Networked note-taking as feminist research method

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Abstract. To take note is to define what is notable—and, by extension, what is not. While scholarly literature on academic note-taking tends to focus on the representation of ideas and observations, there is little work exploring what to do with notes once they are written. This ignores how notes are always also informed by their contextual relationships, including their location and relationship to other documents. This means that note-taking is always tied up with power, informing what is worth knowing and shaping how it can be known. How can notes serve the production of socially just knowledges? And how should we organize them, especially in the virtually endless storage capacities of digital systems today? This essay positions note-taking as critical to academic knowledge production and thus a useful space for feminist methodological intervention. Contextualizing note-taking both in academic literature and in the online Personal Knowledge Management community, it outlines and visually demonstrates four key "nodes" of a networked note-taking system: atomicity, flatness, interconnection, and iteration. It argues that developing such a note-taking practice is one ordinary space where new paths can potentially emerge which challenge academic research to move towards more socially just ends.

Introduction

The banality of note-taking positions it as a practice requiring little explanation: We read something, attend a lecture, or make a research observation, and then commit it to paper (digital or otherwise), storing it for later retrieval (or not). As educators Lavinia Marin and Sean Sturm (2021) point out, note-taking is largely considered a mechanical process at best and boring and ineffective at worst. But to take note is to quite literally define what is considered notable, and, by extension, what is not (Gimenez & Pinel, 2013). These noted observations then become evidence for the claims we make. Notes may not be frequently discussed, but they are part of the very foundation of the institutional production knowledge.

Bound up with my own frustration with note-taking as a graduate student in the often interdisciplinary space of Communication Studies, I use this paper to position notes as critical media for academic knowledge production, and thus a useful object of consideration for feminist methodological intervention. To do so, I situate this piece in the existing literature on notes and note-taking as well as the contributions of the Personal Knowledge Management (PKM) online community in relation to feminist concepts of knowledge production. I then consider how notes and their organization can be used support the production of justice-oriented knowledges, outlining four intertwined concepts which shape my own note-taking methodology as well as their technical enactment in Markdown via Obsidian, the software I use to render my own notes.

While some attention has been made to emphasize the importance of producing accurate and representational notes—sometimes offering practical tips to inform note-taking practices there is little discussion about what to do with these notes once they have been produced. This gap has consequences, as the knowledge a note produces is always also informed by its contextual relationships, including its location and its relationship to other notes and ideas.

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Organizing notes into particular themes, sources, and categories via folders, notebooks, and boxes inform what kind of claims can be made with them in the first place, often siloing particular information from others. Notebooks or digital My Documents folders—shared or private—are thus similar to institutional archives in that they are always tied up with power: They inform what is worth knowing and shape how it can be known (Schwartz & Cook, 2002). How can we take notes to serve a commitment to producing socially just knowledges? What do we choose what to include in these notes? And how should we organize them, especially in the virtually endless storage capacities of digital systems today?

Notes are rarely framed within the context of social justice but they can inform the collection, synthesis, and retrieval of knowledge, especially in research contexts. This makes note-taking foundational to academic knowledge production and thus worth considering critically in our everyday work. Developing a networked note-taking system, I argue, presents one ordinary space where new paths can potentially emerge which challenge the "default setting" of academia towards more socially just ends (Ahmed, 2019, p. 160).

Notes as representations of knowledge

Most of the literature on note-taking focuses on writing individual notes on a particular topic, usually with an emphasis on their use as memory aids. Historian Ann Blair (2010) argues that European note-taking used to support long-term memory emerged in the Renaissance, where notes were often collected, reviewed, and shared with others. The emphasis on sharing and collaboration and the genre of reference books which emerged from these practices shifted note-taking methods to become a generally standardized in the early modern era (Blair, 2010). This includes not just the content of notes but also their organization, as the collection of many-authored notes requires clear headings and the use of finding devices to locate any particular

information (Blair, 2010). Note-taking was largely considered a research tool, however, and students in early universities largely did not take notes in lecture contexts (Clark, 2008; Marin & Sturm, 2021).

