

Finding Meaning and Understanding *Non-Organized Thought (Thought Disorder)* from Within

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Learning objectives

1. Think about how to define *Non-Organized Thought (Thought Disorder)** and why it's a difficult question
2. Understand first-person experiences of *Non-Organized Thought*
3. Think about how to find meaning in people's speech who seem to exhibit *Non-Organized Thought*

*I want to note that I am using the term “*Non-Organized Thought*” as a substitute for “*Thought Disorder*”, even though the latter is more familiar, to try to avoid clinicalizing or pathologizing.

**Throughout this talk I will have a slide in the same color as this one where I invite the audience to share their views to questions I pose.

***In order to have time to have this be interactive, I included as many slides as are in my talk, in the Addendum of these slides. You can look at the Addendum if you wish to learn more on each of these three learning objectives or are comfortable with “clinicalizing” framing, which I believe despite their limitations still offer some neurobiological truths that could offer a variety of solutions if offered carefully to people. I am also happy to talk about anything in the Addendum if time permits/there is interest.

Learning Objective 1: Defining *Non-Organized Thought* - what is it, and what is it not?

What *Non-Organized Thought* “is”

What is *Non-Organized Thought*?

- By nature, difficult to index, as people's inner experience is hard to capture*
- **“Disorganized” speech** is a clinically accepted indicator of *Non-Organized Thought*
- What *Non-Organized Thought* is *not* gets into content that is in the Addendum as it may rely on clinical framing
- Often **overused, pejorative tropes** drawn **from** the **extreme ends** are **provided as sufficient substitutes of understanding of *Non-Organized Thought***. These include:
 - “Some sky create tomorrow headphone”
 - "The next day when I'd be going out you know, I took control, like uh, I put bleach on my hair in California"
 - **From clinicians: “You *just* can’t follow what they’re saying!! They talk rapidly about butterflies, the meaning of life, dogs, what they ate for dinner. They’re aBSoLuTeLY incOMpreHensible!!”**

*** Later on in the presentation I discuss many efforts by researchers, notably Professor Russell Hurlburt, which have gone unnoticed, but are high fidelity ways of capturing inner experience

Learning Objective 2: First person experiences of
Non-Organized Thought

How I experience *Non-Organized Thought* cognitively (with ‘translations’*)

*I “translate” my originally described phenomena to easier to understand language. I also acknowledge this may compromise *meaning*. I encourage to read and process the raw excerpts if you have time.

General cognitive interference when trying to focus/recall info

“noticing more cognitive interference -- say when I try to recall details about the confidence intervals I hear some fragments of song in my head. So let's try again. Words come in, like ‘prototypical, Acheulean, Neanderthalic’, from a lecture I watched a few hours back, coming into my head. really smart. Jolts to a song with ‘lalala i just can't get you out of my head’...jumps back to the thread..”confidence intervals endpoints are stochastic, in the frequentist scenario”.. From all this I realize, the human mind is not designed to have catchy tunes in the head, along with recollections about the possibly affective stance of a person experiencing the same situation that we are, all at the same time we are trying to process the information in a situation..? that this is a limitation of the human mind that no one can explain well..”



"I have intrusions while I'm trying to learn statistics featuring random music or details from a lecture I watched about ancient humans. My mind jumps back and forth between these topics. I come to the frustrating realization that my mind isn't designed to handle such a high level of parallel processing across very different contexts."

General associativity (not including when my own thoughts' shapes are used as associative cues, aka no 'metacognitive' observer causing the excessive associativity)

"As I flicked my wrist in a direction I heard a tap in my head -> the wrist flick was in the direction of my phone and so I checked some messages -> something about the idea of checking messages reminded me of a song I liked -> I remembered a past context I heard the song in -> thoughts jumped to seeing a car outside with two bumps and thought of mickey mouse -> saw a flashback of an old 90s style mickey mouse outfit -> remembered where i had seen such an outfit on the bottom of a potpourri container, at my old house -> this reminded me of my old house where there was a moth on the wall that scared me -> i saw an imaginary moth in my mind's eye open its wings and saw golden circles on their wings -> i was swept into the circle and was reminded of the movie The Ring"



"Sounds in my environment, along with the songs they trigger as memory cues and the visuals associated with them, can put me into a hyper-associative mode of processing."

Excessive meta-cognitive associativity (of thought content, associated emotion, or my own affect)--leading to excess perspective switching

“to make this more clear, what happens to me at least is a reverse mirroring process: i start to notice my own mental state like “chantal is reading a sentence of a book”..much like many other people have read things and focused, but the fact that she becomes aware of other people having that same mental experience makes her own previously pristine experience muddled”



"My own facial expression becomes a memory or imaginative trigger that brings up images of other people who have made the same face. Remembering these people can then shift my current experience."

Oscillation of over-sensory states with *Non-Organized Thought* states

Both of these states were reported to have occurred within the span of days, by my report. The first state was substance induced (15-30 mg CBD (Cannabidiol), also replicated under just one session of Brainsway Deep TMS (Transcranial Magnetic Stimulation) therapy on mPFC-ACC while the second was my baseline at the time.

"In one state: I am abnormally sensory sensitive, hyperfocused, have no thought disorganization whatsoever, am emotionally more irritable and lacking any awareness of people even around me. I'm having lots of a "drivenness to action" of the mania-sort, with relative sharpness and clear headedness, that combined, makes me really want to *feel* the contours of understanding arguments as precisely as I can

In a 'opposite' state: I'm "disorganized" states, with proto words and images, a-grammatical sentences in my head along with rapid perspective shifting (feelings of viewing myself from the perspectives of many other people and having a psychic war of sorts)."



"I can be quite sensitive to treatments. Just a small amount of CBD or mPFC-ACC TMS, in a short period of time, made me overly attuned to my sensory environment—far from my usual thought-disordered baseline."

How I *feel* as a result of *Non-Organized Thought* cognitions (with ‘translations’*)

*I “translate” my originally described phenomena to easier to understand language. I also acknowledge this may compromise *meaning*. I encourage to read and process the raw excerpts if you have time.

I feel a separation from others and perceive others (and myself) as less authentic

"I abstractly recognize the concept of...embodying a person who recognizes some memes and laughs at them and feels a sort of camaraderie with "la folie du jour" and i...understood to entertain such a goal and walk away whereas in the past i wouldn't have understood that such a goal was part and parcel of well being and a de-escalation of unconscious perseverative cognition"



"It still feels somewhat forced for me to laugh at popular humor, but nowadays, I recognize that we all make social concessions, and I don't dwell on making those concessions as much anymore."

