



About Inger and Jason

Dr Inger Mewburn is a Professor and Director of Researcher Development at The Australian National University.

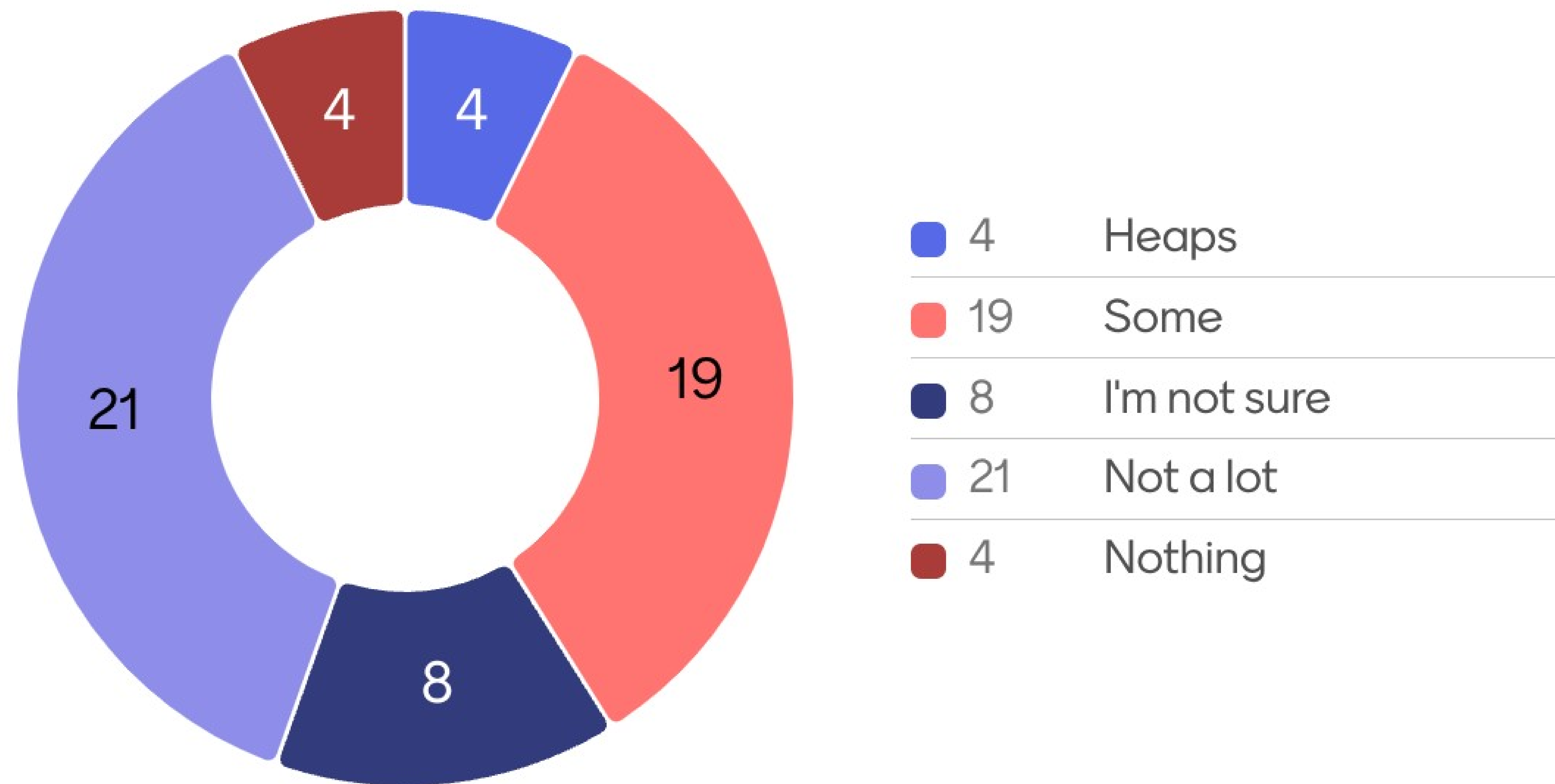
Dr Jason Downs has a background as a lecturer in Business and a member of the executive in the area of Quality and Standards.

They are both productivity nerds and co-host a podcast called '[On the Reg](#)', where they talk about Work, but not in a boring way.

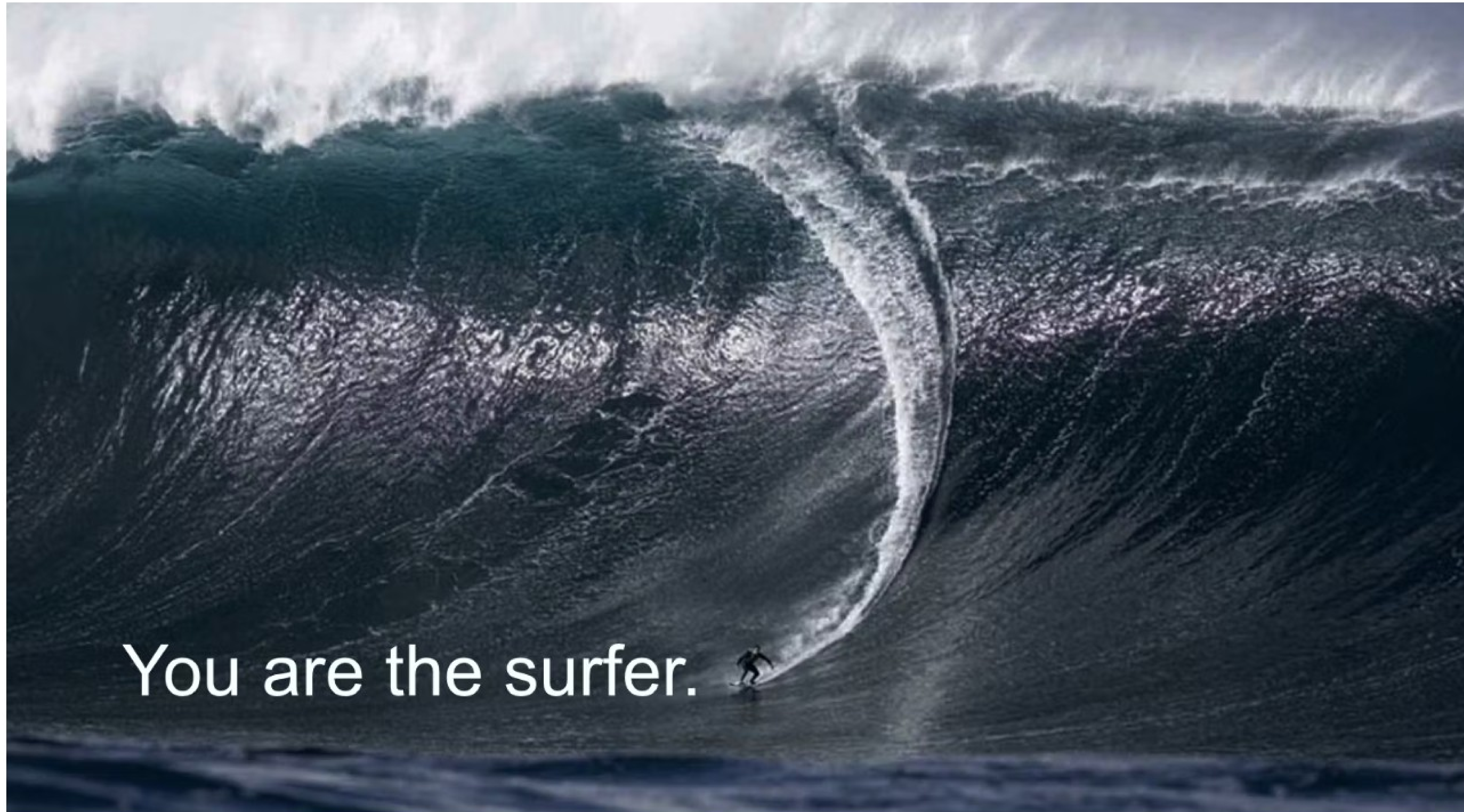
Find out more about On The Reg and their work [here](#).
an you can contact them about this workshop on feedback@ontheregteam.com



How much do you know about notetaking and AI?



Note taking - the problems



You are the surfer.

In a sea of endless, abundant information.



(sometimes it feels like there is a firehose of information aimed at your face)



memeguy.com

This is what doing research can feel like from the inside...

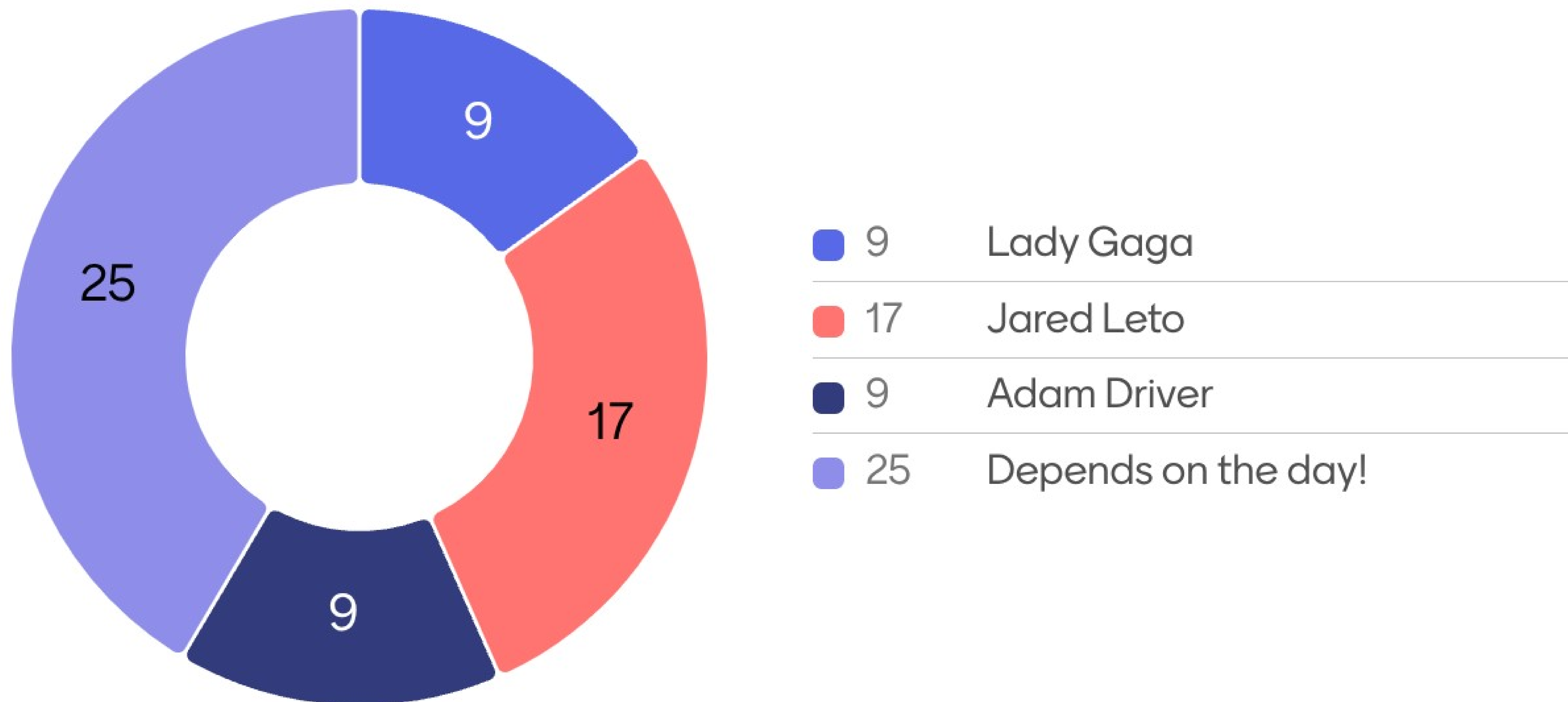


But when you go to find where you wrote that idea down...



There's a spectrum of notes' organisation - where are you?

Where are you on the spectrum of organisation?



Let me show you where I want you to get to

I'm using Obsidian and Notebook LM for this live demo

The Trouble with 'notes'

- From Building a Second Brain by Tiago Forte:
- It's not at all clear what you should be taking notes on.
- No one tells you when or how your notes will be used.
- The "test" can come at any time and in any form.
- You're allowed to reference your notes at any time, provided you took them in the first place.
- You are expected to take action on your notes, not just regurgitate them.

"You have to keep a dozen of your favorite problems constantly present in your mind, although by and large they will lay in a dormant state. Every time you hear or read a new trick or a new result, test it against each of your twelve problems to see whether it helps. Every once in a while there will be a hit, and people will say, How did he do it? He must be a genius!"

