2015

Audible Voice in Context

Airlie S. Rose
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AUDIBLE VOICE IN CONTEXT

A Dissertation Presented

By

AIRLIE SATTLER ROSE

Submitted to the Graduate School of the University of Massachusetts Amherst in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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English
AUDIBLE VOICE IN CONTEXT

A Dissertation Presented

By

AIRLIE SATTLER ROSE

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ABSTRACT

AUDIBLE VOICE IN CONTEXT

SEPTEMBER 2015

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The term audible voice refers to the sound of the text experienced by the reader during silent reading. It was coined by Elbow in his Landmark Essays to help the field of composition wrestle more productively with the concept of voice in writing. In this dissertation, voice is not a metaphor. Drawing on contemporary work in psycholinguistics, cognitive psychology, and consciousness studies, it examines the phenomenon of audible voice as a form of inner speech.¹

The premise of this study is that the experience of audible voice by the reader is a unique intersection of the individual’s inner landscape and the features of the text at a particular moment in time. Therefore, the phenomenology of audible voice is best explored in context, the context of a single individual responding to a specific text.

¹ Also known as “inner voice” and “inner speaking.”

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This dissertation presents the results of a mixed-methods study designed to explore the following questions in context: (1) What do readers hear or experience when they read silently? (2) What do writers hear or experience when they write? For scholars studying inner speech and the experience of voice, the value of this study lies in its detailed description of the phenomenology of inner speech during reading and writing in context. For composition-rhetoric scholars, this study is intended as a stepping-stone along a path towards an understanding of style and voice in writing that is centered in the inner experience of individual readers and writers. This lens is critical given the diversity of inner landscapes described in this work, a glimpse into the potential for an invisible diversity that may be present in our classrooms.
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CHAPTER 1

INTRODUCTION

"Audible voice" refers to the experience of the sound of language in the mind of a silently reading reader. In this work, audible voice is considered to be a form of inner speech. Audible Voice in Context presents the results of an interdisciplinary study that describes this inner experience in seven participants as they read four different texts and write a letter to a friend.

The term "audible voice" was coined by Peter Elbow in the introduction to his 1994 Landmark Essays on Voice in Writing, a capstone to a vigorous debate about the nature of voice in writing that engaged the composition-rhetoric community during the seventies and eighties. The intensity of the debate reflected a theoretical sea change as the field moved away from romantic notions of authentic voice towards its current emphasis on the social dimensions of language—a move that often questioned or even dismissed notions of voice in writing and cognitive writing studies.

Several decades later, with a socially informed footing, the field is finding its way back to consideration of the mind of the individual, now as Fleckenstein’s somatic mind rather than as "authentic self." This counter-balance can be seen in the move to more fully accommodate and appreciate neurodiversity in the classroom. It can be found in conversations rising from the newly formed Cognitive Writing Studies SIG at CCC. It can also be seen in efforts to revitalize
the field's discussion of style because sentence level choices when writing and their reception when reading fundamentally take place in the mind-body of an individual.

This dissertation seeks to reinvigorate the discussion of cognition and the discussion of voice in composition by helping contemporary composition scholars find a lens for the consideration of style that is anchored in the inner experience of individuals. It also presents an example of a methodology for cognitive inquiry that honors individual context and understands "the social" not as a vague external force, but rather as habits of thought and flash decisions that determine critical aspects of style like the identity of the speaker experienced by a reader and how that speaker is positioned in relationship to the reader. The study described in this work, perhaps more than anything, reveals the potential for a previously unknown neurodiversity in the classroom when it comes to the experience of audible voice in text.

This work was inspired by Peter Elbow's *Vernacular Eloquence: What Speech Can Bring to Writing*. In his exploration of speech and writing in composition, Elbow moved past the dichotomies of "authentic voice" and "socially constructed text" that characterized the old debates and looked instead to linguistics to explore the source of audible voice and to the intrinsic experience of language as a guide to teaching effective style. Elbow suggests that the combination of drafting with freewriting and revising using the mouth and ear can help writers create writing with well-formed written intonation, writing that has the cognitive accessibility of spoken language and the focus and depth of
thought made possible by carefully crafted writing. Elbow believes written intonation units, analogous to the intonational phrasing the listener would experience if the text was carefully performed aloud, are key to the perception of audible voice in text when text is read silently. In this understanding, it is the reader who performs the text internally (guided but not mandated by features of the text), who imbues silent text with an experience of voice (244–249).