Today, note-taking has become an encouraged practice for students, although Blair (2010) argues that note-taking is now "more idiosyncratic to each note-taker" (p. 63). This is supported by some research on student note-taking which suggests a lack of systemic note-taking practices among post-secondary students (Morehead et al., 2019). Further research strives to remedy this issue by offering practical tips note-takers can apply to their own practices, which includes a sub-genre of instructional guides aimed at students (see Broadwater, 2003; Perry et al., 2018; Rohde, 2013). The most common assertion, however, is that taking good notes is not necessarily about being systematic but most importantly about representing that which is being noted as accurately as possible (Gimenez & Pinel, 2013; Tinny & Nhamo, 2013).

This emphasis on representational accuracy is important in all contexts. As representations, notes stand in for the object of study and are used to inform subsequent analysis of that object once it is no longer within view. The question thus emerges about how to ensure representational quality of notes, with some suggesting the introduction of visual, audio, and audiovisual media to capture information without requiring the researcher to discern what is or is not noteworthy in the moment (Tinny & Nhamo, 2013). This attempts to remedy the problem of representative accuracy through the inclusion of more forms of representation, a critical issue for empirical research. At the same time, however, it is also important to emphasize the researcher's always inextricable role in the knowledges which their notes come to construct as they are the one who chooses what is or is not notable. This emphasis is commonly found in feminist

research approaches, which recognize the constitutive rather than representational role notetaking plays in the production of knowledge.

Notes as constructions of knowledge

As a form of writing, note-taking is an inherently creative act, always involving thought rather than simply representing it (Gibbs, 2007). This suggests that representational accuracy should not be the sole goal for good note-taking as it ignores the role of the researcher in their observations and the knowledges they produce (Gibbs, 2007).

This assertion follows the central claims of feminist thought which challenges the notion of objective knowledge. Feminist theorists have long been concerned with the relationship between ontology and epistemology; that is, how people producing knowledge come to inform these knowledges (Gunaratnam & Hamilton, 2017; Hemmings, 2015; TallBear, 2014). For example, social theorist Patricia Hill Collins (1989) argues that the exclusion of Black women from education, literacy, and jobs has led to tendency of white men to control the process of knowledge validation. This contributes to a teleological argument where the dominant group is convinced of *both* Black and female intellectual inferiority, suppressing the legitimacy of Black feminist in institutional spaces. In response, feminists have pushed to legitimate experiential and embodied knowledges in institutional spaces, developing and adding on to theoretical frameworks like standpoint theory (Hartsock, 1985), sitpoint theory (Garland-Thomson, 2002), and situated knowledges (Haraway, 1988), each of which varyingly stresses the importance of intersectional, embodied positionality in the production of knowledge.

These theories rest on the notion that research and researchers, like all aspects of knowledge production, are always already entangled (Gunaratnam & Hamilton, 2017). Method is thus inseparable from both the research problem and the researcher, shaping

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questions, problems, and solutions in its enactment. Good research involves acknowledging these messy entanglements and multiplicities, reckoning with our own positions and knowledges as well as the knowledges of those around us. Reflecting on the always situated nature of writing, Communication Studies scholar Anna Gibbs (2007) thus argues that writing is "a mode of inquiry in its own right" (p. 222) which does not just *support* various research methods but should actually be framed as *a method in itself*. This makes writing notes a methodological process:

Writing, then, cannot be a methodological 'tool' in any simple sense. It is, rather, a process, implicitly dialogical, in conversation with the world, with other writing, and, reflexively, with itself. It is this very means of procedure – a turning and returning – that characterizes it as an affective methodology. (Gibbs, 2007, p. 224)

By focusing on writing notes as not just a tool but a method which always involves the writer as a part of what is written, Gibbs emphasizes research as a creative rather than descriptive process. This shifts the emphasis of notes as a *support* for research into a *direct* form of research, a shift which is reflected in work attuned to feminist values. Is not uncommon to now find research which includes vignettes of personal field notes, journals, and even poetry stemming from a variety of fields and research topics (e.g., Stewart, 2007; Stryker, 1994; Van Wyck, 2010). These works bring the situated knowledge of the researcher into their research, legitimizing lived experience as a valuable form of academic inquiry and thus contributing to the growing diversity in institutional knowledge production.