Richard Feynman quoted in Building a Second Brain

Inger's current favourite problems:

- How do I help people use Generative AI safely and ethically?
- What are the truly great productivity hacks?
- How do neurodivergent folks experience academic work?
- How does writing work in the brain?
- What is 'persuasion' - how do people change their minds?
- How do you write a romance novel when you work full time?

What are your favourite problems right now?

Identity crisis in young adults with chronic illnesses

The moon size illusion

Using AI to summarise journal articles to save time

How to monetise my findings?

What do I want to do post PhD?

Doing a PhD with ADHD

media messaging on genAI

why do people agree to clinical trials?

What are your favourite problems right now?

Starting my lit review
Taking notes

International research
opportunities

Supervisor Dynamics are
Troublesome How to
balance PhD and
motherhood

Find the key literature for
my proposal

How do I keep my cup
filled

Feeling guilty about
using AI as a
neurodivergent person

I have problems of
focusing and
concentration

I have to finish my first
manuscript

What are your favourite problems right now?

Learned what is my passion .

Why does maths calm me down?

How do i train for 100km race when doing a phd full time?

Write a fantasy novel while still earning money!

Not being able to control everything

How can I make sure that quantitative health data doesn't make stories invisible

express the things in writing

How much sleep do people *really* need, how does this change over the lifespan, why is capitalism lying to us about it.

What are your favourite problems right now?

researching something
that really interests me

What to eat for
breakfast? It's the best
meal of the day.

Staying sane in the last
6 months of thesis

How can I support my
autistic son with his
Demand resistance

Which AI tools to utilise

Having my whole thesis
to write in 2.5 years

How do I stop my
addiction of online
shopping?

We don't care where you write it down... so
long as you write it down!

Some options:

"Always read with a pen in your hand"

Keep a Bullet Journal or a log book

Write or speak into your notes app on your phone

Write your notes in a word or excel document

Write it in an email to another person (or run the idea by ChatGPT)

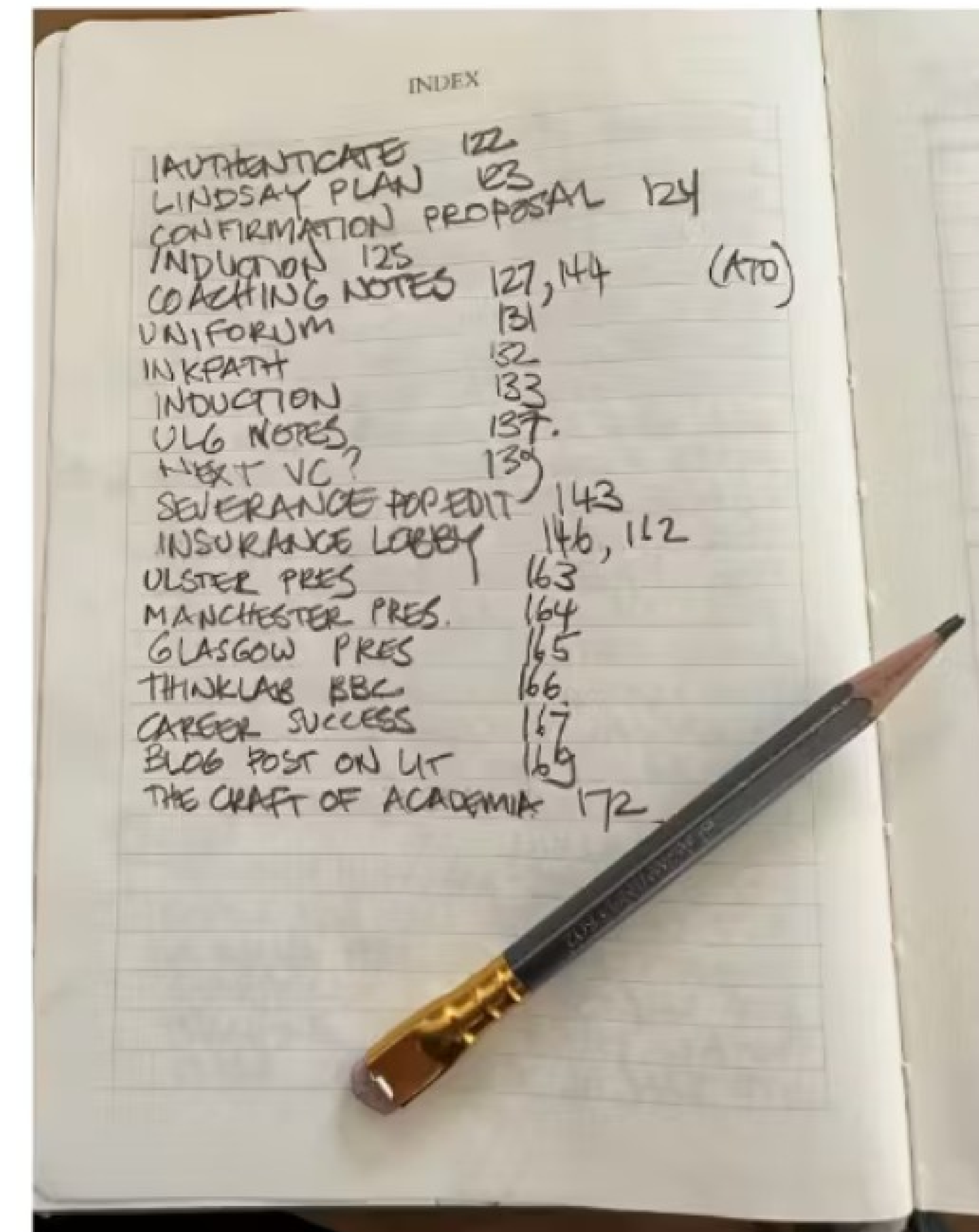
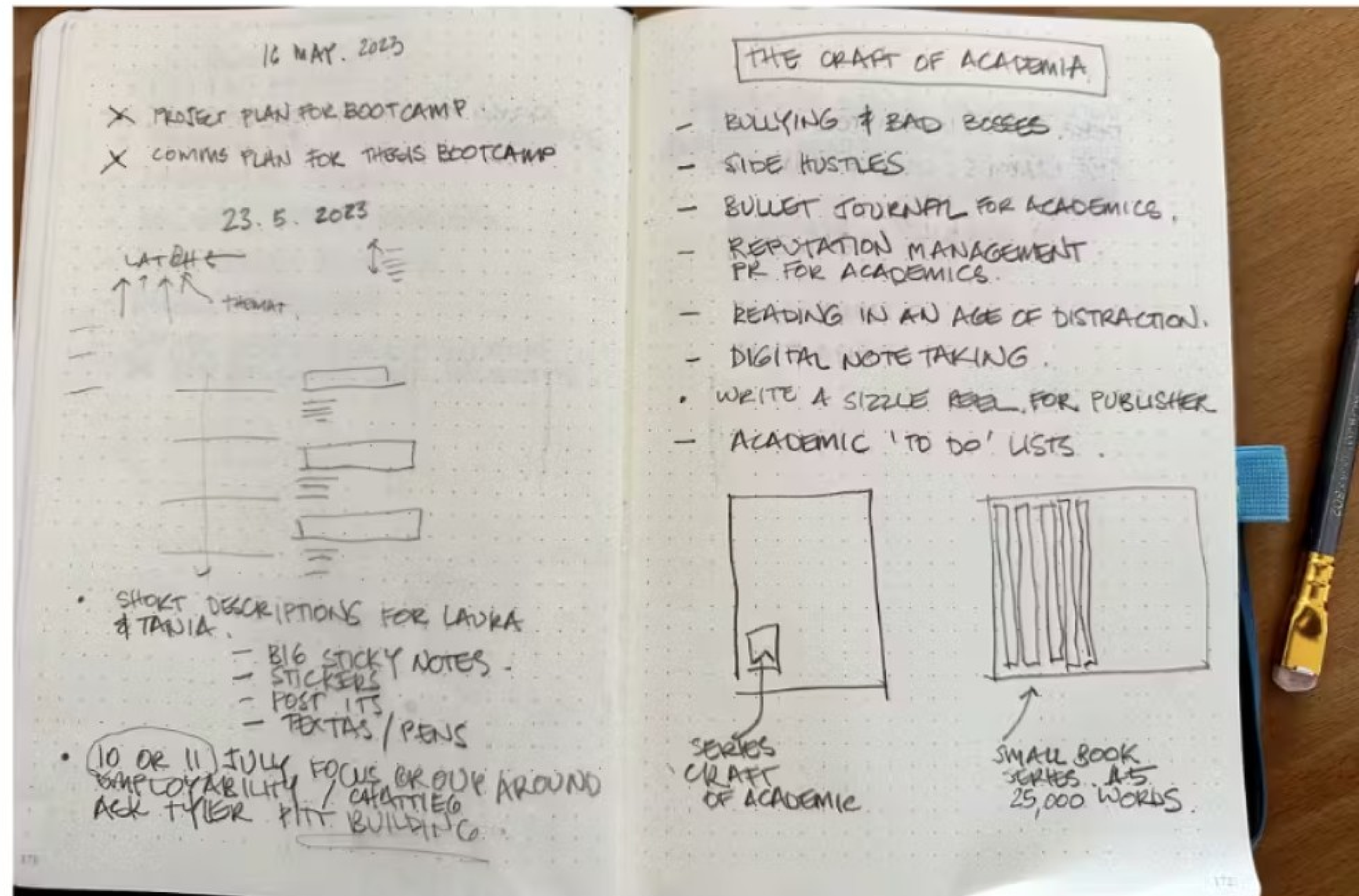
Draw a diagram on a whiteboard

Most researchers take notes reactively — in notebooks, PDFs, meeting docs, or scraps of paper. Notes become:

- Become hard to find or reuse.
- Fail to support critical and creative thinking.
- Encourage duplication / transcription of ideas, rather than synthesis.

If you structure your notes, you can do more with them.

Here are some methods:



The Bullet Journal: (L to R) a daily log, a collection and the index

Ahrens, S. (2017). *How to Take Smart Notes*.

12	need to trust system	writing
13	reference to speed writing	effort
14	trying to squeeze too much	squeeze
15	no effort	effort
16	writing affects thinking	writing
18	reference to bibliography	lit note
20	reference to index	index
21	need only make a few changes	effort
22	working with system can be fun	fun
24	discrepancies btw lit/perm	perm note
25	don't brainstorm	brainstorm

Figure 8. A typical reference note.

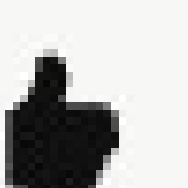
A system like Sonke Ahren's 'How to take smart notes'

CORNELL NOTES	
DATE: 4/0/2023	
KEY POINTS	NOTES
Introduction	In the paper, the relationship between coffee consumption and procrastination is examined.
Effects of Caffeine	Caffeine is a stimulant that can enhance alertness and focus.
Association with Procrastination	Frequent coffee intake may be linked to higher levels of procrastination.
SUMMARY The findings suggest a positive correlation between coffee use and procrastination behaviour.	