My study suggests that there is a measure of truth in Elbow's theories, but the equation is not as simple as clear written intonation equals more vivid audible voice. The features of a text that open the mind of the reader to the experience of the text are particular to the reader; the way immersion manifests in the sensory experience of the reader is determined by the inner landscape of the reader's mind: the biological scaffolding, our engrained habits, the way our daily practice, education, literacies, and life experience have sculpted our neuronal pathways. From this perspective, the social construction of text takes place in this inner world, in the mind of individuals, in the moment when writers tap into their entire world of experience as they try to judge, “Does this sound right?” It is enacted in the moment when we experience pleasure in echoes of associations (auditory and semiotic) or sense the presence of a loved one when we read a letter. It is this inner experience that we need to understand more fully in order to understand the relationship between the features of a text and the experience of sound, of audible voice by the reader.

**The Context of Audible Voice in Context**
To better understand *Audible Voice in Context*, it might help to know something about the interdisciplinary context of its creation. The intellectual journey reflected in this work began with my graduation from Oberlin, one course shy of a minor in creative writing balancing my BA in biology. After graduation, I was immersed in years of laboratory work that led to a publication in *Science* and graduate studies in evolutionary developmental biology that led to me graduating ABD with a MA in zoology from Duke.

At Duke, Joe Harris recruited me into working as a tutor in the Writing Studio, and I found my first true mentor: Vicki Russell. With her encouragement, I continued writing center work and later earned an MFA in poetry at UTPA in Texas. Finally, hoping to follow in her footsteps as a writing center director, I began my work here in composition rhetoric at UMass Amherst. Although this journey is a bit dizzying, I hope you can see that these myriad experiences have left me deeply and dually schooled in writing and the sciences.

Here at UMass, I have been given tremendous freedom to become the scholar these dual loves drive me to be. Anne Herrington helped me make the transition from scientific thinking into the ideals of qualitative research, and she has subsequently supported me in trying to find a bridge between them. Here, Lynn Frazier, Chuck Clifton, and Mara Breen welcomed what appeared to them to be a wandering humanities scholar into their world and opened my eyes to their psycholinguistic understanding of language. Here, I found Peter Elbow in the midst of his forays into linguistics as he completed *Vernacular Eloquence*, and I attended his workshop at the 2010 CCCC, titled "Intonation: A Neglected Key to
How Language Works." I sensed a kindred spirit in his curiosity about the inner workings of language, his belief in the reality of voice in writing, and his passion to understand it. His deep embrace of contraries created space for the hybrid approach in this study, and in doing so, he invited me to bring my scientific edge into this exploration. I will be forever grateful to him for keeping me company as I walked out onto what would otherwise be a lonely interdisciplinary plank. My mentors and advisors from both disciplines represented in this study have honored my intellectual journey and allowed me to fulfill its potential by bringing together the threads of science and writing. Their enthusiasm for my unique perspective has been unfailing, and I am so grateful for their kind support.

At some point, perhaps the day when Mara and I sat together in her office admiring the beauty of a brain in a jar, I realized that I had come full circle, bringing together in this work the dominant threads, expertise, and genres in my life. My use of "in context" has three meanings and three audiences as I try to position this work in relationship to previous work done with audible voice and inner speech. For the scientific community, "in context" emphasizes that my focus is inner speech in the context of a single individual responding in the context of a single text. For the composition community, "context," refers to the inner landscape of the individual, a concept I will develop in this work. Honoring the poet, the title of this dissertation also draws on the Latin to mean "Audible Voice in With Text," an allusion to Robert Frost’s understanding of the vitality of poetry (Barry 61). As a trained scientist and poet, this dissertation celebrates the worlds I value most: the careful exploration of the unknown, the uniqueness of
every human being, the way human minds, as a biological manifestation of
culture, express themselves, and the powerful force of the sound of language.

In writing this dissertation, I’ve come to understand the connection
between discipline and genre in a deep way, and here I should make something
explicit for my readers: this dissertation is both a qualitative study intended for
the composition rhetoric community and a phenomenological study intended for
a scientific audience.

Although intended for both audiences, in the end, as a dissertation and not a
publication in a discipline-specific journal, it is turning into a hybrid form,
perhaps unrecognizable to either community. So let me offer all potential readers
some hints for reading this.

This dissertation is basically in the IMRAD format (Introduction, Methods,
Results, [and] Discussion), a structure I can't seem to shake after my work in the
sciences. This is the introduction, chapter two is the background, chapter three is
the methods, chapter four is the presentation of the results, chapter five is the
discussion, chapter six is the conclusion. Chapter four will probably be the most
fun for the scientists if they can recognize the profiles as a presentation of data.
For composition scholars, chapter four may prove to be the most difficult chapter
because I have left out the narrator-guide you are accustomed to. Think of this
chapter as views through a window into the mind of my participants as they
attempt to describe their experience of audible voice in the texts.
Why this study?