Notes as structures of knowledge

Whether understood as materializations of memory or the process of situated thought itself, notes do not stand alone: They are always in relation to other thoughts, ideas, and observations. These relationships are always shaped by power, meaning that feminist note-taking must go beyond the contemporary emphasis on note contents to consider the broader system which places notes in context with each other and structures their retrieval.

For example, institutions such as museums, libraries, and archives use organizing tools and techniques such as collections, databases, lists, maps, catalogues, and indexes all contribute the meaning of their written contents. Archives do not simply document the past: They actively shape the construction of the past—of cultural memory—by the way they store and present different forms of information (Schwartz & Cook, 2002). The placement of one record next to another offers evidence of a shared context and begins to piece together a story which is as much formed by what is present, where, as what is not present at all (Vismann, 2008). Rather than offering a guide to finding pearls of meaning, the organization of this information is part of the very production of such knowledge—be it within the fonds of an archive or the My Documents folder on a personal computer (Gitelman, 2014).

Turning critically to note organization over note content is not by any means new: Historical studies of early modern European scribal practices emphasize the role of organization over content, turning to indexes, topic-specific notebooks, and even cabinets of keyword slips as solutions to finding information amongst the vastness of one's notes (see Blair, 2010; Soll, 2010). In comparison, however, most contemporary literature on note-taking takes their organization as a given, perhaps due to the reliance of computers on deep folder structures and the availability of keyword searches, tagging, and flexible file ordering. These tools are undoubtably useful for note organization. Still, the lack of attention to the need to clearly connect notes prevents cross-fertilization of ideas between subjects, disciplines, sources, and moments.

The zettelkasten—a series of slip boxes containing notes on index cards—is a popular approach to the problem of note organization. Media historian Markus Krajewski (2011) traces a genealogy of zettelkasten as "the scholar's machine" (p. 50) by drawing on 18th century German jurist Johann Jacob Moser's descriptive use of zettelkasten to generate writing. Moser attributes his prolific (500+) publication record to this method, which includes writing short notes on small slips of paper, filing them in boxes by theme, and then removing them and reorganizing them to form his writing. Krajewski argues that the crux of the zettelkasten is in the way it affords a personalized cross-referencing system, "a kind of argumentative surplus that is the true value added of a box of index cards, while incessantly helping the reader fix his or her [sic] impressions and associations" (p. 65). He suggests that the value added by cross-referencing principle of Moser's zettelkasten was an inspiration to other writers such as Hegel, who describes the absolute spirit as a "hidden box of index cards" (as cited in Krawjewski, 2011, p. 57) due to the way the spirit vanishes within a chain of references. The additional value emerging from the zettelkasten's cross-referencing technique brings Krajewski to argue that the zettelkasten is not simply an index tool but a *writing* tool, enabling novel connections between thoughts as opposed to the referential role of a library catalogue.

1950s German sociologist Niklas Luhmann is commonly cited as relying heavily on his own zettelkasten in the production of his prolific writing. Where Luhmann's contribution to the system lies is in his use of numbers, letters, slashes, and commas to refer to individual notes' positions within the larger system (Ahrens, 2017). This approach allows notes' labels to be endlessly expansive, meaning that Luhmann could organize them contextually and always knew

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their location within his ever-expanding information system. Further, since these labels did not shift as new notes were added to the system, he could also reference existing notes in different areas of the system. Through this ever-expanding reference system, Luhmann created a web of knowledge which "very much resembles, of course, the way we use hyperlinks on the internet" (Ahrens, 2017, p. 24)—an anachronistic analogy which brought Daniel Lüdecke to develop a free software in 2015, titled Zettelkasten, which digitizes Luhmann's process. Rather than cards in a slip box, these notes are now housed in the binary code of the hard drive.