I feel my decision-making is flustered by an inability to see things from a consistent perspective

"there was this feeling of all the systems i've built feel fake and alien.. like there is no point to anything anymore.. this feeling of emptiness.. feeling ungrounded like there's no point to buying anything.. why am i even buying anything.. why shouldn't i be punishing myself like an ascetic.. how do i become something i'm not.. there is this door with these questions behind it my brain feelings like forced to answer if i started to feel guilty about expenses that i didn't before...i don't want to open that door.. i want to keep the illusion of motivation. that's why thoughts about existential annihilation came in to my head, cuz it's the opposite of fighting about financial freedom..petty human concerns"



"I feel that my sense of self, my values, and my actions in the world are ultimately arbitrary and difficult to justify. This leads to a lack of motivation for me. To cope with this, my mind sometimes focuses on problems threatening the existence of humanity, as a way to shift away from my more solipsistic concerns."

What exists in the literature on first-person
accounts of *Non-Organized Thought*

Very few first-person accounts in the literature

- And note – even at this conference, no one with noticeably “disorganized” speech will be presenting, whether because of selection effects, social stressors or other reasons!
- Of the studies that involve people’s report of *Non-Organized Thought*, all of them use quantitative metrics whether it be questionnaires, performance on cognitive tests as proxies, or free-style narratives on unrelated topics meant to ‘capture’ “disorganized speech”
- **I could find no qualitative study using any keywords that examined people’s self-reported experiences of *Non-Organized Thought* in all of the literature base, save for a few accounts in the Schizophrenia Bulletin that alluded to it, or 1-2 paragraphs that examined a variety of symptoms, in large studies such as “The lived experience of schizophrenia: a bottom-up review co-written by experts by experience and academics”**
- An upcoming review which I have participated in highlights the enormous gap in including people who experience *Non-Organized Thought* as co-creators of knowledge about their experiences

Learning Objective 3: Can we find meaning in
“disorganized” speech?

My attempt to find meaning in a passage with
“disorganized” speech

Let's give an example of finding meaning in a passage which would clinically index “disorganized” speech

"I have witches in my belly. It hurts and is full of wounds. They often talk. When I eat and want to take a fifth spoon, they say no. Sometimes when some of them annoy me, the others tell them to stop. They use my thoughts. It happens that I think, but the thought does not belong to me. I notice this because of the way I think in such moments. But often I think the way the witches think. They also take my thoughts away when someone addresses me from the outside. And when I am in my village, the witches can communicate with the villagers. When I read a book, it is not me, it is them who read the book. If I want to read myself, I have to say very loudly: 'I want to read!' It is all because of them. When you touch your belly, a human can become afraid. There is a direct connection between the human and the belly"

Let's give an example of finding meaning in a passage which would clinically index “disorganized” speech (*Continued*)

- "I have witches in my belly. It hurts and is full of wounds."
 - Person perceives the thoughts to be either heard or sensorily felt near the belly
- “They often talk. When I eat and want to take a fifth spoon, they say no. Sometimes when some of them annoy me, the others tell them to stop. They use my thoughts. It happens that I think, but the thought does not belong to me. I notice this because of the way I think in such moments. But often I think the way the witches think. They also take my thoughts away when someone addresses me from the outside.”
 - Person is reporting feeling like their thoughts are being preempted by either a visual or sound

Let's give an example of finding meaning in a passage which would clinically index “disorganized” speech (*Continued*)

- "And when I am in my village, the witches can communicate with the villagers. When I read a book, it is not me, it is them who read the book. If I want to read myself, I have to say very loudly: ‘I want to read!’ It is all because of them.”
 - **I identify with the experience of trying to read and having this distinct sensation that imaginations of people in my head were distracting me with the following thought process process which I described in a diary entry**
 - “I do a nice social gesture -> I remember the opposite, of being shamed by a person for bothering them -> think to myself "wait I don't have to accept shame" -> I hear in my head, "you're mentally ill" and in parallel think about on which grounds can I accept the feeling of shame peacefully -> think to myself “Ok I'll do a nice reasonable logical yet prosocial thing despite this tension” -> Have a thought jump to thinking “Wait am I a logician or not”, parallelly -> This thought jump likely reflects that I will still do the “logical prosocial thing” anyway despite a feeling of shame and under an artificial veil of agency
 - **Perhaps I am “over-reading” into this passage, but it is my attempt at finding meaning in it**

Let's give an example of finding meaning in a passage which would clinically index "disorganized" speech (*Continued*)

- "When you touch your belly, a human can become afraid. There is a direct connection between the human and the belly"
 - I see this as treating the body as a machine and speaking about oneself as if it were an automaton, in order to mechanize the unpleasant interactions going on and removing ambiguity (maybe of a similar form to what I mentioned on the previous slide)

Do you have any comments or feedback on this interpretation?

Do you think such passages can be interpreted given sufficient dialogue?

Others' attempts to find meaning in
“disorganized” speech

Some agree that there is an over-pathologization of “disorganized” speech standing in for presumed *Non-Organized Thought*, and urge meaning-making

Excerpts from a dissertation which did not directly study people’s experiences of *Non-Organized Thought*, but investigating poetry as a creative outlet for people who have experienced psychosis