My premise in this work is that inner speech during writing and reading is not experienced in the same way by all people, but there may be common patterns in their experiences. Robert Frost described a kind of variation in people’s reading habits using his own language about what he called "sentence sounds." He noted in one of his letters that there seem to be "ear readers" and "eye readers." He observed that "eye readers" read more quickly, but "ear readers" truly hear and appreciate "sentence sounds" in writing. He suggested that the people most often identified by the wider world as writers are ear readers.

In addition to variation in the perception of text between different people, it is clear that different styles and genres of writing are experienced differently by the same individuals. In the field of composition, where we have such a deep appreciation of the impact of diversity and the presence of multiple literacies, the assumption of diverse inner experience and the impact of genre might seem obvious. However, without concrete knowledge of the invisible diversity present in our writing centers and classrooms, we run the risk of assuming that everyone’s inner experience of reading and writing is like our own. Without specific knowledge of how our students might experience text during silent reading and writing, we develop our pedagogies and tutoring techniques in ignorance, biased towards our own mental landscapes—the mental aptitudes and literacies present in people who succeed in crafting text. Recent reviews of inner speech and my own experience in this study suggest that I am not alone in
experiencing inner speech during reading and writing, but that there are individuals with other experiences. Despite its clear role in literacy and a growing interdisciplinary interest in the inner speech phenomenon by cognitive psychiatrists, psycholinguists, and others, there is relatively little work on the phenomenology of inner speech when reading. There is none that I can find on the phenomenology of inner speech while writing.

A Brief Summary of the Study

My dissertation addresses two questions: (1) What do individuals hear in their mind when reading text silently? (2) What do they hear when they write? To address these questions, I recruited a pool of participants with a broad range of inner experiences. Using data from a background survey, a relatively unstructured interview, a concrete interview, and a quantitative measure of participants’ ability to perceive implicit prosody when given a focused task, I created a description of each participant’s experience of text during reading and writing, with a focus on their perception of inner speech during reading. In the final analysis, I used these materials to create a description of the inner experience of reading and writing of the individuals in my study. This analysis is a close look at the inner experiences of only a few individuals. However, I hope that, in honoring the individual contexts of my participants, I have given some insight into the potential for diverse patterns of inner experience in the wider population.
CHAPTER 2

BACKGROUND AND JUSTIFICATION FOR THE STUDY

This study springs from discussions in several research communities, both within and outside of composition. These kinds of discussions are not unusual for studies in composition. Historically, we have treated the wider world of scholarship as a kind of intellectual smorgasbord, and I am following in that tradition, with a special nod to performance studies, which has excelled in this kind of feasting. However, there are different degrees of interdisciplinarity, and as a warning to readers of this study, I would like to make a distinction between the borrowing of terms and metaphors that runs rampant in Composition and a deeper integration, one hinted at in Clifford Geertz's *Blurred Genres* (Geertz) and discussed explicitly in Bernini and Woods in their presentation of the work of the "Hearing the Voice" research group in their article "Interdisciplinarity as Cognitive Integration." They borrow Julia Klein's taxonomy describing the work of their group as work that emphasizes "integration as well as interaction, effecting disciplinary transformation at methodological as well as theoretical levels" (Bernini and Woods). They also emphasize that this kind of integration is the product of individuals steeped in the ways of different fields coming together for a project of common interest. My project has been an interdisciplinary effort in this sense, the product of several years of conversations between
compositionists and psycholinguists, with me in the middle trying to bring it all together.

The work in this study, therefore, might be a little disorienting at times because it is a genuine integration of the ideals of several disciplines. As such, the genres to describe and support this effort are still evolving. (For instance, is this chapter a background section or a literature review?) However, this merging, as Geertz describes it, is born of the freedom to match the method and genres of this work to the needs of the subject matter and the needs of the participants, who represent different disciplines in this effort.

This review will begin at the center, Peter Elbow's work with audible voice in writing, and move outward through wider understandings of voice in composition, the way the study of voice is enmeshed with performance studies in the revival of scholarship on style in composition, and finally the connection between audible voice in writing and research on the nature of inner speech in the psycholinguistic and cognitive psychology communities. I will conclude with a review of some of the methodological inspiration for this work.

**Elbow, The History of Voice in Composition, and Categories of Voice in Writing**

Elbow coined the term "audible voice" in the midst of a rich conversation about the nature of voice in writing within the composition community, one that reached a peak during the mid-nineties when two influential collections of essays were published: Elbow's *Landmark Essays on Voice in Writing* and Kathleen Blake Yancey's *Voices on Voice*. Jacqueline Jones Royster's canonical keynote address to
CCC, “When the First Voice You Hear Is Not Your Own,” is an example of writing from this period that is still alive in the discursive imagination of the composition community. However, this multifaceted discussion faded as the social constructionist view solidified into the mainstream of composition discourse. The move towards social construction of text was a move away from the concept of authorship and authenticity, two concepts that were inextricably entangled with the concept of voice in writing (Foucault 111; Trimbur 284). However, despite the fact that discussions of voice in writing have become passé or even theoretically problematic within college composition circles, within the world of K–12 education the concept of voice in writing is seldom problematized and continues to hold the position of a kind of holy grail that students are asked to strive towards and are evaluated by (DiPardo, Storms and Selland; Elbow "Reconsiderations: Voice in Writing Again: Embracing Contraries" 170-71).