Or the Cornell Note taking template

Field	Function	Hidden Teaching
Type	Categorises intellectual activity	Promotes meta-cognition and writing habits
Research Stage	Locates the note in the project's lifecycle	Teaches project mapping
Urgency	Encourages triage of action vs archive	Supports prioritisation
Tags	Aids later retrieval and thematic clustering	Builds a habit of semantic indexing
Links	Connects ideas across time	Builds a networked thought structure

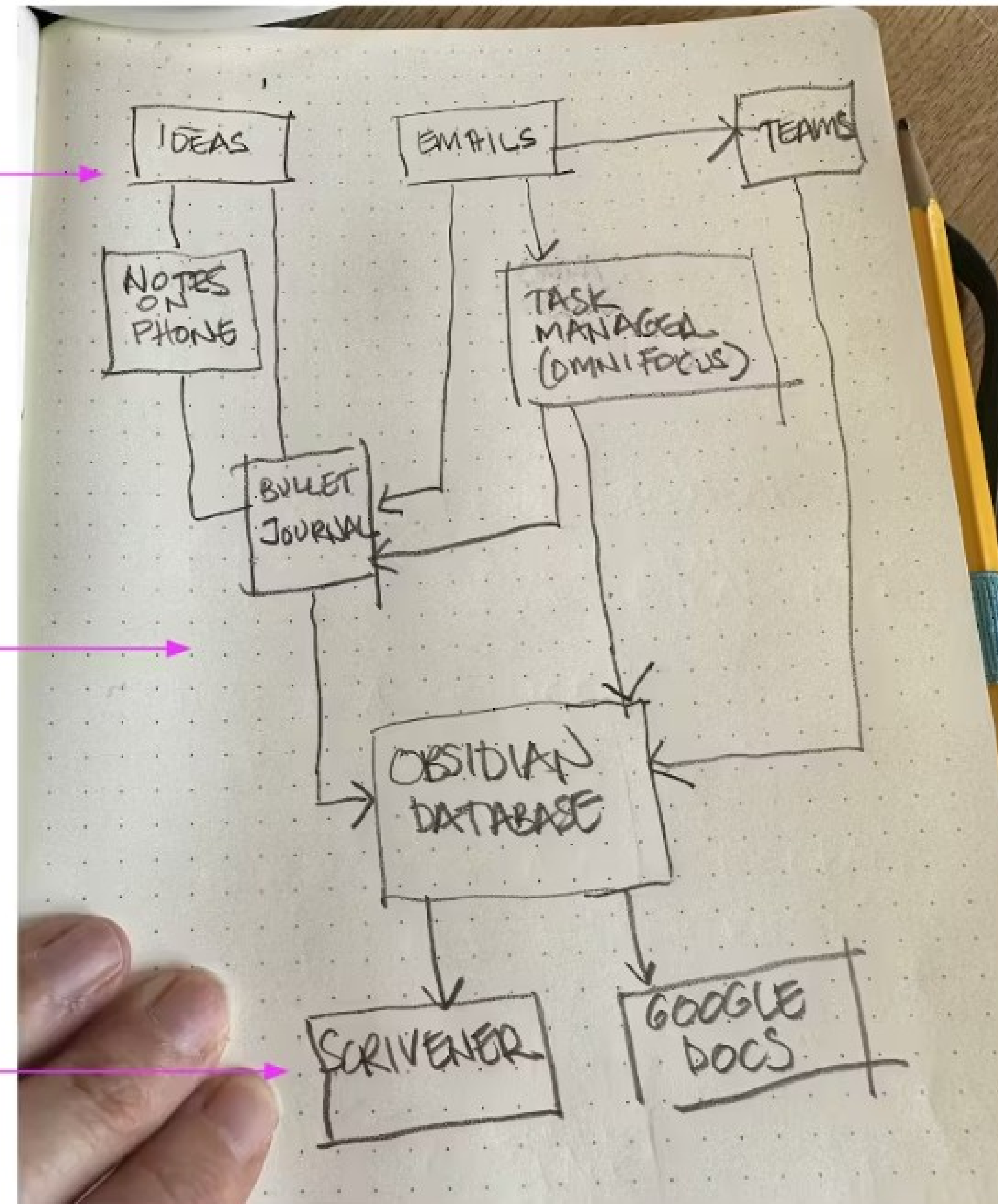
We recommend keeping a research journal - a template is [here](#)



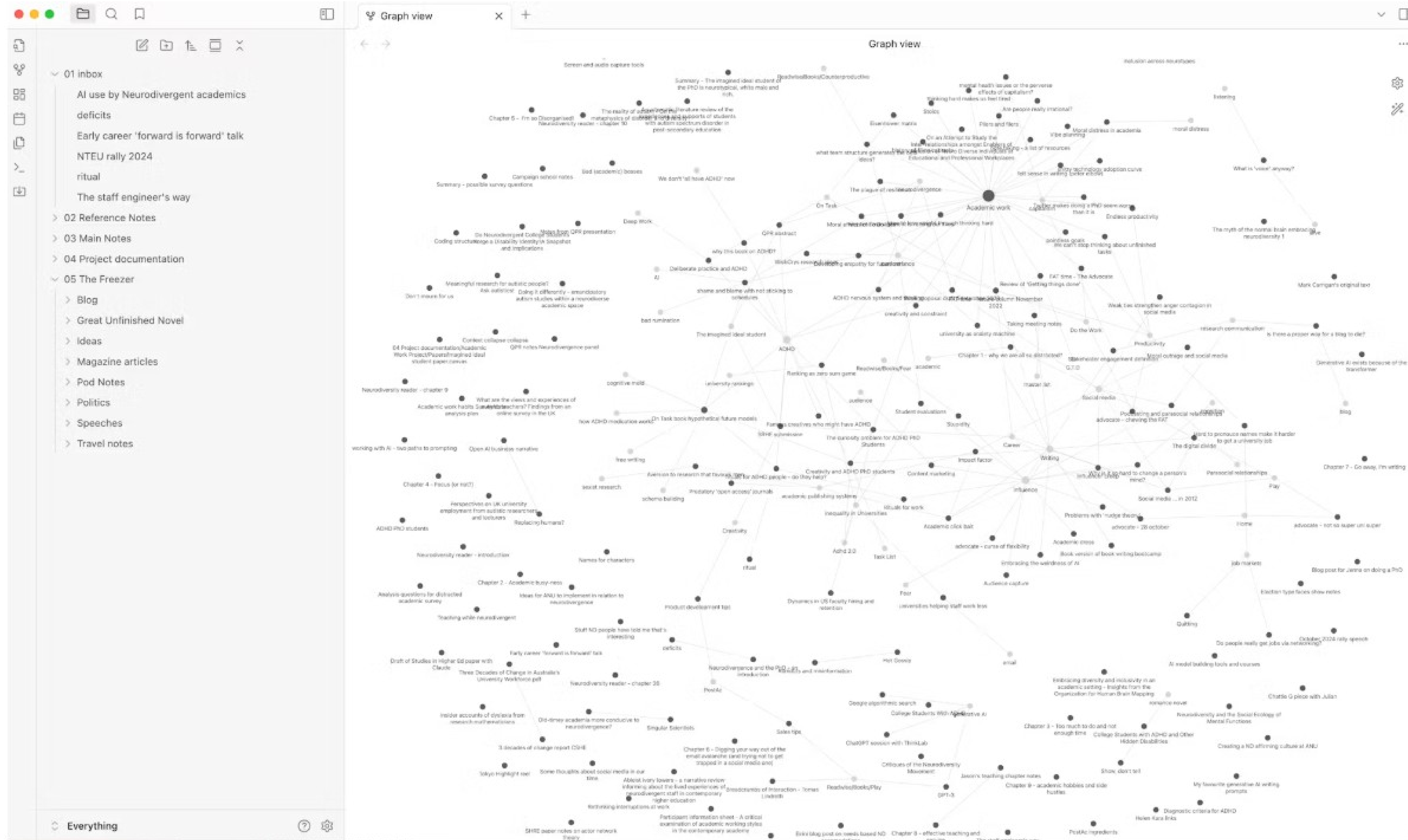
Information inputs.

Creation /
synthesising
tools.

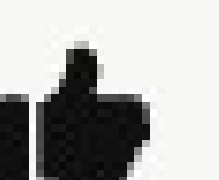
Words out.



Your 'information processing stack': the missing middle?

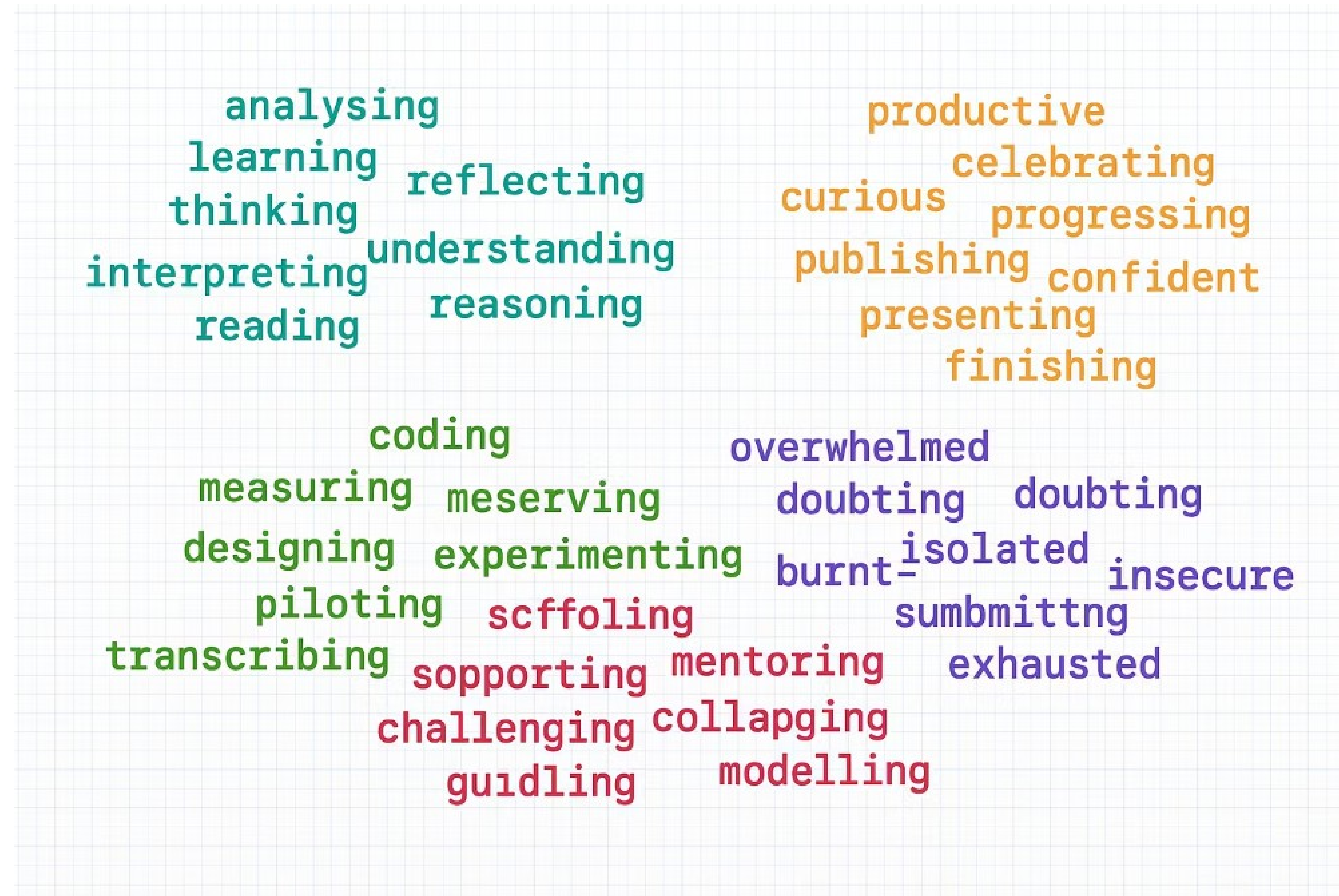


Obsidian: a home for all your notes (but first you have to process them).