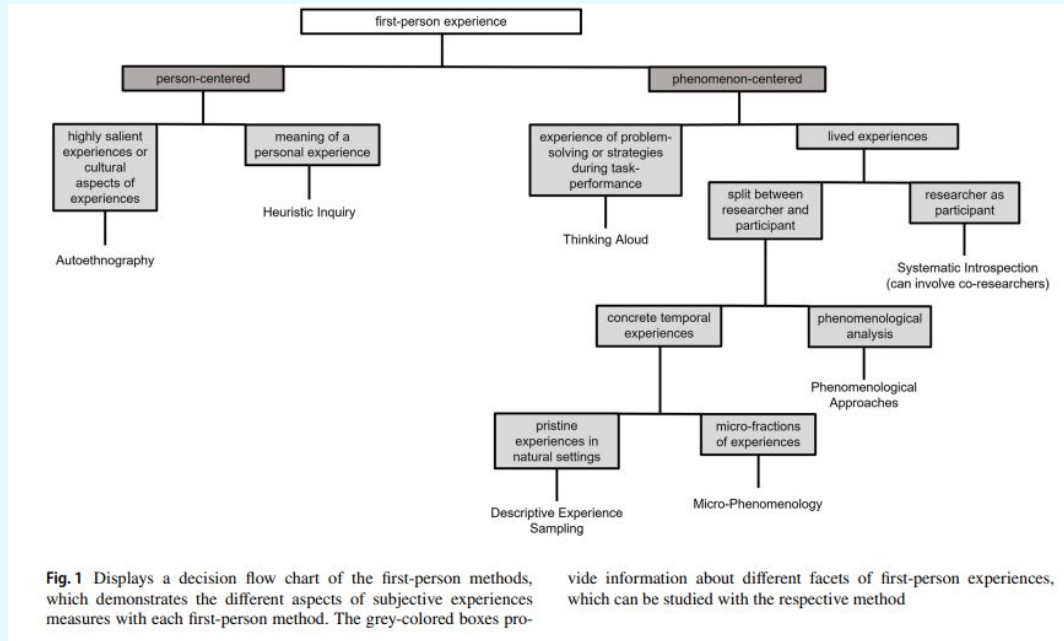
- **“Psychotic speech has historically been viewed as unstable, and representative of the chaotic thought disorder experienced by an individual experiencing psychosis** (Bleuler, 1982). However, this reductive hypothesis fails to consider that whilst people who have experienced psychosis often communicate in idiosyncratic linguistic terms, these terms are rich in emotive content (Chouvardas, 1996). **The significance of acknowledging psychotic speech as an expression of meaningful communication is further emphasised when psychotic phenomena are observed not as a biomedical pathology, but as an expression of distress** (Leonhardt, Hamm, Fogley et al., 2015; Lonergan, 2017; Longden, Madill, & Waterman, 2012; Longden & Read, 592016), an expression which is often communicated in response to profound trauma (Bentall, Wickham, Shevlin et al., 2012; Shevlin, Dorahy, & Adamson, 2007; Veijola, Mähönen, Nordström et al., 2016).
- **“Whilst previous research has attempted to explore psychotic speech, this is often with a focus on observing underlying pathologies (Fineberg, Leavitt, Deutsch-Link et al., 2016). Much of the recent investigations in this area have focused on the potential of language features to align with specific diagnostic criteria (Junghaenel, Smyth, & Santner, 2008)”**
- “The conceptual review proposed a relationship between poetry and psychosis consisting of three domains, psychotic language as meaningful poetics, poetry as an expression of psychosis, and poetic exchange is therapeutic practice. The interview study produced 4 themes: i) the unsayable becoming sayable; ii) poetry supporting discovery, play and meaning making; iii) relational expression through poetry; and iv) poetry and recovery.”

Some agree that there is an over-pathologization of “disorganized” speech standing in for presumed *Non-Organized Thought*, and urge meaning-making (*Continued*)

“We could however ask whether clinicians have the tools to try to understand what their patients are saying. If the answers to this question are negative, then we could ask whether we are trying to develop them. Are we asking whether clinicians and patients have the time, not in the neuropsychological or neuroimaging lab, but amid real-life healthcare organisations, to talk with patients and try to understand them? **Are we identifying the institutional circumstances and the professional and personal biases and thresholds that make a clinician declare that a piece of discourse uttered by a fellow citizen is ‘formally thought disordered’?** Do we need to have a full biological understanding of the putative brain dysfunctions underlying FTD before attempting to understand, with compassion and empathy, the discourse of people with severe psychotic disorders?...**‘Lastly, research into interventions, other than antipsychotic medication, are warranted, given the impact of FTD on outcome and its persistence in subgroups of patients, despite standard treatment’** (Roche et al. 2015, p. 957).”

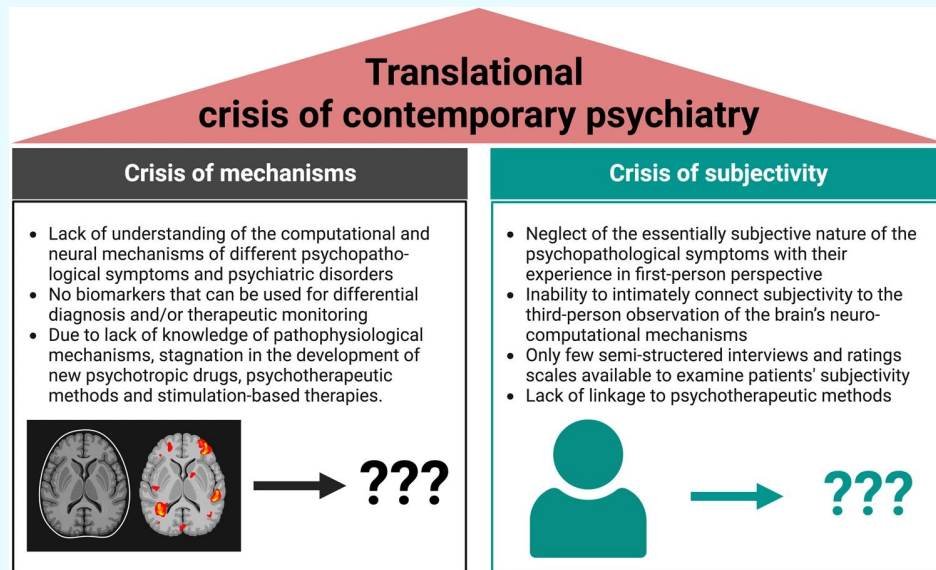
Examine people's inner experience more richly

Explore a variety of strategies to get more accurate accounts of inner experience

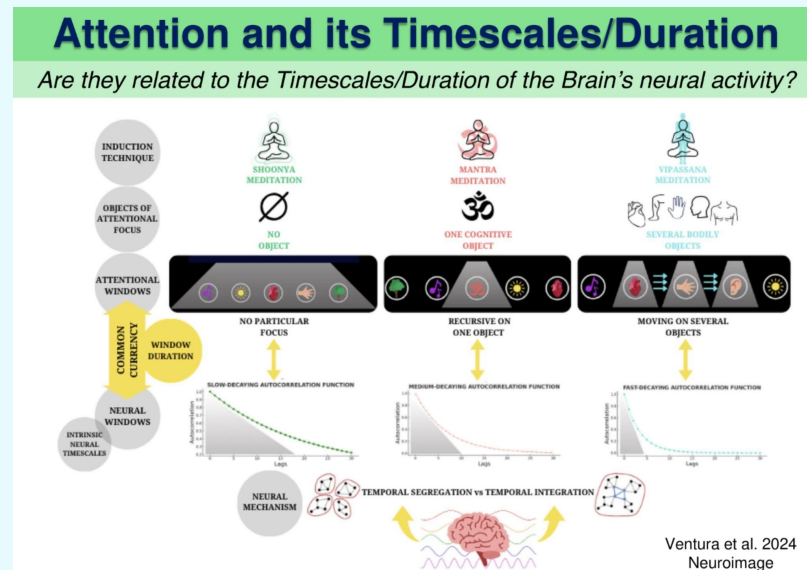


Lumma, A. L., & Weger, U. (2023). Looking from within: Comparing first-person approaches to studying experience. *Current Psychology*, 42(12), 10437-10453.