**Elbow’s Audible Voice**

Recognizing the importance of the concept of voice in writing as well as its slippery nature, Elbow worked in the 1990s to resolve cantankerous debates about voice in composition in order to bring the substantive questions about voice in writing back to the table. He continued this effort in his 2007 “Reconsiderations: Voice in Writing Again: Embracing Contraries.” In these works, he tried to contextualize and define the contentious issues triggered by the concept and coined a vocabulary that he hoped would permit scholars to be more specific about the aspect of voice they were considering. According to Elbow's Landmark Essays introduction, the primary debates conflated in the
concept of voice in writing are: (1) “discourse as text vs. discourse as voice” (xi) and (2) the traditional and modern versions of the debate about authentic vs. crafted self in rhetoric (xi; xvii). In addressing the first conundrum, Elbow reviews a rich history of debates by scholars including Barthes, Derrida, Bakhtin, and Saussure whose scholarship in literary theory, philosophy, and linguistics wrestled with the wealth of cultural meaning present in the dual nature of text. He concludes this review stating: “In short, we now have a choice about how to think about discourse: as semiotic text or as voiced utterance” (xii). While Elbow celebrates the voiced side of the equation because he feels it is the “underdog” in scholarly circles, he emphasizes that both sides are essential: “There is no problem with either the voice lens or the text lens. There is only a problem when people try to outlaw one... The fact is, we need both lenses. Each one shows us things the other hides” (xii). In the context of this work, reference to “style” or “features of a text” would be on the text side of the equation while the inner experience of sound by the reader would be on the voice side.

In the next two sections of his introduction, Elbow presents the second debate, the rhetorical power of authentic vs. crafted or performed sel(ves) in text. This debate originated with Plato and Aristotle’s different understandings of the relationship between virtue and ethos. According to Elbow, their ancient wrestling continues in many permutations through current conversations like the discussion of voice in Royster’s keynote where she claims that, as an African

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2 Interestingly, the first debate parallels a scientific debate about the perception of written text during reading, whether written text can be processed through both a lexical and phonological route, vision and sound. Current evidence suggests that both pathways are present in adult skilled readers (Perrone-Bertolotti et al. 236).
American scholar, she has many authentic voices. In the modern context, Elbow contrasts what he calls the naïve view expressed in the literary and writerly goal of "finding one's own voice" with what he terms the "sophisticated" view: “In this view, either there is no "real self”—"self" consisting of nothing but the succession of voices or selves that we create in language; or perhaps there is a real self but it’s completely invisible and unavailable to readers, so the only thing worth talking about is the created self on paper” (xvii). Elbow’s concern in all of this is that many scholars are not clear enough about what they mean when discussing voice, and as a result, they find themselves slipping into these classical debates or talking past each other for lack of a clear definition. To get around this slippage, Elbow proposes five categories of voice that will help composition scholars constructively discuss voice in writing. These categories, defined in detail in that introduction, are: (1) Audible voice or intonation in writing (xxiv), (2) Dramatic voice in writing (xxviii), (3) Recognizable or distinctive voice in writing (xxx), (4) Voice with authority—“having a voice” (xxxii), and (5) Resonant voice or presence (xxxiii).

These categories are key to this work, so I will elaborate on Elbow’s understanding of these terms, starting with audible voice. According to Elbow, “All texts are literally silent, but most readers experience some texts as giving more sense of sound—more of the illusion as we read that we are hearing the words sounded” (xxiv). Writing with audible voice is writing that allows the reader to project the complex prosody of audible speech onto silent text, so that the reader hears the sound of the language in his or her mind. Elbow often
includes a sense of liveliness or energy when describing writing with audible voice. In this case, “lively” is in the sense of living vs. dead language.