This attention to digital note-taking has spurred the creation of a loosely-termed "PKM" (Personal Knowledge Management) scene online. The PKM community is rich for its experimentation and openness to knowledge sharing, and I owe much of my thinking on networked note structures to the many individuals contributing to digital note-taking methods and methodologies. There are YouTube channels, forums, and blogs dedicated to not just taking notes, but to developing and maintaining note-taking systems (e.g., Dubois, n.d.; Jenks [@BryanJenksTech], n.d.; *R/PKMS*, n.d.). In these spaces, professionals, students, and academics exchange methodological principles for note-taking, experiment with new note-taking software, and sometimes even contribute the creation of such software if they are free and open source.

In its emphasis on note-taking strategies, however, PKM tends to focus on individual productivity as the ultimate measure of a note-taking system rather than any consideration of the types of knowledge these systems might help produce. For example, the fact that Luhmann wrote over 50 books and over 500 journal articles in his 30-year career using his note-taking system is often cited in PKM spaces (Ahrens, 2017), but there are few if any discussions about Luhmann's qualitative contributions to his field. The tendency for PKM to glorify productivity via

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technological means echoes the way digital technologies are largely shaped by neoliberal narratives which treat the internet as a space of profound egalitarianism, despite the dependency of contemporary communications infrastructure on global racial capitalism (Noble, 2016). While the free and open source software developed by members of the PKM community is helpful for many, little has been theorized about who and what these systems can be useful *for* outside of a general appeal for neoliberal productivity.

This is not to say that there is no opportunity for feminist interventions into digital notetaking technologies, however. Describing how database organization is critical to the access and distribution as well as autonomy and privacy of the information it contains, Communication Studies scholar Cait McKinney (2020) outlines a history of feminist "information activism":

This concept brings together people, their visions of justice, and the media they use to organize, store, and provide access to information, a relationship that is key to understanding feminism's role in histories of commonplace technologies such as computer databases. (p. 2)

Inspired by this history, I see an opportunity to bring a vision of social justice to the networked note organization strategies emerging from PKM. These strategies offer alternatives to the critiques launched against folders and files, bringing notes out of artificially imposed hierarchies and into an always-relational network to bridge disciplines and integrate situated knowledges in a variety of media forms.

Four nodes of a feminist note-taking methodology

Considering the varying conceptualizations of notes as representations, constructions, and structures of knowledge in relation to feminist epistemological concerns, I return to my original

question: How can we take notes committed to producing socially just knowledges? In the remainder of this essay, I name four brief concepts foundational to a feminist note-taking methodology. I call these nodes to reflect their relationality, as no one concept is more important than the other. They are all required to work together to establish a feminist note network.

While it is possible to enact this system using analog means (as Luhmann and Moser demonstrate), I use digital technologies to enact this system. This includes writing notes in Markdown, a human-readable language which enables heading structures and basic text formatting like italics, bold, links, and blockquotes. Critically, Markdown enables not just hyperlinks to outside resources but also links between other Markdown files.¹

While Markdown is human readable, it requires software to render its links and formatting. Consider software a window through which notes written in Markdown can be read, edited, interacted with, and navigated between. The software I use for note-taking and is subsequently used in my visual examples is called Obsidian. Obsidian is a robust, local, and free software which renders Markdown. One especially useful aspect of Obsidian is the ability to render a list or graph of all files which link to another. This allows the user to navigate both forward and backward through their linked notes. In my eyes, however, the primary advantage of Obsidian is that the files it renders are entirely local. This means that Obsidian requires no internet connection and is therefore much more reliable and secure than cloud-based note-taking systems. Obsidian is used by many in the PKM community and has a multitude of community-made plugins which can adapt the software to fit individual needs.² Of course, since Markdown

¹ For details on Markdown syntax, I recommend visiting Markdown Guide (Cone, 2022).

