

Picturing Aphasia

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Primary Progressive Aphasia (PPA) is a neurodegenerative syndrome in which speech and language impairments are the earliest and most prominent clinical manifestations of the underlying disease. As language is a fundamental cornerstone of human interaction, its breakdown profoundly disrupts social participation, professional life, personal autonomy, emotional well-being, and overall quality of life.

Strategies that strengthen non-verbal channels of communication may provide an essential means of compensating for the progressive loss of language functions. In this context, generative artificial intelligence (AI) represents a particularly promising tool, not only for exploring the expressive world of people with PPA, but also for supporting patients in communicating their emotions and needs despite worsening language impairment.

Here, we used transcripts of speech from four patients with different PPA variants (reported by Marshall et al., 2018) as prompts to generate four AI-generated (Gemini 3) images. In each image, distinctive features corresponding to the unique characteristics of each PPA variant can be identified. The image derived from a person with apraxia of speech (A) is structurally recognizable in its composition but disorganized, mirroring the fragmented nature of speech. The image generated by a person with agrammatic variant (B) contains disconnected and incoherent elements, illustrating the challenge in forming a cohesive discourse. The (C) image corresponding to the semantic variant includes unrecognizable objects, reflecting the semantic loss they experience. Finally, the image from the person with logopenic variant (D) is markedly impoverished in detail, embodying the impoverished language skills

If developed within a more systematic framework, this approach could provide a powerful window into the communicative world of individuals whose thoughts are increasingly inaccessible through language.



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