This brings us to the next shade of meaning. Writing with dramatic voice is “writing that gives readers a sense of a person” when reading the text. In this experience of language in our mind we have a sense of a character or personality. Well-crafted dialogue in fiction obviously creates this effect, but Elbow argues that it is natural for a reader to hear the personality of a speaker when reading in almost any genre, unless there is something in the writing that blocks the inclination of the reader to imbue the text with a personality. In this view, audible voice and dramatic voice may go together. We hear the sound of a distinct personality speaking the words of a text in our mind.³ Distinctive or recognizable voice, then, is an experience of recognizing the identity of the author through the sound of his or her written voice. This experience is at the heart of the second debate.⁴ On the text side of the equation, this term has to do with distinctive style, the assumption that the identity of a particular author can be recognized by particular mannerisms and habits of language. In the realm of inner experience, it is connected with a tangible experience of recognition, the same sense we experience when we hear a familiar voice and can identify the person who is speaking. Many of us have experienced a sense that we recognize the voice of a student when grading a paper or hear the sound of a loved one’s voice in our mind when reading a personal letter. There are many interesting

³ Elbow’s sense of this goes along with evidence from cognitive psychology that I will discuss in the next section and chapter 5.
⁴ For an interesting exploration of this debate and the assumptions made about recognizable voice at the time, see Fulwiler’s “Looking and Listening for My Voice” (Fulwiler).
studies\textsuperscript{5} that show that readers project characteristics that they think they know about the author’s spoken voice onto their perception of written text (Rayner et al. 189). \textit{Voice with authority} or “having a voice” has to do with a sense of confidence or authority in the writing. Elbow notes that this projection of authority and confidence is a performance, one that many graduate students must learn during the dissertation process.

\textit{Resonant voice or presence} is the concept that Elbow finds most slippery and hard to define—and most likely to invite argument. In his discussion of this term, he begins with an explanation of the experience of sincerity in writing (xxxiv) in order to make a clear distinction between the conventional understanding of sincerity and the experience of resonant voice. When writers are expressing genuine sincerity, they can create written language that sounds “tinny” in its simplicity and inability to convey the full complexity of the writer’s being. Elbow claims that skilled readers experience resonant voice in writing when they hear a reverberation between what is said and what is intended, between the full rich unconscious intention of the writer in that moment—which might involve ambivalence—and the language that the writer has chosen to share that experience: “It is words of this sort that we experience as resonant—and through them we have a sense of presence with the writer” (xxxiv).

Resonance comes from the “the sound of more of the person behind the words—and if we get pleasure from a sense of the writer’s presence in a text, we are often

\textsuperscript{5} While these studies were not part of Elbow’s discussion in defining this term, I include them here because they support the notion that this experiential category may have an identifying neuronal correlate.
going to be drawn to what is ambivalent and complex and ironic, not just to earnest attempts to stay true to sincere, conscious feelings” (xxxv). Again, in this definition, there is the text side of the equation, the language the writer uses (which could be analyzed with stylistic features), and the experience of a quality of voice (for example: timid, bombastic), the sense that the writer is present with the reader (Elbow "Three Mysteries at the Heart of Writing" 19; Elbow "Introduction: About Voice and Writing").

In my dissertation work, I have gratefully accepted Elbow’s invitation to explore the concept of audible voice in writing in a focused way. I find that Elbow’s categories are a vital step in finding our way out of a theoretical morass because they neaten a hairy and contested term enough to make it manageable. I am further narrowing the focus to the reader’s perception of sound—ignoring other inaudible features that people may associate with liveliness—such as metaphorical richness. Given the complexity of the concept of voice in writing prior to this whittling away, my working definition might seem a bit too narrow. However, as this literature review moves into different disciplines in the next few sections, the depth of the rabbit hole present in this seemingly small concept will become apparent. The results of my study provide empirical evidence that both supports and works against Elbow’s categories; therefore, knowledge of these categories will be a great help to that discussion when we get there.

**Lanham’s Voiced Writing**

Lanham is a contemporary of Elbow, a stylist and rhetorician whose chapter on voiced writing in *Analyzing Prose* has been particularly useful for this
work. In this chapter, Lanham explains the difference between voiced and unvoiced writing, as he sees it. Beginning with Ambrose and Augustine, he discusses the fact that the experience of a human voice must be re-created during silent reading because a written text is literally silent. He says, “[V]oicing in prose can mean two things: prose that permits a natural rhythm and stress, and prose that seems to come from a believable human personality” (112). He describes an example of unvoiced prose as writing that is not able to be performed aloud because “the voice has no place to go. Pitch finds no natural rise or fall, no obvious loud or soft, no performance instructions at all—purely conceptual prose, all cortex and no limbic system” (105). Voiced writing has: 1. A structure that invites the reader to read it aloud. 2. A social connection with the reader. The structures that support voiced writing, according to Lanham, are “style itself, . . . all the ways our social impulses, our feelings, declare themselves in the reading silence” (103). A voiced text has hints that suggest stress, climactic emphasis, pauses, and pitch. He gives interesting examples of voiced and voiceless writing from several genres. Similar to Elbow’s more developed argument in Vernacular Eloquence and Wallace Chafe’s work on the difference between speech and writing (Chafe and Danielewicz; Chafe and Tannen), he argues that voiced writing is not simply transcribed speech. Transcribed speech does not invite the reader to perform it. It is usually full of interruptions, repetition, and digressions. Voiced writing is also not possible to create using the classic style guidelines of clarity and brevity. (See his example on p. 112 for what clarity and brevity rules do to voice.) Voiced writing exists in a crafted limbo
somewhere between rough, natural speech and prose edited with clarity and
brevity as a guide, a sweet spot, according to Lanham, that can only be
recognized through extensive reading experience. In Lanham’s voiced writing,
Elbow’s well-formed written intonation units would be one possible structural
component of a voiced style. According to Elbow’s *Vernacular Eloquence*, revising
by mouth and ear is a process that creates well-formed written intonation units
and would enable a student to generate voiced writing without specific
knowledge or extensive reading experience. While I have some reservation about
Lanham’s pedagogical implications, I find his “voiced writing” to be similar in
quality to Elbow’s writing with “audible voice.” I think his proposal that voiced
writing has a structural and social aspect is an interesting theory, one that I will
explore in future work.