² I also recommend visiting both Obsidian's official documentation (Obsidian.md, n.d.) and checking out Obsidian-specific PKM community resources. Obsidian's YouTube playlists of various community video walkthroughs of the software (@obsdmd, n.d.), the Obsidian subreddit

is not linked to a particular software, it is relatively simply to move one's notes to another rendering software if Obsidian stops being supported or useful to you.

Last, the ideas in these nodes draw on strategies outlined by several thinkers working and sharing in the PKM scene, many of whom offer their own principles and guides to note-taking. Importantly, however, there is no distinct "right way" to take notes: Note-taking systems are unique to the individuals writing and reading these notes, their intended uses, and the underlying technologies available. Feminist perspectives on methods echo this notion, stressing the importance of context and social location on research processes (Gunaratnam & Hamilton, 2017). These methods are no exception. I hope, however, that it can encourage other students and researchers to critically examine the impacts of their own note-taking practices on their work, and perhaps inspire the development of additional note-taking methodologies which hold social justice at their core—producing new and varying methods I hope will also be shared with others.

Node 1. Atomicity: Write notes to include only one key term or idea

Establishing a networked note-taking system requires reconceptualizing what makes up a note. Primarily, we are concerned here with notes which contain ideas: Notes on other types of information such as biographical data or shopping lists are not necessarily the most useful within the network (although biographical data can be usefully linked to particular ideas as a form of citation). Critically, however, these ideas can and should come from a variety of sources. Taking

⁽*R/ObsidianMD*, n.d.); and the Obsidian Roundup newsletter (Konik, n.d.) are also good places get started.

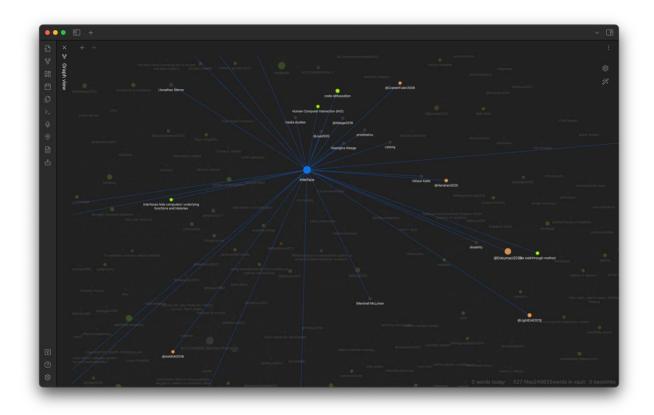
note of the ideas we encounter in our day-to-day life, not just academic literature, is an important way to diversify the knowledges we produce.

Working with ideas is where the strength of the network happens (see Figure 1). Unlike traditional idea-notes where one note is meant to capture the entire context of a reading, lecture, or observation session, however, networked note-taking relies on other notes for context. This means that individual notes are much shorter than traditional notes and are meant to capture one clear idea, or what Christian Tietze (2013) describes as atomicity, where the note-taker must keep relevant notes close together, but ultimately "separate concerns from one another"—a concept which he derives from software engineering (para. 24). Andy Matuschak (n.d.-b) adds that atomicity is useful because it makes connections across notes much more specific.

Atomicity can be difficult to enact because it requires drawing boundaries around what makes up a complete idea, a concept which has blurry boundaries to begin with. Overlyatomized notes do not stand on their own and require too much traversing across the system to understand, while notes which are not atomized enough are difficult to link to others. In general, however, it is helpful to keep in mind that iteration (Node 4) encourages reviewing and revising notes as they are added to the system, presenting an opportunity to grow or divide a note as appropriate.

Figure 1

An atomic note in relation to others



Note. A screenshot of my notes rendered through Obsidian's graph view. The highlighted node is a note titled "interface" and each line represents a link to another note.