Consider *Spatiotemporal* approach to bridge the divide between 1st and 3rd person accounts



Northoff, G., Daub, J., & Hirjak, D. (2023). Overcoming the translational crisis of contemporary psychiatry—converging phenomenological and spatiotemporal psychopathology. *Molecular Psychiatry*, 28(11), 4492-4499.



Ventura, B., Çatal, Y., Wolman, A., Buccellato, A., Cooper, A. C., & Northoff, G. (2024). Intrinsic neural timescales exhibit different lengths in distinct meditation techniques. *NeuroImage*, 297, 120745.

Is there more we could do to understand “disorganized” communication?

- Just too-honest communication?
 - Some people with Non-Organized Thought may just have more honest communication. Partial results/intermediary results may be relayed out loud whereas the neurotypical can’t “see” or “hear” the background computations of their final speech
- *Stilted speech* as a social strategy?
 - Some people with Non-Organized Thought who exhibit stilted speech may be trying to connect the best way they know how. It may appear like they are exhibiting a form of “cronyism” of pragmatist beliefs*. Understand that this could just be a social strategy to appear ‘smart’, and that their speech could simply use grounding in real world, testable predictions.

*See [Crony Beliefs | Melting Asphalt](#) for the definition of “cronyism” and “pragmatism” in the context of beliefs. In a nutshell, *crony beliefs* attempt to reap social rewards while *pragmatic beliefs* serve to be accurate

Open to your ideas as well!

Addendum

***Content that either:*

1) Is representative of what exists in the literature but leans heavily on clinical framing. (I don't necessarily believe clinical framing is "ground truth" or the only way of understanding it but I do believe that there are neurobiological truths that are worthwhile to discover to offer people a multitude of treatments)

2) Required too much reading of the slides to grasp but is information I still believe is important to relay about Non-Organized Thought and the objectives I stated my presentation would be about

Learning Objective 1: Defining *Non-Organized Thought* - what is it, and what is it not?

How is *Non-Organized Thought* measured

By clinical measures like *Thought and Language Index* (TLI)?

Definitions of Thought and Language Index items

Guidelines for assigning scores can be obtained from the author of the scale (P.F.L.).

Poverty of speech

Poverty of speech refers to a decrease in the amount of speech. Responses to the picture and replies to questions are brief and lack elaboration.

Weakening of goal

Weakening of goal reflects a lack of drive in thinking and is manifest in lack of normal elaboration of ideas, use of uninformative generalisations and empty speech that conveys little information. Weakening of goal might be accompanied by poverty of speech (diminished amount of speech), but not necessarily so. The essential issue is lack of information in proportion to the number of words spoken.

Perseveration of ideas

Unwarranted repetition of ideas or themes. Increased weighting is given to instances in which the repetition occurs independently of the stimulus provided by the picture.

Looseness

The connection between ideas is tenuous or absent, or extraneous ideas intrude into the train of thought. Looseness can be manifest during a spontaneous train of thought – designated 'derailment' by [Andreasen \(1979\)](#) – or by virtue of irrelevant or tangential replies to questions – designated 'tangentiality' by Andreasen.

Peculiar use of words

Unusual or invented words are used. If the word is used more than once in the response to a single picture, rate only the first use, but consider the possibility of scoring perseveration of ideas when the inappropriate word is used repeatedly.

Peculiar sentences

The form of the sentences is unusual. Greater weight is given to peculiarity of sentence construction, which makes it difficult to discern the meaning. Sentences with grammatical inaccuracies attributable to poor education should not be rated as peculiar.

Non-logical reasoning (peculiar logic)

Conclusions are reached based on inadequate evidence or faulty logic. The judgement that an utterance reflects peculiar logic should be made after the enquiry phase. It is essential that the examiner should note all unusual ideas expressed during the free response phase, and make a subsequent enquiry into the basis for these ideas. Allow any reasonable speculation. If an inappropriate utterance is based only on perseveration, it is not rated as peculiar logic. However, if the person gives an irrational explanation for an instance of perseveration, occurrences of both perseveration and peculiar logic should be recorded.

Distractibility

Intrusion of extraneous ideas arising from an external stimulus.

Based on computational features aggregated from speech?

- **Semantic analysis**

- Professor Gina Kuperberg's paper (2) that mentions a feature indexing the ability to resolve *lexical ambiguity* - aka level to which context biases interpretation of a word away from its "default" meaning
 - **Person hears:** "Before we launch the new product, we need to get all our ducks in a row—legal, design, marketing. Everything needs to align."
 - But person is instead thinking about ponds, swimming, geese..

- **Structural analysis**

- Kuperberg's papers (1/2) that mentions features indexing 1) the use of *vague* or *confused references*, such as pronouns referring to multiple things, references pointing to things in multiple points in time and space and 2) ratio of *propositional meaning* to *semantic associative meaning* within discourse
 - **Mixture of vague and confused references:** "She told me last week about what's going to happen next year or quarter, and now I think we did that already, which might be the same as what they'll do. It's all about time managers and accountants"
 - **Propositional vs semantic associative meanings:**
 - "The chair has four legs, each made from oak wood. It was assembled in a factory in Michigan two years ago, and the fabric covering the seat is a durable polyester blend. The chair has a weight limit of 300 pounds and is designed to last for approximately 10 years with regular use."
 - vs "The chair has four legs, as do dogs, cows, farm animals, it's what binds life together, legs, uniting the world in harmony brotherhood"

1. Kuperberg, G. R. (2010). Language in schizophrenia part 1: an introduction. *Language and linguistics compass*, 4(8), 576-589.

2. Kuperberg, G. R. (2010). Language in schizophrenia Part 2: What can psycholinguistics bring to the study of schizophrenia... and vice versa?. *Language and linguistics compass*, 4(8), 590-604.

Based on computational features aggregated from speech?