**Performing text with mouth and tongue: Elbow brings style to the body**

As will become apparent in the next few sections, my study potentially
pertains to several research communities; however, within composition it is
most at home in current efforts to revive and revise the study and teaching of
style. Two proponents of this revitalization are Paul Butler and Chris Holcomb.
Butler’s *Out of Style: Reanimating Stylistic Study in Composition & Rhetoric*
presents a snapshot of the long history of style scholarship and addresses its
apparent decline in composition. Holcomb and Killingsworth’s *Performing Prose:*
*The Study and Practice of Style in Composition* (a teaching text) argues that
concepts from Performance Studies may have an important role in reviving style
in composition.
One mission of composition instructors in all venues is to encourage the writing community to get past a cultural obsession with spelling and sentence level error and into more substantive revision. This mission has been reinforced in a complex way by the field’s move to the social and the decline of the teaching of style. In the context of the current void of style scholarship in composition, what once was a pedagogical goal becomes a pedagogical necessity because of a lack of training in sentence level stylistic concerns. Ellen Carillo, inspired in part by Butler’s work, surveyed the way style is presented in training materials for writing center tutors. She found that the term "style" is often equated with surface concerns, de-emphasized, and associated with error and correctness—if it is used at all (Carillo 11). Her findings suggest that most contemporary writing center training materials do not provide a pedagogical framework for addressing potential misconceptions about style that a tutee might hold: for instance, the common belief that repetition of language, particularly individual words, should be avoided at all cost.

This lack of a contemporary theoretical framework for discussing stylistic concerns at the sentence level (and their practical consequence) is a major motivation for my work. In the introduction to his 2010 sourcebook, Style in Rhetoric and Composition, Butler defines the study of style as being “concerned with analyzing readers’ responses to texts and how writers achieve those effects” (1). My study does exactly that, focusing on the reader’s inner experience of text when reading silently as a necessary prequel to identifying the features that bring about particular experiences of voice.
Voice as Footing in *Performing Prose*

Holcomb and Killingsworth use concepts from performance studies to give contemporary access to stylistic concepts from classical rhetoric. *Performing Prose* draws on Erving Goffman's work, adapting his understanding of footing to argue that written style is performance. In "Footing," Goffman talks about the fact that each genre of speech event\(^6\) has particular "participation frameworks" associated with it. One way to understand "participation framework" is to think of frames as "structures of expectations" (Wine; Goffman 10). So, one way a speech event genre is cued or defined is by the physical stance of people involved in the event. For instance, Goffman makes a distinction between "podium events" (imagine a pastor in an AME church) and "stage events" (136–40). The former is a situation where the speaker and audience, though separated, are still engaged in a kind of two-way conversation. A stage event is one where there is no expectation of conversation, the gathering has moved from conversation into a one-way interpretive framework where the people gathered are divided into the roles of "audience" and "performer." If, as Holcomb and Killingsworth do, we treat writing as a speech event, how do we satisfy the expectation of an embodied stance and interaction? Is it possible for writing to be anything other than a "stage event"? According to *Performing Prose*, classical elements of style, like rhetorical figures, can cue the reader to experience a sense of live interaction with the writer. In their preface, Holcomb and Killingsworth say their text "has a big ambition. It aims to show that, in the best writing, language is not a dead

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\(^6\) See Dell Hymes.
thing, inky letters printed on a page, but a living force. Good writing does not merely make sense or passively convey information. It performs. It brings people together in acts of participation and observation—like a dance or a song” (iv-x). Later, they describe what they think good writing does: "If it works, if the reader deepens his or her participation, knowing that the writer is investing more emotion into the written text, a new relationship between reader and writer begins to come alive" (xi).