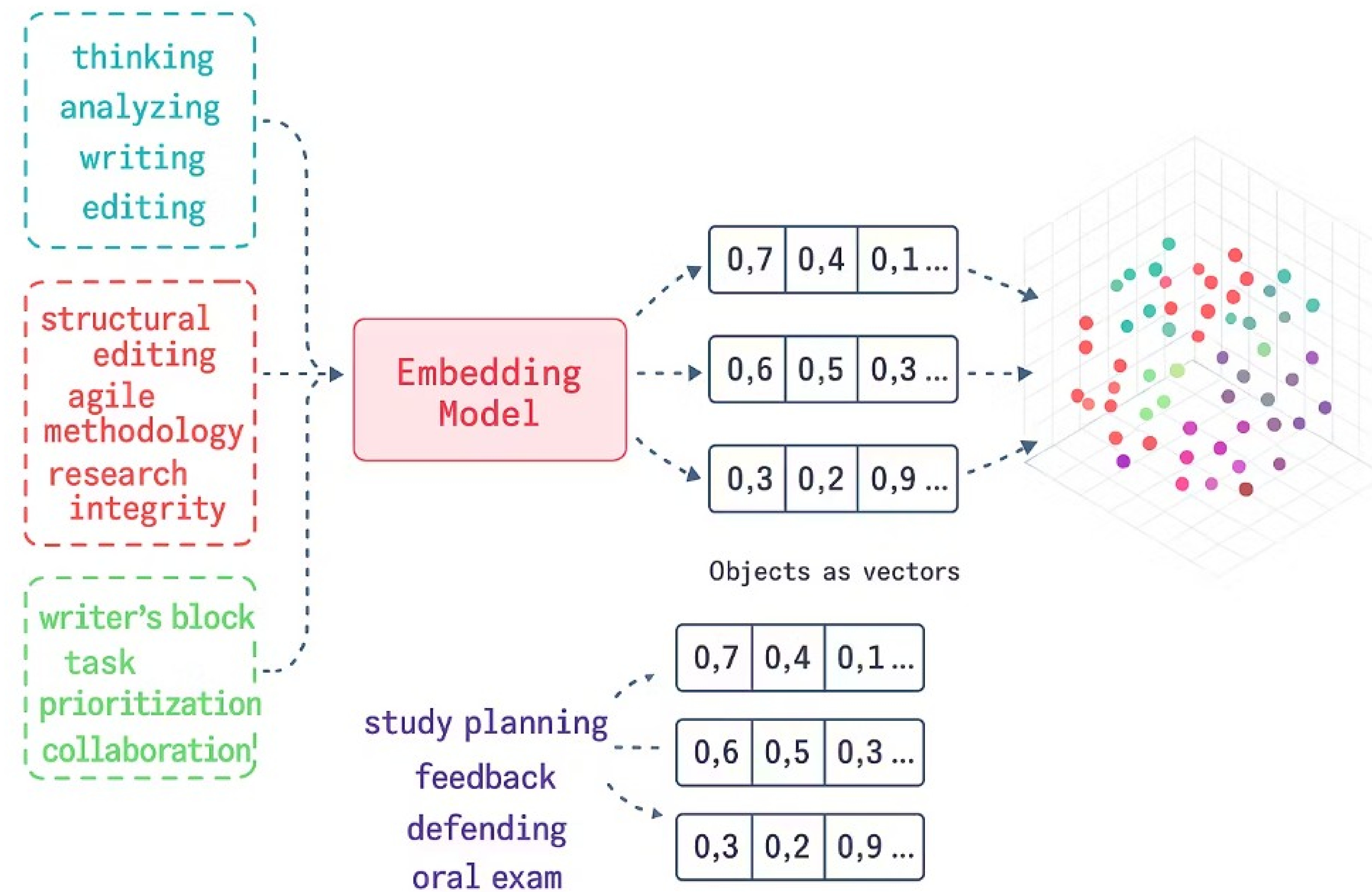
Prompting and Priming with AI

And how to apply these ideas across different platforms

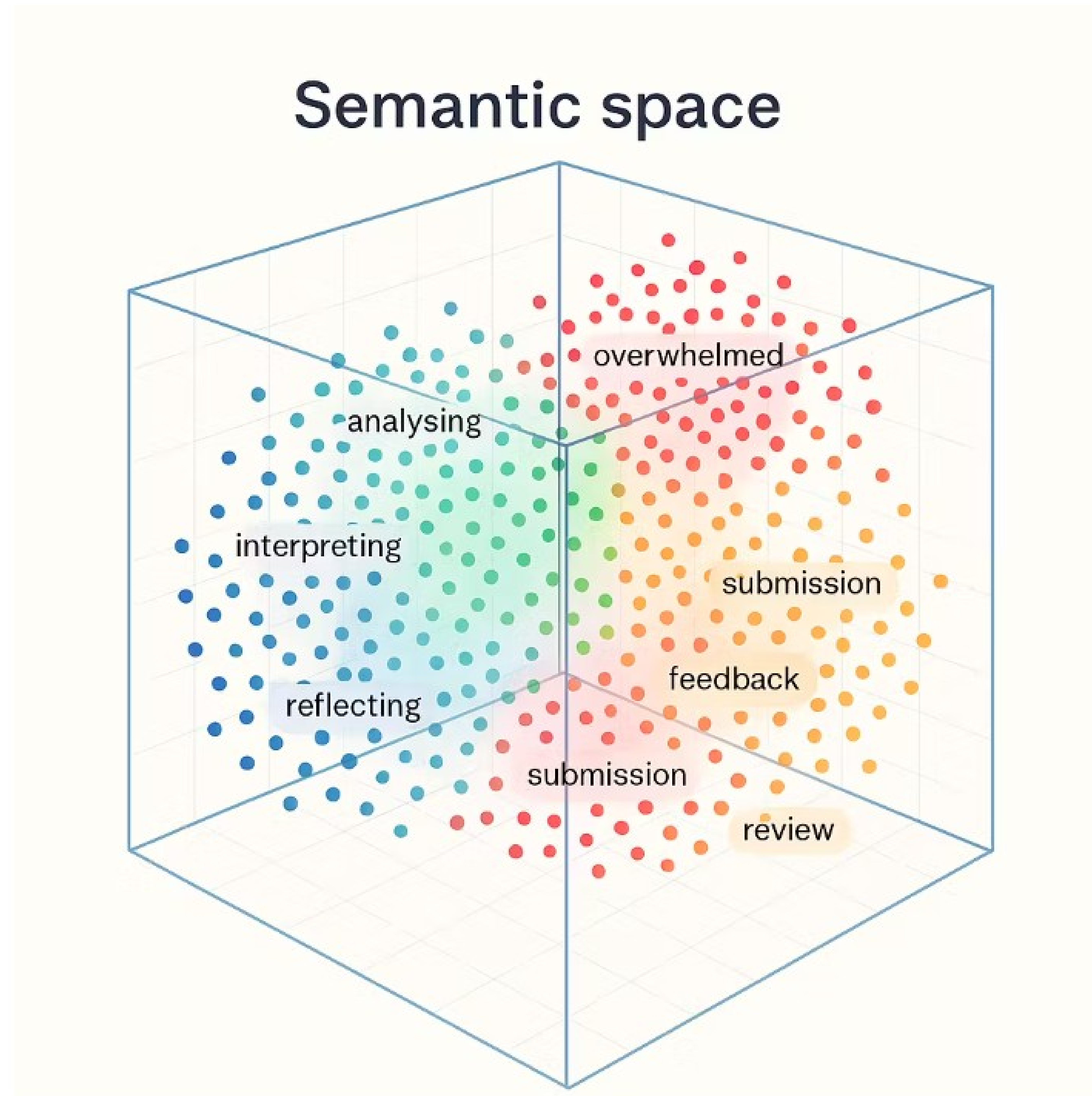


Generated by ChatGPT - including all the spelling mistakes

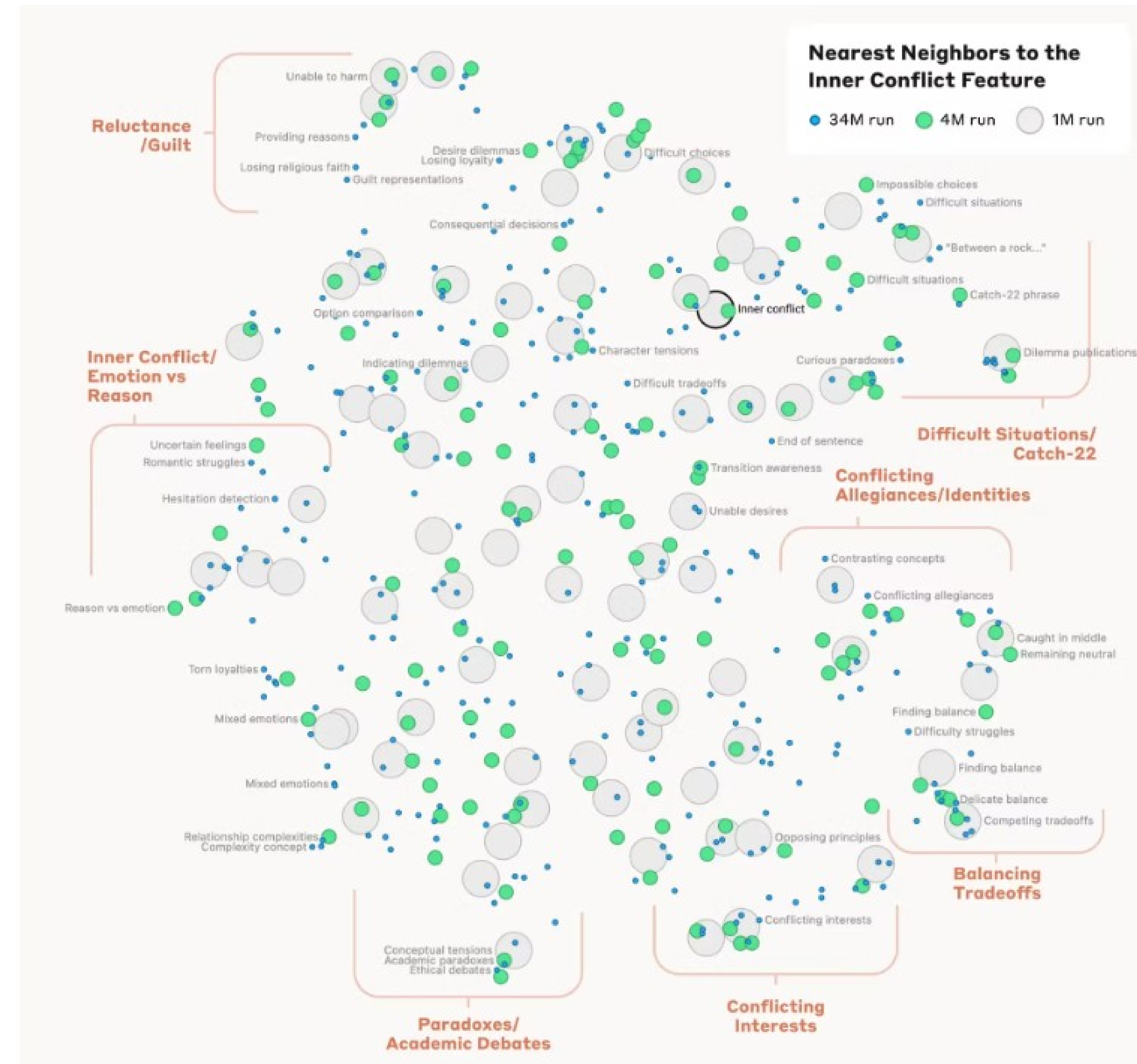
Words of a feather stick together



Data is processed by 'transformers' to produce a 'semantic space'



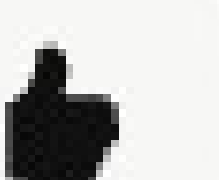
"You can (inaccurately but usefully) imagine the AIs knowledge as huge cloud." Ethan Mollick



Part of Claude's neural net architecture (from Anthropic)

	Large Language Models (LLMs)	Small Language Models (SLMs)
Training	Massive corpora (web, books, code, etc.)	More curated or domain-specific data
Power	High (requires large GPUs or clusters)	Lower (can run on consumer hardware or smaller servers)
Machinery	Typically cloud-based / API-driven	Can run on edge devices or locally
Use	Strong general-purpose capabilities	More limited, often specialised
Data	Data processed in cloud (potential privacy concerns)	Data can stay local, sometimes on local hard drive.
Speed	Very fast	Slower
Common use cases	Conversational agents, coding assistants, general content generation	On-device AI, private enterprise apps, task-specific bots
Names	GPT-4o, Claude 3.5, Gemini 1.5 Ultra	Phi-3 Mini, Mistral 7B, LLaMA 3 8B

Different embeddings: different models: different sizes: different strengths: different outputs...





How ChattieG imagines itself (left) compared to Claude (right)

"There is one major trick that will make your conversations work better:
provide context.

You can (inaccurately but usefully) imagine the AI's knowledge as a huge cloud. In one corner of that cloud the AI answers only in Shakespearean sonnets, in another it answers as a mortgage broker, in a third it draws mostly on mathematical formulas from high school textbooks.

By default, the AI gives you answers from the center of the cloud, the most likely answers to the question for the average person. You can, by providing context, push the AI to a more interesting corner of its knowledge, resulting in you getting more unique answers that might better fit your questions."

Ethan Mollick

For more, read: 'Co-intelligence: living and working with AI'

A formula for prompting: BASE

- Background
- Actions
- Specifics
- Examples

The Anatomy of an o1 Prompt

I want a list of the best medium-length hikes within two hours of San Francisco.

Goal

Each hike should provide a cool and unique adventure, and be lesser known.

For each hike, return the name of the hike as I'd find it on AllTrails, then provide the starting address of the hike, the ending address of the hike, distance, drive time, hike duration, and what makes it a cool and unique adventure.

Return Format

Return the top 3.

Be careful to make sure that the name of trail is correct, that it actually exists, and that the time is correct.

Warnings

--

For context: my girlfriend and i hike a ton! we've done pretty much all of the local SF hikes, whether that's presidio or golden gate park. we definitely want to get out of town -- we did mount tam pretty recently, the whole thing from the beginning of the stairs to stinson - it was really long and we are definitely in the mood for something different this weekend! ocean views would still be nice. we love delicious food. one thing i loved about the mt tam hike is that it ends with a celebration (Arriving in town to breakfast!) The old missile silos and stuff near Discovery point is cool but I've just done that hike probably 20x at this point. We won't be seeing each other for a few weeks (she has to stay in LA for work) so the uniqueness here really counts.