(Continued)

- **Electrophysiology**

- Kuperberg et. al's work (1) on fast automatic spreading of neural activity in relation to deficient **N400 response**, to semantically unrelated words
- Kuperberg's paper (2) that mentions deficient **P600 responses** in relation to *related* words that impede *incongruity* detection
- Dr. Hsi Tiana Wei's work (3) on linguistic impoverishment in relation to EEG indices of **multisensory processing** in the **inferior frontal gyrus**

- **Neuroimaging**

- Yingqi Laetitia Wang's work (4) on *contextual insensitivity* and disorganized speech and how it may relate to **MRS glutamate signal**
- Kuperberg et. al's work (5) on **BOLD** activity in **DLPFC/IPC** to semantically implausible sentences

- **Membrane analysis**

- Professor Ruth Condray et. al's work (6) on association of membrane **PUFAs** to **N400 response** and cognition

1. Kreher, D. A., Holcomb, P. J., Goff, D., & Kuperberg, G. R. (2008). Neural evidence for faster and further automatic spreading activation in schizophrenic thought disorder. *Schizophrenia bulletin*, 34(3), 473-482.
2. Kuperberg, G. R. (2010). Language in schizophrenia Part 2: What can psycholinguistics bring to the study of schizophrenia... and vice versa?. *Language and linguistics compass*, 4(8), 590-604.
3. Wei, Hsi Tiana (2025). MEG in psychosis: Individual differences in neuronal oscillations underlying language disorganization and impoverishment. Poster session presented at the DISCOURSE Consortium in Chicago, IL.
4. Wang, Yingqi Laetitia (2025). MEG in psychosis: Individual differences in neuronal oscillations underlying language disorganization and impoverishment. Poster session presented at the DISCOURSE Consortium in Chicago, IL.
5. Kuperberg, G. R., West, W. C., Lakshmanan, B. M., & Goff, D. (2008). Functional magnetic resonance imaging reveals neuroanatomical dissociations during semantic integration in schizophrenia. *Biological psychiatry*, 64(5), 407-418.
6. Condray, R., Yao, J. K., Steinhauer, S. R., van Kammen, D. P., Reddy, R. D., & Morrow, L. A. (2008). Semantic memory in schizophrenia: association with cell membrane essential fatty acids. *Schizophrenia Research*, 106(1), 13-28.

Based on a custom index I made for illustration?

- I use the term “Meaningful” to refer to speech where it is possible for me to derive meaning from the content at all
- “Organized” to refer to speech that appears to me to have structural coherence (note: I am not using whatever is the opposite of the technical definition of *disorganization* which is used clinically and often has “meaning” subsumed in it)
- “Novel” to refer to speech that has new ideas/surprising content to me.
Note: the presence of “Novelty” in speech presupposes that it has “Meaning”, so there is no instance per the definitions I used where speech has no “Meaning” but is “Novel”.

Based on a custom index I made for illustration? (*Continued*)

Entry #	Example of writing	“Meaningful”	“Novel”	“Organized”
1	“It’s not like I like being the outcast czar of the store.. I go on the bridge to explain some dualities of our existence to the sun.. why, I just, I’m not a wrangler of the museum but what of the fruit vendors.”	no	yes	no
2	“You have new khakis. But no shoes. What if the laces on the boots? You know that one?”	no	no	no
3	“The boots don’t run the dryer. But the power wattage does for the kitchen.” <i>Or See “Passage 1” in next slide</i>	no	no	yes
4	<i>See “Passage 2” or “Passage 3” in next slide</i>	yes	yes	no
5	“You have the kettle with you.. Well, the pot really.. The one on the bench.., mean, table?”	yes	no	no
6	“According to Jaynes, this bicameral mentality began malfunctioning or "breaking down" during the 2nd millennium BCE. He speculates that primitive ancient societies tended to collapse periodically—for example, Egypt's Intermediate Periods, as well as the periodically vanishing cities of the Mayas—as changes in the environment strained the sociocultural equilibria sustained by this bicameral mindset.” Bicameral mentality - Wikipedia	yes	yes	yes
7	“I’ve been doing all right. There are often ebbs and flows in life, but it’s important to ride the waves and try to make lemonade with the lemons life often gives you.”	yes	no	yes

Based on a custom index I made for illustration? (Continued)

Passage 1 (deliberately random words which I strung together):

"The day is dark and a long road lays ahead. I philosophically ponder my existential dread for meaningless ruminating metarecursion. In a way, David Foster Wallace's juxtaposition of elemental inadequacy and insouciance purveys my character abroad for expressive understanding of my fellow"

Review of my definitions

- I use the term “Meaningful” to refer to speech where it is possible for me to derive meaning from the content at all
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Based on a custom index I made for illustration? (Continued)

Passage 2 (from my diary):

“At this time, I am finally having less self referential thoughts, that is, fewer thoughts like the following form: trying to figure out whether the ability to do math generalizes to other skills and is thus the “Master Skill” compared to others, and the ultimate obsolescence of other skills anyway yet increasingly more obsolescence of math skill with AI..a parallel to a passage from “The Unbearable Lightness of Being” on Tomas having a 2 way sort of vision in arms of Sabine vs Tereza..the ability to make analogy itself reminding me of Surfaces and Essences by Hofstadter and how analogies are abstract thought’s fuel and fire, such an analogy itself seeming like pithy poeticism lending itself to be “idiotically interpreted” as simplistic babble by the secretly-hopelessly-disorganizedly Schizophrenic-but-pseudoAutistic type of person who wears information as mere fashion as a cover for a naked mentally disconnected mind..but such judgments bring into question who is the biggest idiot of all, for pride, especially for a trait of pithiness indexing neural efficiency, was never earned to begin with, was it not?”

Review of my definitions

- I use the term “Meaningful” to refer to speech where it is possible for me to derive meaning from the content at all
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Based on a custom index I made for illustration? (Continued)

Passage 3 (from a study (1)):

“That entirely depends on each individual. The routine of an army major will differ greatly from that of a whining student and both from a lady of 93. For the lady of ninety-three, the biggest surprise of the day is waking up at all. For everybody else the day starts with waking up. Then we get up, except usually the student who is too lazy and expects life to come to him and the elderly and infirm who have less choice in the matter anyway. Some people dress, some take a shower, some take a bath and some have overslept. This introduces a high degree of variety into the routine which also introduces the concepts of free will, individual responsibility, and opportunity, except for the student who rejects the existence of these concepts on principle. [...]”

Review of my definitions

- I use the term “Meaningful” to refer to speech where it is possible for me to derive meaning from the content at all
- “Organized” to refer to speech that appears to have structural coherence (note: I am not using whatever is the opposite of the technical definition of *disorganization* which is used clinically and often has “meaning” subsumed in it)
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1. Fradkin, I., Adams, R. A., Siegelman, N., Moran, R., & Dolan, R. J. (2024). Latent mechanisms of language disorganization relate to specific dimensions of psychopathology. *Nature Mental Health*, 2(12), 1486-1497.