Chapter 4 of Performing Prose is titled “Distinction: From Voice to Footing.” In this chapter, the authors focus on “the way a writer can create an impression of self-in-language,” stating that another common term for this kind of impression is “voice.” They go on to review many shades of meaning of voice and make arguments for and against the concept, hitting many of the points that Elbow makes in Reconsiderations, including the fact that "voice" is pedagogically useful because it is intuitive. However, in the end, they choose to replace the term “voice” with what they call "stylistic footing" because "it better communicates the idea that style is always a matter of agreement (or disagreement) between an author and audience, two social entities that stand in some relationship to each other" (56). In this view, the writer's style acts to establish the footing, a stance that establishes the social relationship and the degree of emotional intimacy between the writer and the reader (7).

Holcomb and Killingsworth's view that the experience of voice in writing can be analogous to footing during a performance is a valuable insight for this work, one that seems to mesh well with the results of this study. There is also a
need for a term to describe the efficacy of the bridge between the intended stance of the writer, the features of the text, and the inner experience of the reader. Where I shift from Holcomb and Killingsworth’s understanding of stylistic footing and voice is that, in my understanding of style, it is necessary to talk about both bodies.

In my view, there is no universal reader, and the efficacy of the bridge between writer and reader is determined by the inner landscapes of both; these inner landscapes are shaped by biology, culture, and experience. I will develop the concept of an inner landscape in the next section. While I can imagine footing to be a potentially useful term for describing the bridge (the writer-reader interaction), I do not agree with their move to replace the term “voice” with “footing.”

In this study, I understand audible voice to be the actual sound of the text in the inner experience of the reader, the reader side of the bridge. There is also an experience of voice on the writer’s side of the bridge, the voice that the writer listens to when checking whether the text they’ve written "sounds right." However, this study only glances at that experience. A more in-depth exploration will require a method better designed to get at the moment when participants are engaged in this kind of monitoring. I respect what Holcomb and Killingsworth are trying to do, but cramming all of the bodies into one word is too broad a stroke to be useful for my purposes. I think it will be more clear and useful to talk about intended footing on the part of the writer and experienced footing on the part of the reader. While some might argue that this is all playing
with metaphors and the only way to assess the value of a metaphor is its utility in a given context, my specific argument is that some of these terms, particularly “audible voice” but possibly “footing,” are not metaphorical. They point to the actual perception experienced by the reader and, as I will present as we head across the disciplinary divide, there is a cognitive reality to these perceptions. It is possible, for instance, that different experiences of voice are produced by distinct neural correlates (the activation of different centers in the brain).  

Finally, “stylistic footing” is a highly abstract term, one that loses the intuitive corporeal quality of the term voice. While this disembodiment makes the term more in-synch with some contemporary theories of writing, it is also a move that is in line with theoretical efforts to disembody voice from written text (Cavarero), a move that I feel is at odds with the revitalization of written style.

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7 It is appropriate to be wary of neuroimaging studies since this type of study is currently faddish and prone to false positives. See (Bennett, Miller and Wolford); however, there are good studies. While it is not there yet, the kind of work done with direct vs. indirect address in writing (Yao, Belin and Scheepers) is heading in a direction that could be used to detect neural correlates for the different types of voice described in this study.
The Inner Landscape - An Integration Of Body-Mind-Culture

Fig. 2.1 Waddington’s epigenetic landscape. (A) Part of an epigenetic landscape. (B) The complex system of interaction underlying the epigenetic landscape.\(^8\)

Introduction

At this point, I will take a brief break from my consideration of style to develop two major concepts that I use in this work. My position straddling the biological and composition-rhetoric worldviews gives me a unique perspective on classic debates about mind and body, debates that have been reinvigorated by recent advances in neuroscience (Bracken and Thomas; Baker, Kale and Menken). While I do not have the expertise to throw my hat into the ring in a scholarly discussion of Cartesian thought, it is important for this work that I at least clarify my perspective so that readers have some sense of the worldview I'm working within. Also, for practical reasons in this work, I need to have a clear way of talking about and distinguishing perceptions and observations that take place in the mind of the individual reader or writer vs. out in the shared realm of open conversation. To these ends, I have used the terms "inner experience" and "inner landscape" throughout this work.

In this section, I will dive briefly into philosophy and the complexity of the relationship between genes, mind, body, and culture in order to develop these concepts so that you can understand my worldview more fully as I use these terms within this work. First, I will discuss the distinction I make between the material mind (brain) and experienced mind (conscious awareness). I will connect this notion of mind with "conscious experience" and review Wallace Chafe’s understanding of conscious experience as it relates to discourse. Finally, I will connect Chafe's use of "conscious experience" with Russell Hurlburt’s use of
"inner experience" to complete my discussion of the meaning and my use of the term "inner experience" in this work.