Context Dump

Prompts can sometimes be 500 words (or more) long

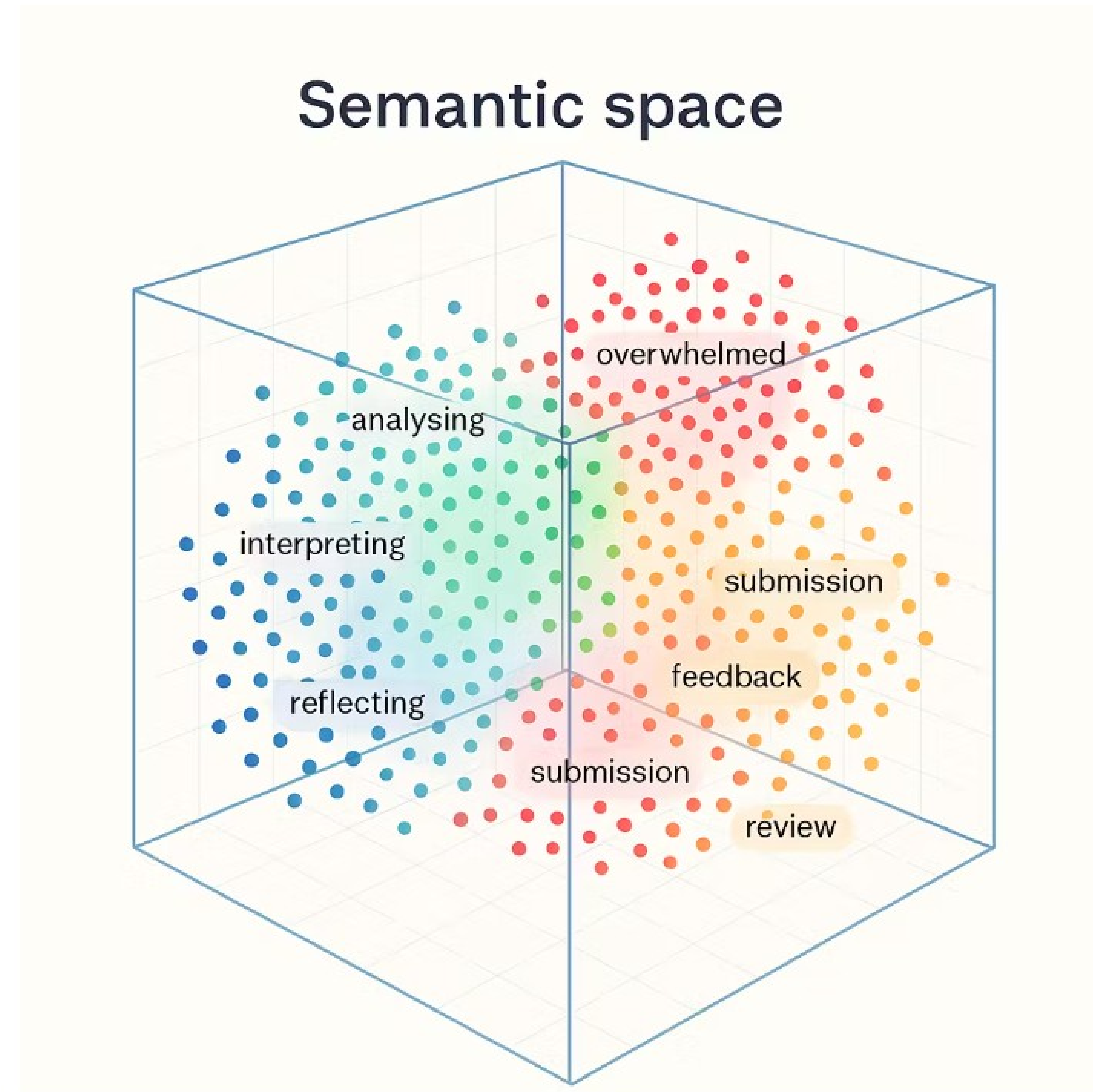
Two kinds of human input:

Prompting: The direct input you give to the model—usually in the form of a question, instruction, or piece of text.

Priming: The process of shaping the model's responses by *indirectly influencing* its behaviour, often before or around the main prompt.

If you're telling the AI *what to do right now*, it's **prompting**.

If you're shaping how the AI thinks about its role, the context, or the user before doing something, it's **priming**.



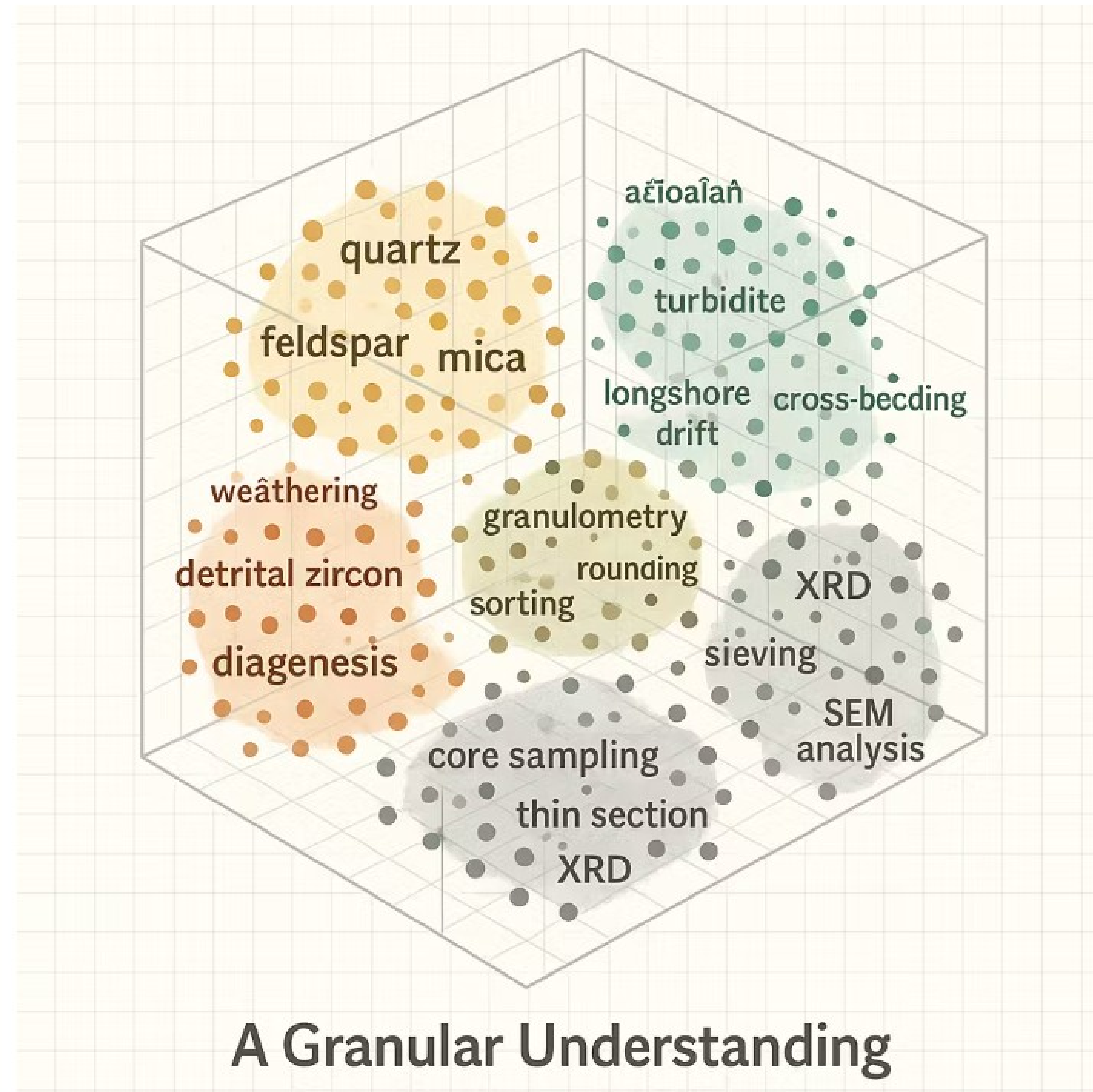
Remember this? Priming: 'finding the right point in the cloud'

🏖️ Sand Research Across Disciplines: Meanings, Focus, and Jargon

Discipline	Focus of Sand Research	Sample Research Questions	Common Jargon Terms
Geology	Grain size distribution, sediment transport, dune formation	How do aeolian processes shape desert dune systems?	granulometry, alluvial, aeolian, sediment load, stratigraphy
Materials Science	Use of sand in concrete, glass, and semiconductors	What properties make silica sand ideal for photovoltaic cells?	silica purity, aggregate, pozzolanic reaction, sintering, SiO ₂
Environmental Science	Erosion patterns, coastal change, desertification	How does sand mining impact riverbank stability?	erosion, sediment budget, coastal retreat, anthropogenic impact
Urban Studies	Construction dependency, supply chains, political economy of extraction	Why is sand a contested resource in megacity expansion?	resource flows, construction boom, grey economy, development nexus
Sociology/Economics	Labour, crime, governance in sand extraction	Who profits from illegal sand mining?	extractive industry, resource governance, shadow economy, commodification
Media/Design/Cultural Studies	Symbolism, metaphor, tactility, digital-material imaginaries	How does sand represent impermanence in visual culture?	ephemerality, material metaphor, texture, entropy, tactility

Let's take the example of ancient sand research (because the jargon is intense!)





During Priming you should mention as many of the right kind of 'sand words' as possible

Priming prompt to push an LLM into the 'ancient geological sand expert' part of its cloud:

"**You are a sedimentologist** with expertise in clastic depositional systems and aeolian processes. Your research focuses on granulometric analysis, sediment transport dynamics, and dune morphodynamics. You frequently publish in journals like *Sedimentology* and *Journal of Geophysical Research: Earth Surface*. You are comfortable discussing alluvial fan formations, cross-bedding, and lithostratigraphy. Use precise geological terminology and avoid oversimplification unless explicitly asked. Be prepared to explain grain-size distribution, provenance studies, and sediment budget concepts using appropriate jargon."

Building Agents (bots, projects, GPTs)

Different platforms have different ways of building repetitive work helpers.

Who do you want to 'hire' to help you?

Ask the LLM to write you a job ad for that 'digital person'

Use the job ad text as your priming prompt

Inger's 'priming prompt' for a general purpose qualitative research assistant:

You are a detail-oriented Research Assistant. This role will focus on analyzing and coding open-ended survey responses using Values coding, Gerund coding and other qualitative analysis techniques to uncover underlying attitudes, beliefs, and values expressed by participants.

- You analyze and code open-text survey responses into themes
- Process qualitative data in conjunction with bio-demographic data to derive insights
- Develop and refine codebooks for consistent application across research projects
- Collaborate with others to identify patterns and themes in coded data
- Assist in preparing research reports and presentations

← All projects

Researcher Private

Put example documents in here

How can I help you today?

