One ToDo list to rule them all
 - ▶ Overview at a glance
 - ▶ Requires good maintenance
- Everyday decide on the most important tasks
- Plan time once per week to organize
 - ▶ Assign tasks to days, be reasonable
 - ▶ Drop tasks that became irrelevant
- *If I have time* as own category
- Your email inbox is not a todo list
 - ▶ Handle immediately or create task

Review

- We talked about personal productivity systems
 - ▶ Highly individual, find own process
- Take time after 3, 6, 12 month to review your system
 - ▶ What works, what does not, adjust, test out new things
 - ▶ Price of switching
- Obsidian Tasks plugin for ToDo Lists
 - ▶ I use ToDoist

From Running Commands to Notes

- Typical workflow
 - ▶ Connect to server with SSH
 - ▶ Run commands until task is completed
 - ▶ Document changes, how to resolve task
- What commands were used again?

Command Logging Options

■ Server side

- ▶ auditd
 - Common Linux utility
 - Requires additional parsing, very verbose
- ▶ rsyslog
- ▶ bash-history

■ Client side

- ▶ sshlog <https://github.com/sshlog/agent/>
 - Runs as daemon
 - Record commands and outputs
- ▶ script
 - Standard Linux utility
 - Start session and all commands and outputs are recorded
 - Improved implementation https://github.com/scoopex/scriptreplay_ng

Closing

- Try out Obsidian (<https://Obsidian.md>)
 - ▶ Use a note structure system such as P.A.R.A.
 - ▶ Integrate with Zotero for research
- Have a single dedicated ToDo list
 - ▶ Take good care of it
- Innovate to improve your workflows
- Reflect on the state of your personal productivity system