Node 2. Flatness: Store notes in as few containers necessary

Whether working on a computer or on paper, typical file structures rely on folders and subfolders to organize information. A folder, notebook, drawer, or box all act as containers for similar notes, the common thread between them defined by the filing system. These categories are usually determined by either the notes' intended use or the context of its collection: Students may label these containers temporally and thematically by course and/or semester, for example, and researchers often use labels informed by a topic, field, theme, or project.

Category containers like these are quite useful in that they divide large volumes of files into smaller, contextual groups, making them much easier to find. One practical downside with containers is that they do not scale. Too many files in one folder may not only be physically unwieldy, but it quickly returns us to the original problem of having too large of a volume of files to give any of them context or even be findable without a robust search tool. Another downside are the impacts of folder hierarchies on knowledge production, a concern explored above: The context that containers provide necessarily informs the meaning of the notes they hold. A note filed under one course code or field, for example, will always be understood in relation to that course or field, and the other notes generated from the course or field. This prevents the cross-fertilization of ideas across the boundaries by which they are filed, meaning not only that it is more difficult to generate new ideas from your notes, but that you also risk duplicating work you have already done, just in a different context.

Putting notes in one container or foot folder (see Figure 2) may seem to risk losing them in a disorganized mess, especially when since atomized notes increases their volume. However, a digital system means that search and metadata filtering and ordering such as file name, data added, date modified, and file type can be useful to track down specific notes. Most importantly, flatness works around the siloing of notes into externally imposed categories. Flattening instead encourages ideas to find new context amongst themselves, enabling the generation of new and unexpected ideas, leading us to Node 3: interconnection.

Figure 2

Storing notes in the root folder

••• < >	8 ≔ 0) 🛄 🚟 ×	₾ ⊘	
Folders	Date A	dded 🗸 🛛 Date Modified	Size	Kind
Documents				
📄 @Berlant1998.md	2023-	02-22 2023-02-25	5 KB	Markdown Text
] @Hendren2020.md	2023-	02-21 2023-02-22	2 KB	Markdown Text
📄 shrinkage.md	2023-	02-21 2023-02-22	1 KB	Markdown Text
📄 habitus of ableism.md	2023-	02-21 2023-02-22	629 bytes	Markdown Text
] access intimacy.md	2023-	02-21 2023-02-22	512 bytes	Markdown Text
] @Dokumaci2023.md	2023-	02-21 2023-02-22	5 KB	Markdown Text
@Foucault1977.md	2023-	02-15 2023-02-15	822 bytes	Markdown Text
📄 transgression.md	2023-	02-15 2023-02-15	632 bytes	Markdown Text
] suicide.md	2023-	02-15 2023-02-15	508 bytes	Markdown Text
📄 materiality.md	2023-	02-14 2023-02-14	347 bytes	Markdown Text
] platform.md	2023-	02-14 2023-02-14	408 bytes	Markdown Text
📄 mediation.md	2023-	02-14 2023-02-14	231 bytes	Markdown Text
📄 identity modulation.md	2023-	02-14 2023-02-14	296 bytes	Markdown Text
📄 instrumentalism.md	2023-	02-14 2023-02-14	293 bytes	Markdown Text
📄 technological determinism.md	2023-	02-14 2023-02-14	411 bytes	Markdown Text
📄 @AshEtAl2018.md	2023-	02-12 2023-02-14	4 KB	Markdown Text
📄 imagination.md	2023-	02-10 2023-02-21	1 KB	Markdown Text
@NagyNeff2015.md	2023-	02-10 2023-02-21	5 KB	Markdown Text
📄 non-knowledge.md	2023-	02-08 2023-02-08	251 bytes	Markdown Text
📄 @Bataille1986.md	2023-	02-08 2023-02-08	794 bytes	Markdown Text
📄 methodology.md	2023-	02-07 2023-02-07	307 bytes	Markdown Text
📄 linear regression.md	2023-	02-07 2023-02-07	585 bytes	Markdown Text
📄 Kuhnian paradigms.md	2023-	02-07 2023-02-07	689 bytes	Markdown Text
📄 strategic agnosticism.md	2023-	02-07 2023-02-07	434 bytes	Markdown Text
📄 signal definition.md	2023-	02-07 2023-02-07	289 bytes	Markdown Text
📄 cybernetics.md	2023-	02-07 2023-02-07	535 bytes	Markdown Text
] black box.md	2023-	02-04 2023-02-07	3 KB	Markdown Text
📄 @Latour1987a.md	2023-	02-04 2023-02-07	5 KB	Markdown Text
📄 technological stabilization.md	2023-	02-03 2023-02-03	610 bytes	Markdown Text
alocura machanism md	2022	<u>vo_vsovos_vo_vv</u>	2 10	Markdown Toxt