When can *Non-Organized Thought* be missed clinically

Covert *Non-Organized Thought* - affect speaker but be latent

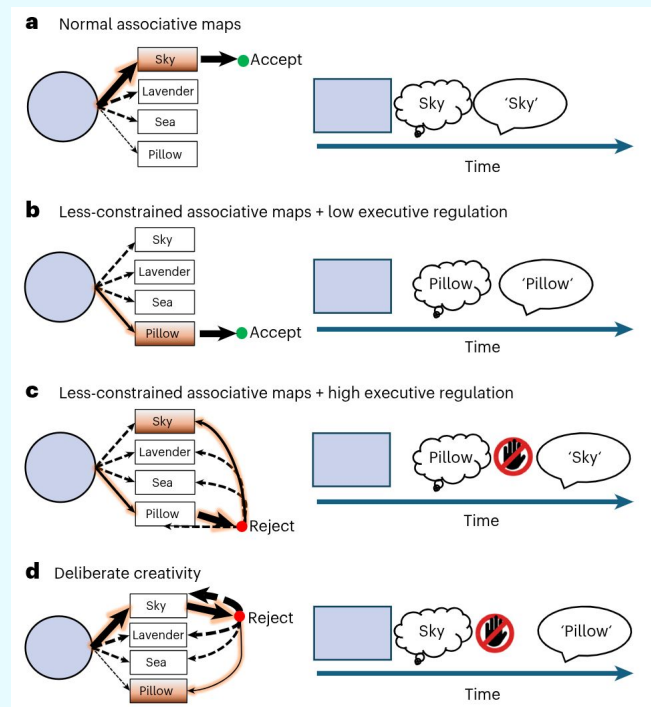
- A recent study (1) used a computational model, distinguished participants who may have “covert” *Non-Organized Thought* from those who had more visible *Non-Organized Thought*, based on
 - language features indexing degree of *Non-Organized Thought* (*Thought Disorder* in the paper)
 - dimensions of self-rated psychopathology (particularly suspiciousness)
 - reaction times to produce associations
 - accuracy of producing “relevant” associations.
- Note: the authors of the study conflated *Non-Organized Thought* with “likelihood to produce irrelevant associations” which may itself both miss and overestimate whatever *Non-Organized Thought* is! **So I highlight this study more as a research direction to investigate experiences where people may be struggling or masking symptoms as to not be “clinicalized”**

1. Fradkin, I., Adams, R. A., Siegelman, N., Moran, R., & Dolan, R. J. (2024). Latent mechanisms of language disorganization relate to specific dimensions of psychopathology. *Nature Mental Health*, 2(12), 1486-1497.

Covert *Non-Organized Thought* - affect speaker but be latent

- That is, people with “covert” *Non-Organized Thought* (also abbreviated *FTD* for *Formal Thought Disorder*) produced **relevant** associations at the expense of quick reaction times, suggesting responses more of type c) rather than b) in the right figure
- A telling point in the paper was this:

"Humans do not express all that comes to mind and often use executive processes to inhibit irrelevant ideas. Yet, psychiatric nomenclature often equates incoherent communication with disorganized thought, as implied by the ascription of FTD. The latter's strong diagnostic emphasis on overt speech risks overlooking covert forms of thought disorganization and misconceptualizing underlying cognitive processes."



1. Fradkin, I., Adams, R. A., Siegelman, N., Moran, R., & Dolan, R. J. (2024). Latent mechanisms of language disorganization relate to specific dimensions of psychopathology. *Nature Mental Health*, 2(12), 1486-1497.

Professor Russell Hurlburt's *Descriptive Inner Sampling* Method capturing “micropsychotic” experiences

- In the following passage from “Investigating Pristine Inner Experience: Moments of Truth” by Russell Hurlburt, I wish to highlight the occurrence of what he terms “micropsychotic” (multi sensory, reality bending, etc) experiences reported by people he is working with
- He collects such experiences using his technique called Descriptive Inner Sampling (DES) which has been refined over several decades to get as objective as a take on facets of one's inner experience
- **My point in highlighting this passage is not to perpetuate designations such as schizophrenic or non, psychotic or non, but more to highlight that so little is understood about people's inner experiences that those we presume to *not* have facets that if described, would be readily attributed to a “psychosis spectrum” diagnosis, actually have such experiences. It's to call into question the importance of examining people's inner experience and involve people as co-creators of knowledge about the mind**

Professor Russell Hurlburt's *Descriptive Inner Sampling* Method capturing “micro-psychotic” experiences (*Continued*)

“Q: Was Naomi’s micro-psychotic merging into the floor unusual for her?

A: No. We examined eighteen samples from Naomi’s third through sixth sampling days (considering the first two days as iterative training). Somewhere between seven and eleven (depending on the definition) could be called micro-psychotic – direct experiences that did not conform with reality, that were not merely a colorful way of describing experience. Some of these were physical phenomena; for example, a monster was chomping down on a corner of her brain (her experience was of a literal monster; in the real world this would be called a headache). Some were visual phenomena; for example, the walls of the bathroom in which she was standing seemed to crumple in on her as if they were made of paper (in the real world the walls remained stationary). Some were multi-sensory phenomena; for example, she was reading on her cell phone a text message from a boy who had texted that he liked her. That surprised her, and she dropped the phone: She felt it slide out of her right hand, saw it fall in slow motion to the floor, heard it crash as it hit, felt the emptiness in her hand (in the real world she had continued to hold the real phone and had not actually dropped it). **Thus it appeared that micro-psychotic moments occurred in roughly half of Naomi’s sampled experiences, leading to the speculation that Naomi likely has hundreds or thousands of micro-psychotic experiences each day.**”

Professor Russell Hurlburt's *Descriptive Inner Sampling* Method capturing “micro-psychotic” experiences (*Continued*)

“Q: Why do you call these “micro-psychoticisms”? Shouldn't anyone who has hundreds or thousands of “micro-psychotic” experiences each day be called simply “psychotic”?