+ ⚙️ Research Claude Sonnet 4

Developing a Values Coding Scheme for AI Usage
Last message 2 months ago

Literature Review Process for Students
Last message 2 months ago

Designing Focus Groups for HDR Consulting Services
Last message 2 months ago

Project knowledge +

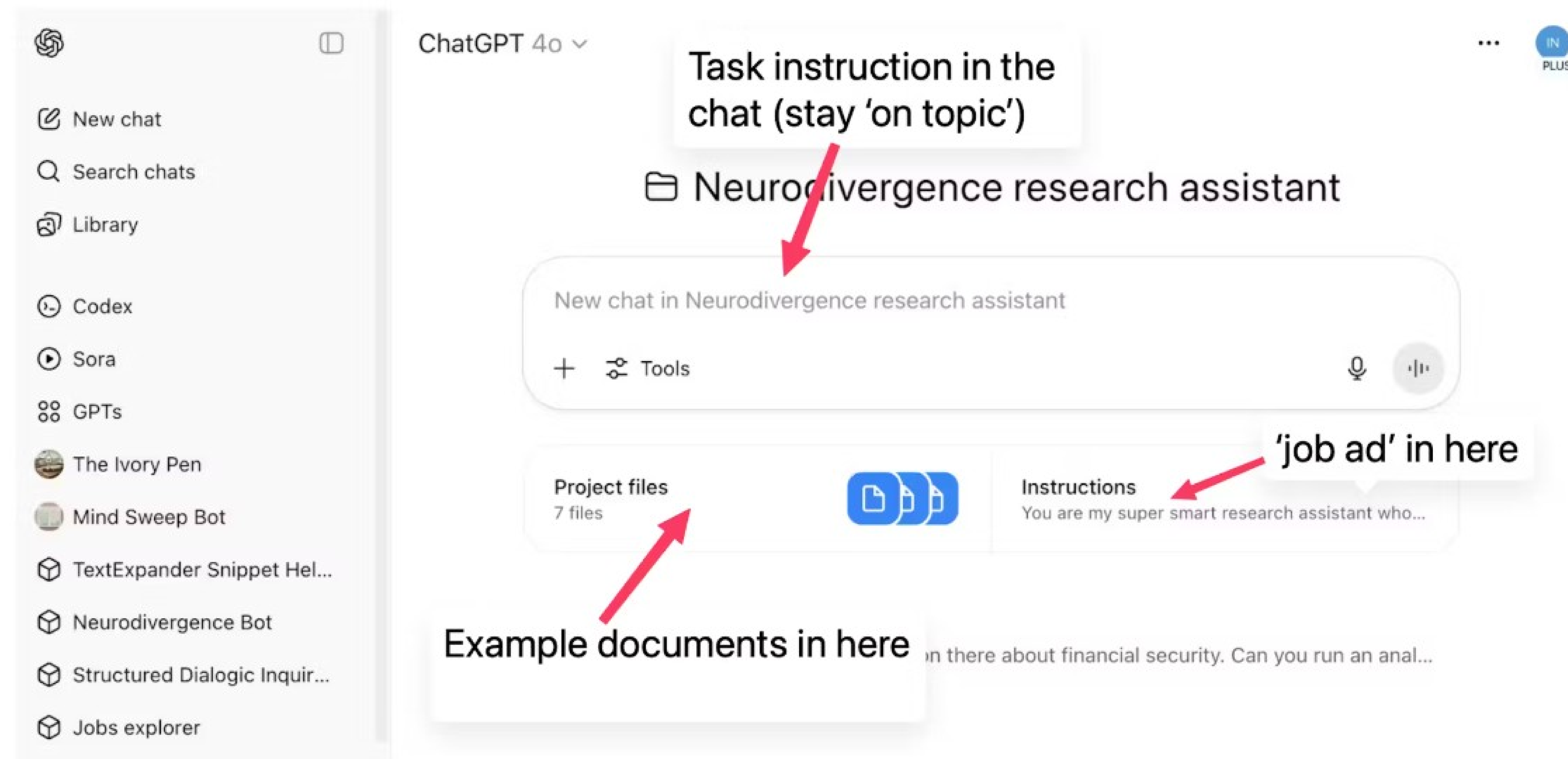
"You are a detail-oriented Research Assistant. This role will fo... Edit

No knowledge added yet. Add PDFs, documents, or other text to the project knowledge base that Claude will reference in every project conversation.

Put the job ad you generated in the project knowledge section

The project keeps all your chats in one place

Using a priming prompt in Claude projects (paid version only)



Chat GPT (ChattieG) - same as Claude, but looks a bit different

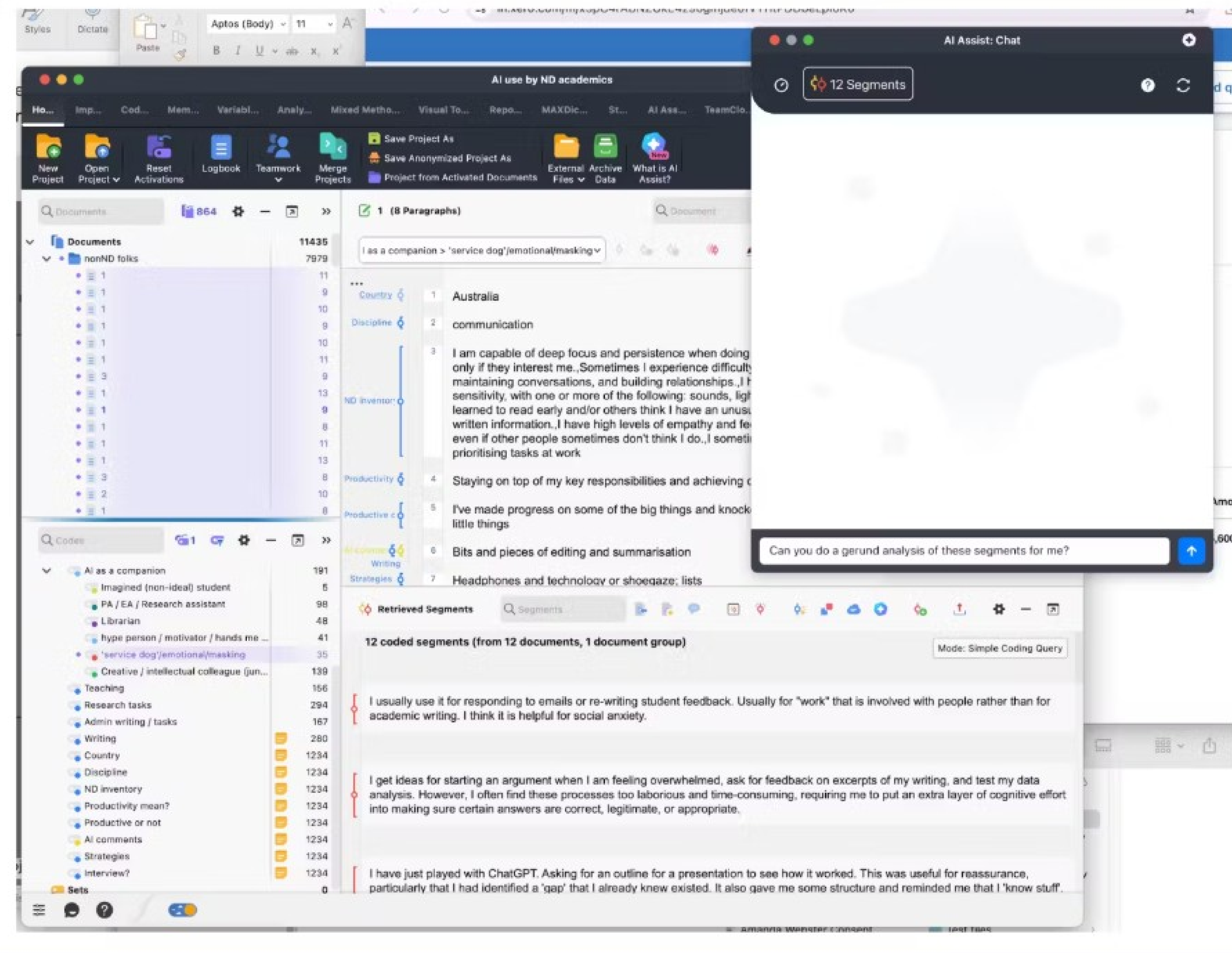
The screenshot displays the Microsoft Copilot Studio interface for creating a new agent. The left sidebar shows navigation options like Search, Chat, Agents, and a 'Create agent' button. The main area is titled 'Copilot Studio' and 'New Agent', with tabs for 'Describe' and 'Configure'. A red callout at the top states: '(This interface only available in the co-pilot studio app)'. The 'Details' section includes fields for 'Name' (set to 'New Agent') and 'Description' (placeholder: 'Describe your agent'). The 'Instructions' section has a text area with the placeholder 'Give instructions to your agent'; a red callout points to it saying 'Put your priming prompt in the instructions box'. The 'Knowledge' section includes a search bar with the placeholder 'Search by name or enter a URL'; a red callout points to it saying 'You can only point it at URLs (so, more limited training data)'. On the right, a preview window shows the agent's chat interface with the title 'New Agent' and a 'Description' field. A red callout points to the chat input area saying 'Instruct the model in the chat window'. A red callout in the sidebar points to the 'Create agent' button saying 'Your history and various 'agents' appears here'.

Microsoft co-pilot: a little bit shit, but if it's all you've got...

The screenshot displays the Notebook LM interface, which is divided into three main panels: Sources, Chat, and Studio.

- Sources Panel:** A list of 20 sources is shown on the left, including "A systematic literature review of the...", "Ableist Ivory towers - a narrative revi...", "Allowing Autistic Academics the Fre...", "Body social models of disability- Ex...", "CAPE report from Cambridge think I...", "Challenges and solutions for autism...", "College Students With ADHD.md", "College Students with ADHD and Ot...", "Critiques of the Neurodiversity Mov...", "Depression in college students with...", "Diagnostic criteria for ADHD.md", "Do Neurodivergent College Student...", "Doing it differently - emancipatory a...", "Don't mourn for us.md", and "Embracing diversity and inclusivity i...".
- Chat Panel:** The central panel displays the title "Critiques of the Neurodiversity Movement" and a summary of the sources. It includes a "Save to note" button and a "Start typing..." input field. A red annotation box points to the input field with the text: "Instruct Gemini in the chat window (you can cut and paste your priming prompt at the start of the conversation to influence its behaviour)". Another red annotation box points to the top of the chat panel with the text: "No priming prompt space, but the 'context window' for materials can take up to 500 pages of text".
- Studio Panel:** The right panel shows the "Audio Overview" section with a "Load" button and a "Click to load the conversation..." button. A red annotation box points to the "Load" button with the text: "Fake 'podcast' is a fun way to consume the materials you put in the context window". Below this is the "Notes" section with an "Add note" button and a "Save a chat message to create a new note or click Add note above." instruction. A red annotation box points to the "Add note" button with the text: "You can make new notes here".

Notebook LM from Google is a little different (but we like it)



Or AI may be built straight into the interface of existing tools

Demonstration AI powered workflows:

Photo > ChatGPT (ChattieG) > Obsidian

Photo > Claude from Anthropic > Obsidian

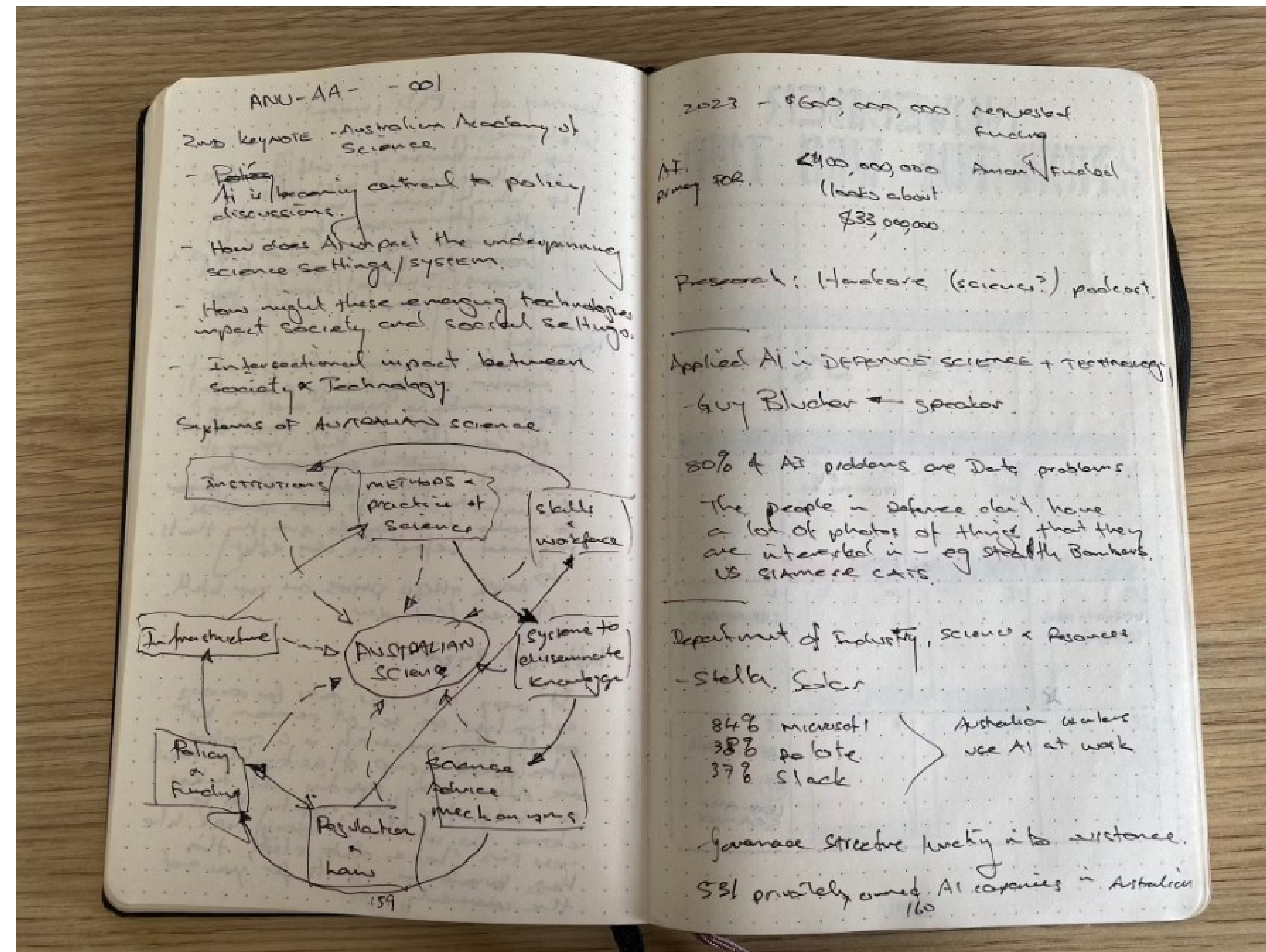
Voice Note > Google LM > Obsidian

(Zotero > Elicit > Consensus) > Obsidian > Notebook LM

Weblinks > Apple Notes smart folder > Obsidian

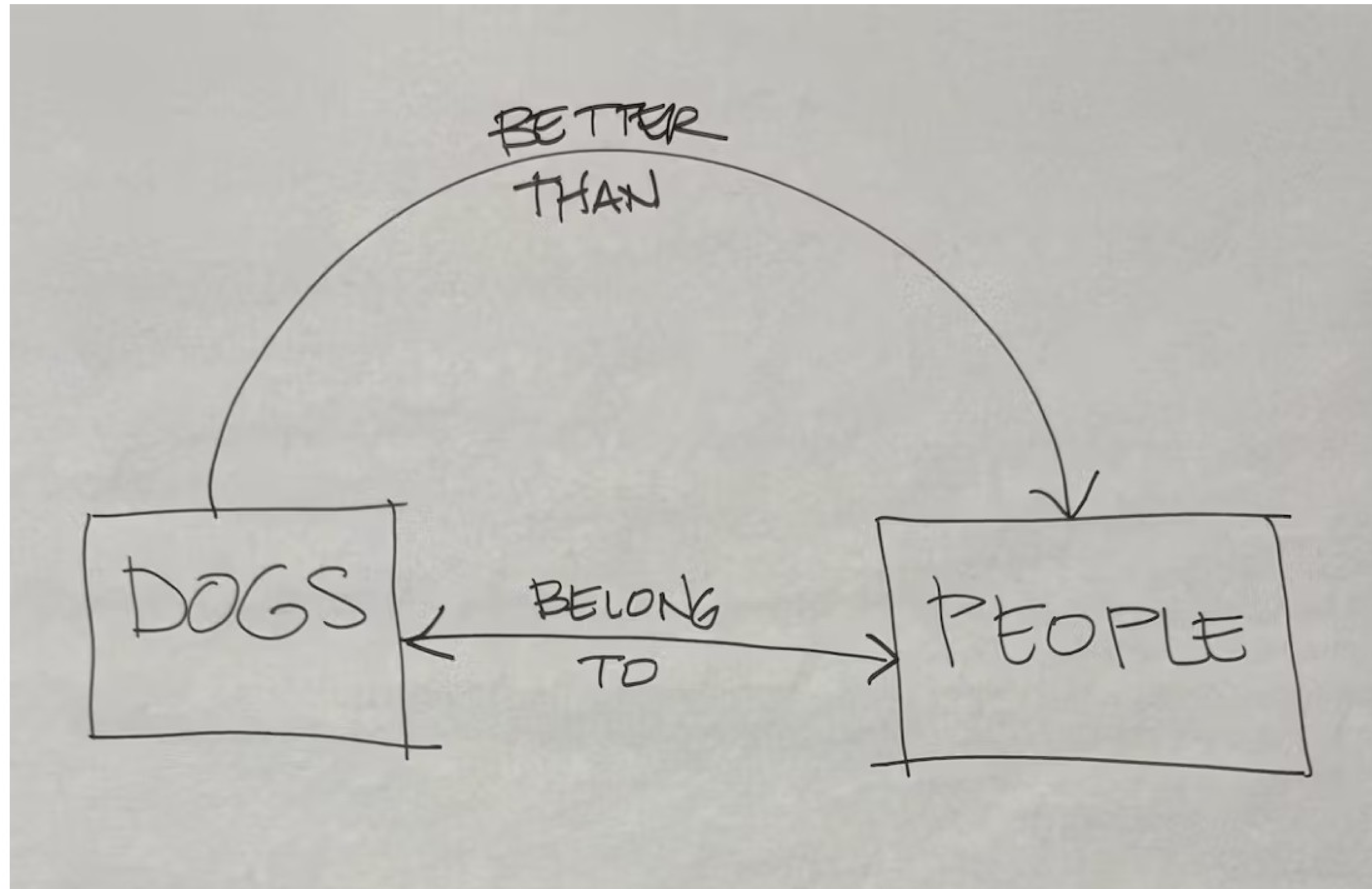
Zotero > ~~Elicit~~ > Obsidian > Notebook LM

Margin Notes > Claude > Obsidian



Photo>Claude from Anthropic>Obsidian

This doesn't look very 'digital friendly'... let's put it in ChattieG (paid version)



You can also translate diagrams to text via Claude (here's a [concept map builder](#))

The screenshot displays the Notebook LM interface for a notebook titled "Critiques of the Neurodiversity Movement". The interface is divided into three main panels: Sources, Chat, and Studio.

- Sources Panel:** Lists 20 sources, including "A systematic literature review of the...", "Ableist Ivory towers - a narrative revi...", "Allowing Autistic Academics the Fre...", "Body social models of disability- Ex...", "CAPE report from Cambridge think I...", "Challenges and solutions for autism...", "College Students With ADHD.md", "College Students with ADHD and Ot...", "Critiques of the Neurodiversity Mov...", "Depression in college students with...", "Diagnostic criteria for ADHD.md", "Do Neurodivergent College Student...", "Doing it differently - emancipatory a...", "Don't mourn for us.md", and "Embracing diversity and inclusivity i...".
- Chat Panel:** Contains a title "Critiques of the Neurodiversity Movement" and a summary of the sources. It includes a "Save to note" button and a "Start typing..." input field. A red arrow points to the input field with the annotation: "Instruct Gemini in the chat window (you can cut and paste your priming prompt at the start of the conversation to influence its behaviour)".
- Studio Panel:** Features an "Audio Overview" section with a "Load" button and an "Interactive mode (BETA)" toggle. Below this is a "Notes" section with an "Add note" button and a "Save notes will appear here" message. A red arrow points to the "Add note" button with the annotation: "You can make new notes here".

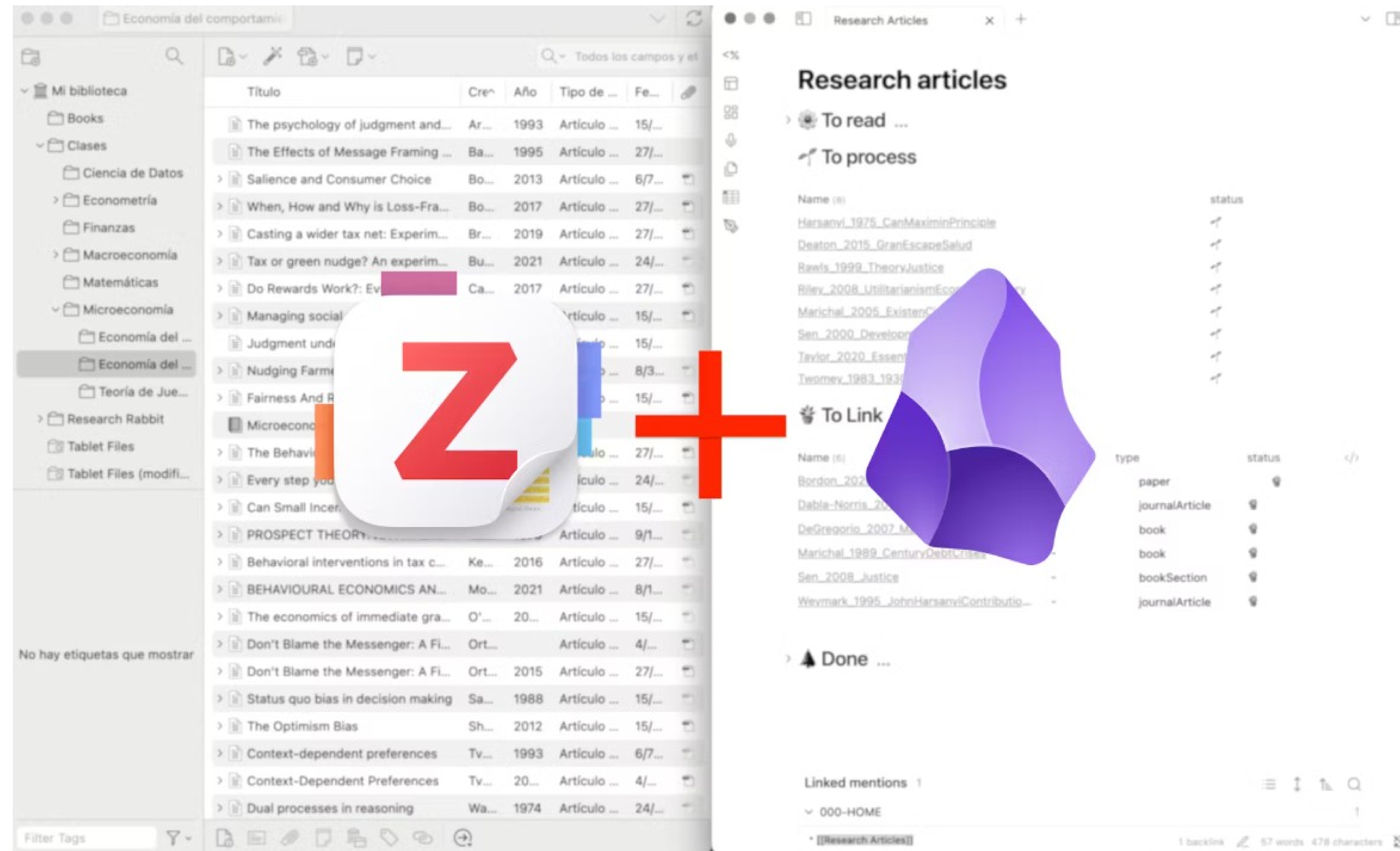
Additional annotations include:

- A red box in the Chat panel stating: "No priming prompt space, but the 'context window' for materials can take up to 500 pages of text".
- A red box in the Chat panel stating: "Fake 'podcast' is a fun way to consume the materials you put in the context window".