Note. A screenshot of my notes as rendered by my computer's file manager rather than Obsidian. While I do use some folders to organize different note types (such as journal entries and templates), all literature notes (demarcated by the "@" symbol in their name) and idea notes are included in the same root folder regardless of their topic or field, relying on the interlinking of their contents rather than their placement within the system.

Node 3. Interconnection: Link notes liberally

Refusing to rely on containers or long-winded details to organize and contextualize our notes means we must instead turn to the use of *other* notes to function in these capacities. This means linking notes liberally to create flexible and perhaps even novel contexts for ideas and concepts (see Figure 3). As Matuschak (n.d.-c) writes, "If we push ourselves to add lots of links between our notes, that makes us think expansively about what other concepts might be related to what we're thinking about" (para. 1). Not only does this mean our notes become non-hierarchical and non-linear, but it also enables a profound creativity in our writing which can lead us to unexpected places for research. This creativity is critical for social justice-oriented research. As TallBear (2014) argues:

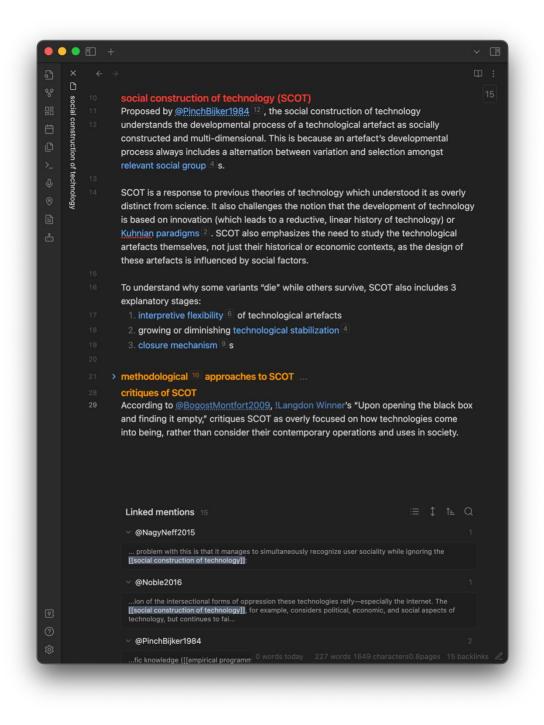
It is also helpful to think creatively about the research process as a relationshipbuilding process, as a professional networking process with colleagues (not "subjects"), as an opportunity for conversation and sharing of knowledge, not simply data gathering. Research must then be conceived in less linear ways without necessarily knowable goals at the outset. (p. 2)

Here, TallBear is referring to the relations of researchers and other people involved in research, but as Gibbs (2007) argues, relationships can manifest in our notes, too. Notes are not just for recording observations from the field and literature reviews but also for recording interesting conversations and other nontraditional sources of knowledge. Linking these notes together introduces the validity institutional knowledge requires with the multitude of knowledges it frequent excludes.