A: No. We did no formal psychological evaluation of Naomi, but both Chris and I are experienced clinical psychologists and are familiar with schizophrenia and other psychoses, and those diagnoses did not seem to apply to Naomi. The difference between Naomi's micro-psychoticisms and, for example, Harry's frank psychoticism and is that as a result of his misperceived animals, Harry stayed motionless for months and had to be fed through a tube. **By micro contrast, a few seconds after Naomi's misperceived “into the floor” experience, Naomi got up off the floor and continued her homework.”**

When may *Non-Organized Thought* be overdiagnosed clinically

Slang

“Street slang” laden speech may be unnecessarily pathologized if not interpreted through the lens of the correct “generation”—e.g. Gen X interpreting Gen Alpha, etc.

Note: I don't endorse generational divides or fundamental divisions between people as explanatory factors except for when they remain unexamined.

SLANG AND SCHIZOPHRENIA

Unconventional language may hamper identification of disorganised speech, say **Oliver D Howes and colleagues**

We report the case of a 26-year-old streetwise young postman who presented with a six-month history of reduced occupational and social function, low mood, and lack of motivation. He complained of feeling less sociable and less interested in his friends and of being clumsy and finding it harder to think. He was otherwise fit and healthy, with no physical abnormalities, neurological signs, or objective cognitive impairments. There was no history of a recent stressor that might have precipitated his symptoms. He was referred to a specialist service for patients in the prodromal phase of psychotic illness for further assessment after he had seen his general practitioner and the local community mental health team. The differential diagnosis at this stage was depression, the prodrome of schizophrenia, or no formal clinical disorder.

His pre-morbid occupational and social function had been good. There was no history of abnormal social, language, and motor development and he left school with two A levels. After three years of service at the post office he had been promoted

to a supervisory role. He had a good relationship with his family and had six or so good friends. There has been a number of previous heterosexual relationships, although none in the past year. Aside from smoking cannabis twice when he was 19, there was no history of illicit substance use.

Detailed and repeated assessment of his mental state found a normal affect, no delusions, hallucinations, or catatonia, and no cognitive dysfunction. His speech, however, was peppered with what seemed (to his middle class and older psychiatrist) to be an unusual use of words, although he said they were street slang (box). It was thus unclear whether he was displaying subtle signs of formal thought disorder (manifest as disorganised speech, including the use of unusual words or phrases, and neologisms) or using a “street” argot. This was a crucial diagnostic distinction as thought disorder is a feature of psychotic illnesses and can indicate a diagnosis of schizophrenia.

We sought to verify his explanations using an online dictionary of slang (urbandictionary.com). To our surprise, many of the words he used were listed and the definitions accorded with those he gave (see box). We further investigated whether his speech showed evidence of thought disorder by examining recordings of his speech as he described a series of ambiguous pictures from the thematic apperception test, a procedure that elicits thought disordered speech. His speech was transcribed and rated with the thought and language index, a standardised scale for assessing thought disorder.¹

Slang used in a linguistically appropriate way is not scored as abnormal on this scale. His score was 5.25, primarily reflecting a mild loosening of associations. For example, he described a picture of a boat on a lake thus: “There’s a boat and a tree. There seems to be a reflection. There are no beds, and I wonder why there are no beds. There’s a breeze going through the branches of the tree.” His score was outside the normal range (mean for normal controls 0.88, SD 1.15) and indicates subtle thought disorder, equivalent to that evident in remitted patients with schizophrenia (mean in remitted patients 3.89, SD 2.56) but lower than

that in patients with formal thought disorder (mean 27.4, SD 8.3).²

Over the following year his social and occupational functioning deteriorated further, and he developed frank formal thought disorder as well as grandiose and persecutory delusions to the extent that he met DSM-IV criteria for schizophrenia. His speech was assessed as before, and the thought and language index score had increased to 11.75. This mainly reflected abnormalities on items comprising “positive” thought disorder, particularly the use of neologisms such as “chronocollising” and non-sequiturs.

To our knowledge this is the first case report to describe difficulties in distinguishing “street” argots from formal thought disorder. It is perhaps not surprising that slang can complicate the assessment of disorganised speech as psychotic illnesses usually develop in young adults, whereas the assessing clinician is often from an older generation (and different sociocultural background) less familiar with contemporary urban slang. Online resources offer a means of distinguishing street argot from neologisms or a peculiar use of words, and linguistic rating scales may be a useful adjunct to clinical assessment when thought disorder is subtle. Differentiating thought disorder from slang can be especially difficult in the context of “prodromal” signs of psychosis, as the use of abnormalities, if present, are usually subtle.³ Nevertheless, accurate speech assessment is important as subtle thought disorder can, as in this case, predate the subsequent onset of schizophrenia,⁴ and early detection and treatment of psychosis might be associated with a better long term clinical outcome.

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Contributors and sources: The authors work at OASIS, a clinical service for people with prodromal symptoms of psychosis in South London and have expertise in the neurocognitive basis of disorganised speech in schizophrenia. The article developed from a clinical case presentation and discussions among the authors about the difficulties in assessing this case and others. CDH is guarantor.

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Learning Objective 2: First person experiences of
Non-Organized Thought

How *Non-Organized Thought* is described by others

Account 1 from Reddit - A more *optimistic* construal?

In response to someone's question "**Whenever I am trying to do anything that requires** a certain kind of **focus**, like reading a book where each idea builds precisely on top of another, **I hear background faint music, as well as have weird verbal associations...** I may **hear** stuff as nonsensical as **phoneme like non-words involving "guinerajin rabdool"**, in an endless stream."

They received from a Redditor: "**If it's a 'thought disorder', it's one which any musician, composer or poet nurtures and uses as a creative force...**You might just be "musically inclined," or have a natural creative talent which you have not yet explored or cultivated... **Usually when they start softly mumbling repeating nonsense they are chewing on an melody or rhythmic idea in the back of their heads, that can't yet be expressed in words, and you can bet they will soon be showing off some new masterpiece in the studio.**"

Account 2 from Reddit - Thoughts seeming all at once

"...I perceive that my thoughts are mostly convoluted, messy, and fragmented, like a misshapen ball of wire. Because I'm bipolar type it's like **I see thousands of broken sentences and images of things that can potentially happen all at once, the content being alice-in-wonderlandish at times, but before I can latch onto one of those things it's gone before the blink of an eye...**The actual trying to formulate a sentence that makes sense in my brain is like putting a square in a circle-shaped receptacle..."