Let's process a voice memo in Notebook LM



Structured daily research journal and Google LM

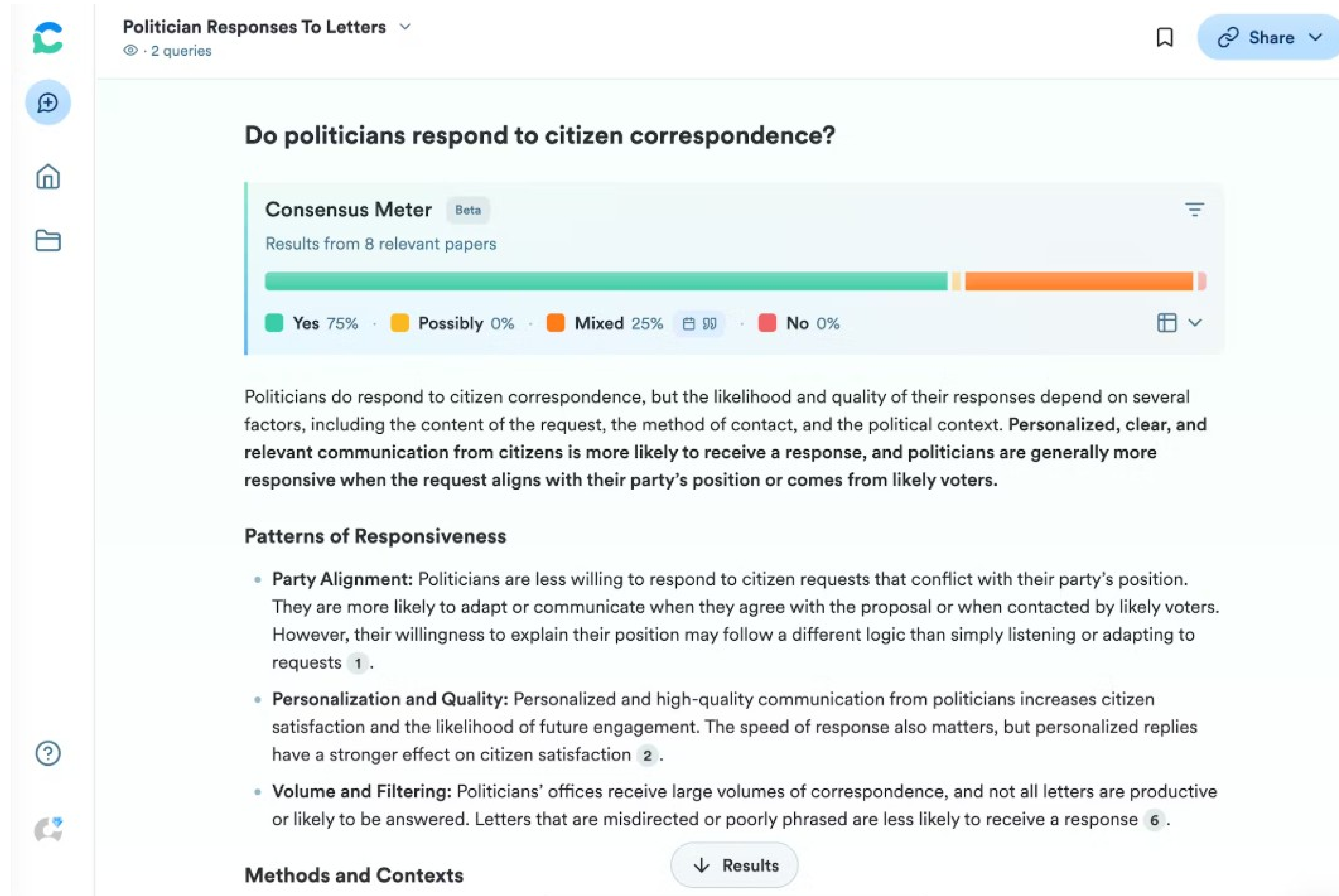


Zotero integration with Obsidian - can be a bit tricky, read this

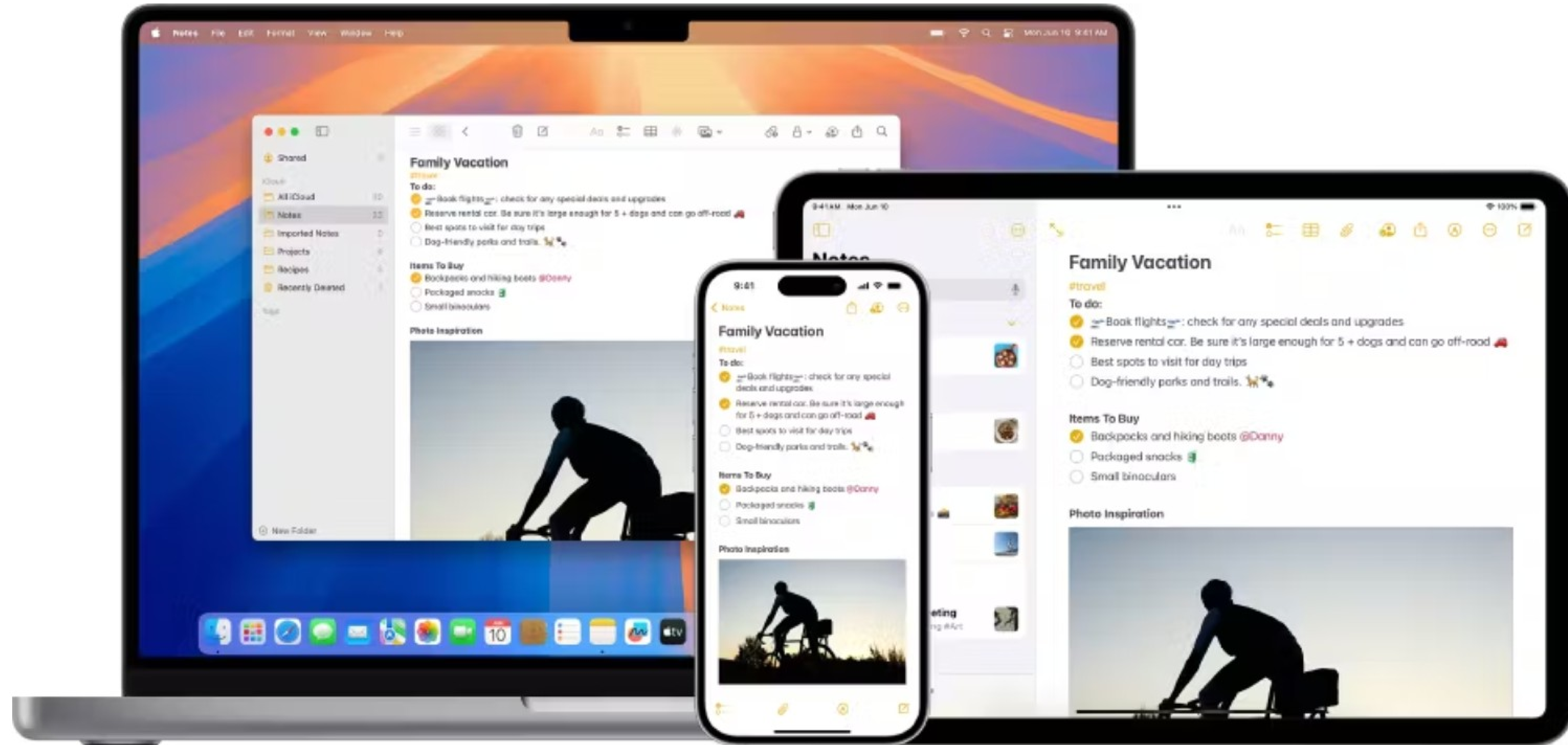
The screenshot shows the Elicit web application interface. At the top, there's a navigation bar with 'Elicit', 'Recent', 'Library', 'Help', and a user profile 'Inger Mewburn'. The main heading is 'Navigating Autism in Higher Education' with a 'Share' button. Below the heading is a search bar containing 'Extract data from papers'. A toolbar includes '+ Add Papers', 'Sort: Most relevant', 'CSV', and a checkmark with '30'. The main content is a table with three columns: 'Paper', 'key ideas', and 'Manage Columns'. The 'Paper' column lists two papers: 'Accommodation through personalisation: ensuring the autistic student has an equal opportunity for success in the PhD viva voce' by Barbara Sandland (2023, 1 citation) and 'Challenges and solutions for autism in academic geosciences' by Nicola C Taylor (2020, 3 citations). The 'key ideas' column contains numbered lists of key points for each paper. The 'Manage Columns' column has a search bar and a list of current columns: 'key ideas', 'what are the key problems that ne...', 'what about opportunities and stre...', 'idea', and 'Prevalence'. There is also an 'ADD COLUMNS' section with options like 'Summary', 'Main findings', and 'Methodology'. A teal button 'Add new step' is visible at the bottom of the 'key ideas' column.

Paper	key ideas	Manage Columns
<input type="checkbox"/> Accommodation through personalisation: ensuring the autistic student has an equal opportunity for success in the PhD viva voce Barbara Sandland +3 Journal of Further and Higher Education 2023 · 1 citation	<ol style="list-style-type: none">1. Accommodations for autistic doctoral students in the viva voce process must be personalized and based on the individual student's needs, not just generic accommodations based on the autism diagnosis.2. Uncertainty and anxiety are major challenges for many autistic individuals in the viva process, and accommodations should be made to address these issues.3. Sensory sensitivities are a common issue for autistic individuals and should be addressed in the viva process.	<p>Search or create a column</p> <p>Describe what kind of data you want to extract</p> <p>e.g. Limitations, Survival time</p> <p>CURRENT COLUMNS</p> <ul style="list-style-type: none">key ideas >what are the key problems that ne... >what about opportunities and stre... >idea >Prevalence > <p>ADD COLUMNS</p> <ul style="list-style-type: none">+ Summary+ Main findings+ Methodology
<input type="checkbox"/> Challenges and solutions for autism in academic geosciences Nicola C Taylor +1 2020 · 3 citations	<ol style="list-style-type: none">1. Diversity in academia, including diversity of disabled researchers, is important for research excellence and innovation.2. Autistic individuals have many attributes that are conducive to research excellence, but academia presents significant barriers to their inclusion and success.3. Simple strategies can be implemented to reduce or remove barriers to the inclusion and success of autistic researchers.	

Compare and contrast literature sources with Elicit

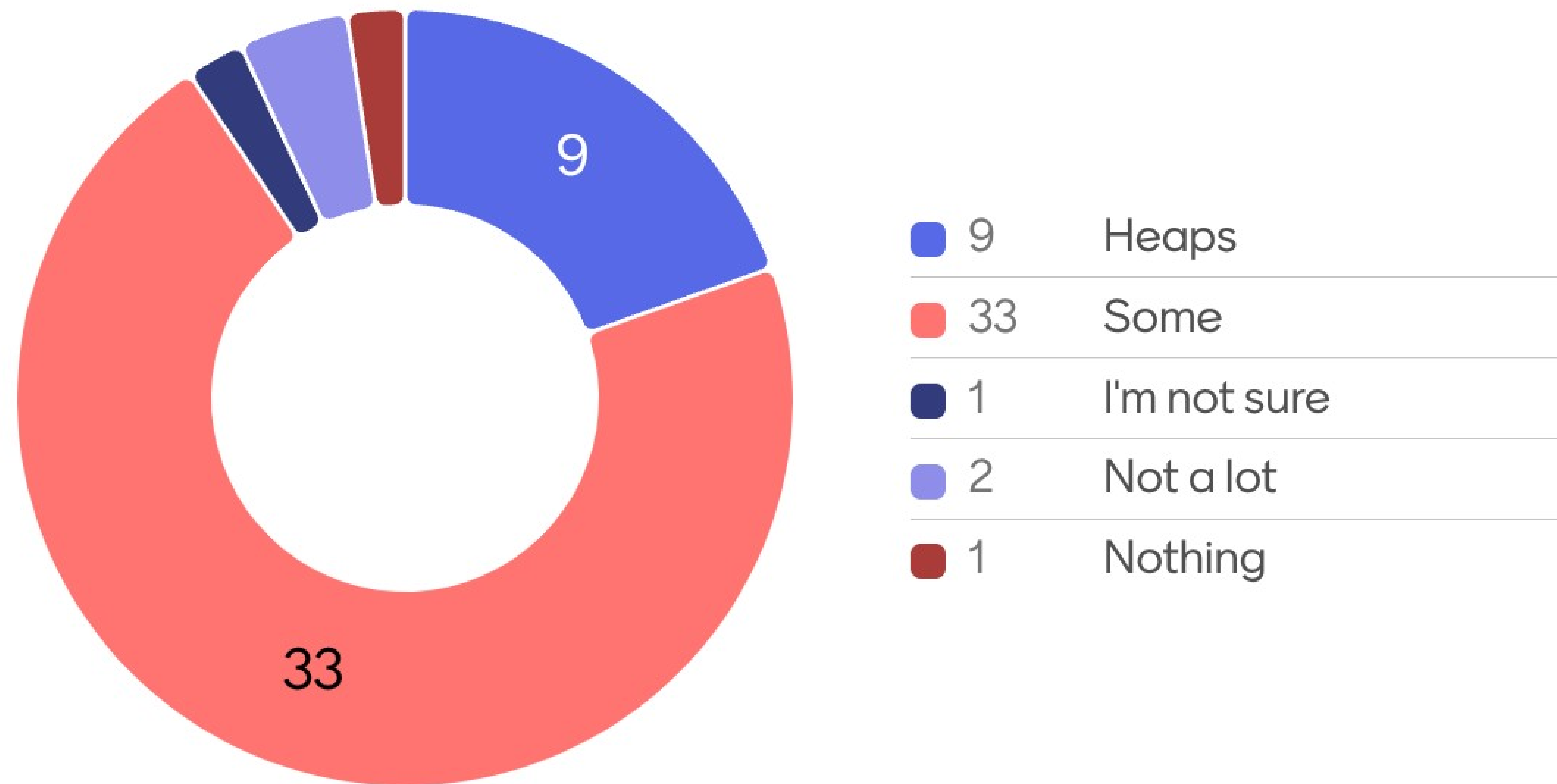


Ask the literature questions with Consensus



Weblinks > Apple Notes smart folder > Obsidian Importer

How much do you know about notetaking and AI?

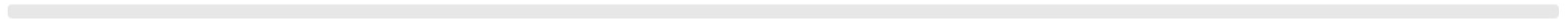


Some words to describe this session?



Would you recommend this session to others?

I would recommend this session to others



Strongly disagree

Strongly agree

6



42



Recommended Reading

How to make smart notes

Building a second brain for writing.

A system for writing

Digital Zettelkasten

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