The foundation of Luhmann's system involved finding ways to link notes via analog mean. Markdown, however, is a language which formats plan text and enables linking between files. Simply encasing a text string within square brackets transforms it into a link to any other note within the container which shares the string as its title. This allows us to make a link to another idea within a sentence, much like the links found on Wikipedia.

Figure 3

A note with links



Note. This brief note offers an overview of a theoretical model with additional key concepts (e.g., relevant social group, Kuhnian paradigm, interpretive flexibility) and literature (e.g., Pinch

& Bjiker, 1984; Nagy & Neff, 2015; Noble, 2016) linked through out in blue text or under "Linked mentions," a list of notes which link to this note (also known as a backlink).

Node 4. Iteration: Review and re-evaluate notes periodically

A note is not necessarily complete once it is written. Future information may come to shape a note slightly differently or encourage it to be merged with another note—or atomized (Node 1) into further notes. Notes in a networked note-taking system are living ideas, and should be reviewed periodically to ensure they still fit your needs.

The liveliness of notes and the need to maintain them brings a number of PKM contributors to use gardening metaphors to describe their networked note-taking systems (see Ang (2021); Matuschak (n.d.-a)). I hesitate with the naturalization of knowledge some of these metaphors imply, which risk ignoring that knowledge as always socially produced and situated. They do, however, usefully demonstrate the value of tending to your note-taking system. The system should serve its users,³ and if it becomes unwieldy, it should be adapted. Often, PKM community members have already developed solutions to particular issues—Nick Milo (n.d.), for example, suggests creating specific "Map of Content" notes which contain no ideas but instead indexes related notes to view them all from a macro perspective. An attention to scalability and implications for social justice should continue to be centered, however. Regularly reviewing notes and their connections is a useful way to ensure they meet our research needs, with the added benefit of bringing older notes back to mind to develop future connections.

³ Although Obsidian renders local Markdown files, saving these files on cloud storage allows others to contribute to the note-taking system as if they were also local on their own machines. Andy Roddick (2022), for example, demonstrates sharing a networked system with his students for collaborative note-taking throughout the semester.

Conclusion: Adopting a feminist note-taking system

Notes are generally considered important (if dull) aspects of learning and research (Gimenez & Pinel, 2013; Morehead et al., 2019; Tinny & Nhamo, 2013). Most methodological approaches to note-taking, however, focus on the representational or constitutive role of individual notes in the knowledges they produce. And while some analyses of institutional knowledge management critique a lack of attention to the always-present power dynamics of file organization (Gitelman, 2014; Schwartz & Cook, 2002; Vismann, 2008), these critiques have not been explored in relation to personal note-taking methods. The growing PKM community, on the other hand, emphasizes the importance of structure in the production of knowledge via notes (Ahrens, 2017), but tends to avoid considering who these knowledges serve or thinking critically about the types of neoliberal subjects their rhetoric produces. Alongside these explorations of the role of notes and files in knowledge production, feminist theorists continue to urge that we critically consider how hegemonic power structures shape what knowledges are knowable by whom (Garland-Thomson, 2002; Haraway, 1988; Hartsock, 1985), their accepted validity (Hill Collins, 1989), and who benefits from them (TallBear, 2014).

Bringing these bodies of work together, we can see that establishing a note-taking practice is one space where feminist practices can be enacted in the effort to produce more socially just research. My feminist note-taking methodology is my own effort to do so, using atomicity, flatness, interconnection, and iteration to find novel connections between unexpected sources. It is no small feat to adopt a new note-taking system. Not only does this approach encourage rethinking exactly what a note should be, but it also requires getting to know new software. This is compounded further by the way that a network of notes relies on note volume as well as to note quality. Reaching this critical mass can be daunting, but is incredibly

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rewarding: As the volume of notes grows, new patterns emerge which would have been easily overlooked otherwise—and once recognized, these patterns become easy motivators to continue maintaining a note-taking system, rewarding not just for the new ideas they can bring to light but also their potential to challenge the status quo of institutional knowledge production and support underrepresented voices.

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