Account 3 from Reddit - Scattered (non-ADHD?) thoughts

"I've been confused while researching disordered thinking, specifically whether or not some of my own experiences line up with it..**it sometimes feels like my thoughts are like a swarm of butterflies - they keep fluttering around, if I'm lucky sometimes one will land and stay still and I can look at the details...I've been tested for ADHD and was told I don't have it..I've noticed this feeling of my brain being "scrambled" tends to get worse if I spend too long trying to comprehend a lot of words, especially novels or academic literature, and it can last for hours even after I've stopped the activity.**"

Account 4 from Reddit - Prefers *Positive Symptoms*

"...I jumble up words and ideas because **my mind is like a rusty machine that jerks constantly...**I am so intelligent and **learn things super quickly**, but what is the use of it if I can't even remember them after a while?...I see people so focused on what they do, actually living, but here I am existing in a void, my mind a chaotic jumble of thoughts and words and ideas, never believing anything, never optimistic, never happy... And then **some people think schizophrenia is all about hallucinations and delusions...**As for hallucinations, I'd honestly take them over this mind of mine..compared to the thought disorders that mar my experiences in life."

Account 5 from Reddit - The reason for *Non-Organized Thought* varies

“The way I look at it, "disorganized speech" is kind of misinterpreted. It happens to me either when I have a lot to say, and **continually branch off into smaller and smaller paths** (while still having a plan for wrapping it all up in my head), but **people are not patient enough...The other way it happens to me is if I am especially paranoid...**It happens when I feel like I'm taking NOTHING for granted. When **every little detail that is going on needs to be analyzed...**I could **start talking about one aspect,** realize it **isn't** even that **important in the scope of X** that I just started thinking about, and **switch to talking about X instead** for a bit, but still distracted and unsure, and ya. Kind of feels like that.”

Learning Objective 3: Can we find meaning in
“disorganized” speech?

Whether to use ChatGPT and similar tools to finding meaning in “disorganized” speech

Passage from my diary – would it be hallucinating to say there is “meaning” in it?

“At this time, I am finally having less self referential thoughts, that is, fewer thoughts like the following form: trying to figure out whether the ability to do math generalizes to other skills and is thus the “Master Skill” compared to others, and the ultimate obsolescence of other skills anyway yet increasingly more obsolescence of math skill with AI..a parallel to a passage from "The Unbearable Lightness of Being" on Tomas having a 2 way sort of vision in arms of Sabine vs Tereza..the ability to make analogy itself reminding me of Surfaces and Essences by Hofstadter and how analogies are abstract thought's fuel and fire, such an analogy itself seeming like pithy poeticism lending itself to be "idiotically interpreted" as simplistic babble by the secretly-hopelessly-disorganizedly Schizophrenic-but-pseudoAutistic type of person who wears information as mere fashion as a cover for a naked mentally disconnected mind..but such judgments bring into question who is the biggest idiot of all, for pride, especially for a trait of pithiness indexing neural efficiency, was never earned to begin with, was it not?”

Passage from my diary – what I think I meant, looking back

"I am feeling some relief from having less self-referential thoughts but unfortunately become a bit self-referential on the fact I am not having as many self-referential thoughts, thinking if the state of not having as many self-referential thoughts permits one to be able to do study in "technical" subjects such as math. I also reflect on if I am unnecessarily chastising myself for having moments where doing technical subjects is impermissible because of possible obsolescence of such skills as a result of AI solvers. At the same time I am making a "loose association" to passages from the book related to the closing-off of one mode of thought when another is open (which looking back, I think could have been made without the bulky reference to the book). The incorrectness in reading the passage makes me critically observe how the mind nevertheless searches for analogies which is described as the fuel for thought, in Hofstadter's book Surfaces and Essences. There is a pejorative interpretation of myself as someone who postures as precise and colloquially "Autistic" per the very narrow definition of being sensorily precise and focused, but is secretly disorganized and "Schizophrenic" underneath. Then there is a further interpretation of this thought that perhaps I am being too harsh because perhaps rather than making having an unclear reference or thinking of myself as more learned than I am, the biggest sin would be to pride oneself on having consistently good "neural efficiency" to not make such unclear references, and to thus give myself some grace."

Passage from my diary – what ChatGPT thought I meant in the passage

“The speaker reflects on the desire to have fewer self-referential thoughts, giving an example of such a thought spiral: questioning whether mathematical ability is the ultimate “Master Skill” because it might generalize across domains, though this is complicated by the increasing obsolescence of math due to AI. The self-awareness here is layered—they are not just thinking, but also thinking about thinking, and judging themselves for doing so.

*They then make a literary analogy to *The Unbearable Lightness of Being* by Milan Kundera, referencing Tomas’s split view of Sabina and Tereza—which reflects ambivalence or duality in thought, possibly representing the speaker’s own internal conflict about abstraction versus lived emotional experience.*

*This leads to a meta-reflection on analogy itself, citing *Surfaces and Essences* by Hofstadter, which argues that analogy-making is the core of cognition. Yet the speaker is aware that this very meta-analogy could sound like pretentious nonsense—especially to a type of person they describe harshly as “Schizophrenic-but-pseudoAutistic” (likely a projection of their own inner critic), someone who uses knowledge as fashion rather than for substance.*

Finally, they reflect inward: if they judge this person as foolish, is that not itself a form of pride? And pride in mental quickness—“pithyness indexing neural efficiency”—is unearned, so what right does anyone have to feel superior?”

Passage from my diary – a contrast to what ChatGPT thought of a randomly generated passage

Passage with deliberately random words which I strung together:

"The day is dark and a long road lays ahead. I philosophically ponder my existential dread for meaningless ruminating metarecursion. In a way, David Foster Wallace's juxtaposition of elemental inadequacy and insouciance purveys my character abroad for expressive understanding of my fellow"

ChatGPT output says...

"The day is dark and a long road lays ahead."

Classic existential tone-setter. The speaker faces something uncertain or burdensome.

"I philosophically ponder my existential dread for meaningless ruminating metarecursion."

They're trapped in recursive self-reflection: thinking about thinking about meaninglessness. It echoes Hofstadter, Wallace, and depressive rumination.

"Foster Wallace's juxtaposition of elemental inadequacy and insouciance purveys my character abroad for expressive understanding of my fellow."

Likely trying to say: DFW's contrast between deep insecurity and superficial carefreeness mirrors my own identity as I try to express myself to others. The meaning is poignant, even if the phrasing is tangled.

The mention of recursive thought (metarecursion) suggests some awareness of higher-order thinking patterns, but it's not elaborated in a precise or novel way.

It is notable that ChatGPT seemed to distinguish the first passage from the second based on the relative presence of meaning. But what are ***your*** thoughts on these passages and ChatGPT's ability to find meaning?

What would this mean for democratizing the landscape of legibility for people who exhibit “disorganized” speech?

Could ChatGPT be used to offload a calling to clinicians, therapists, caregivers, to find meaning in “disorganized” speech?