Once I have developed what I mean by "inner experience," I will draw on Waddington’s concept of an epigenetic landscape to explain my choice of "inner landscape" as a working metaphor for the integration of body-mind-culture that structures the inner experience of silent reading. I will discuss the dynamic way that I think culture and "the social" is integrated9 into this inner landscape, and finally I will bring this discussion back to an integrated understanding of style.

Outside In and Inside Out: "Mind" as Inner Experience

As a biologist, it seems obvious that whatever we experience as our mind or our self takes place within our physical being. If we postulate anything else, we have moved into the realm of metaphysics -- something the current generation of scholars is hesitant to do, myself included. From this perspective, it is clear that anything we experience or are aware of whether it is physical pain, the sound of someone's voice, a sense of recognition, the memory of an image from a text we read years ago are all experiences that are grounded in and processed in the living brain. Therefore, it seems clear that there are neuronal correlates for conscious experiences. In other words, there are particular locations of the brain or patterns of brain activity associated with particular

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9 In an earlier version of this dissertation, I toyed with using "embodied" as a moniker to get at this relationship, but as I soon discovered and my committee pointed out, this trendy term has distinct and disparate meanings within the psycholinguistics, psychology, and composition-rhetoric communities. To avoid confusing potential readers, I needed to coin a new term so that we could all know what I was talking about.
experiences (inner and outer). In this understanding, there is no physical boundary between inner and outer worlds, mind and body. All conscious experience manifests in some way within the brain.

If we buy into the computer model of the brain for a moment, inputs into our conscious awareness come from throughout our entire physical being. However, the premise in this work is that gut feelings and emotional states tied to muscle tension or other bodily sensations, all bodily knowledge is integrated into our conscious awareness and one function of that conscious awareness is to structure, sort, and filter the entire world of inner and outer sensory inputs into an integrated conscious state that allows neurotypical people to function smoothly in the world. These inputs come from outside our body, within our body, and from percepts generated within the brain itself. Most people perceive a clear separation, a distinction between their inner and outer worlds, self and other; but in fact, these boundaries are perceptions generated within our own brain. As software rather than a true physical barrier, this separation between inner and outer, self and other, the real and the imagined, can break down or be

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10 Neuroscience is a relatively new and rapidly changing field. Many scientists seem to think that it is only a matter of time before we will be capable of mapping all of the myriad forms of conscious experience to recognizable (and potentially alterable) patterns of brain activation. This kind of "neurorhetoric" is so pervasive and problematic that it has spawned an entire field of research in the composition-rhetoric community. See Neurorhetorics (Jack). The arrogance of some of this grant winning bluster reminds me of similar broad claims made about the human genome. I suspect that, as in the case of the human genome, there is some truth to the bluster, potential value in the research, but that the reality of personality and human behavior, not to mention brain activity, is much more complex than the kind of quick-fixes promised in grant writing and the public media.

11 My knowledge of sensory integration is personal, not professional as I am raising a child with autism. My personal life is steeped with the tangible knowledge of the need for sufficient and consequences of insufficient sensory integration. I am borrowing that language, but may not be using it appropriately in a scholarly sense here.
altered. For the purposes of this dissertation, when I refer to the inner experience of my participants, I am referring to the whole of their integrated experience as it manifests in their conscious awareness.

When thinking about the large volume of and diversity of inputs processed by the brain at any particular moment in time, it becomes clear that the potential pool of experiences we could be consciously aware of at any moment in time is vast. The business of attention, what experiences we pay attention to and focus on and which we exclude, become a critical issue. In *Discourse, Consciousness, and Time*, Wallace Chafe talks about the dynamics of conscious experience during spoken and written discourse. He uses vision as analogy for consciousness. Just as there is foveal and peripheral vision, there is focal and peripheral consciousness. Out of all of the things taking place in our mind, what we have the capacity to pay attention to at any given time is limited. However, it is possible to guide the limited frame of our conscious attention to focus on certain aspects of what is happening. Chafe emphasizes that our consciousness moves rapidly from one thing to another, like the eye, grasping the bite-sized pieces of information it can manage to form the full understanding of what is happening (Chafe *Discourse, Consciousness, and Time* 53-55).

From this perspective, then, all human experience is processed through the living brain. Therefore, what each of us experience as mind and culture must have a material manifestation in the grey matter we live within. However, I don’t

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12 For example, one theory of audible hallucinations in schizophrenia is that they are forms of inner speech that take-on new meaning to the hearer because they are experienced as coming from an “other” outside the body rather than as a form of normal inner speech located within the conscious mind of the listener (cite).
consider the physical manifestation of our experience, the neuronal correlates, to be any more meaningful, real, or precise than the experiences they map onto. If anything, the movement of energy in the grey matter of a living brain is much more difficult to interpret than the world of conscious experience, language and symbolism that human beings exist in day-in and day-out. The inner experience of genre, narrative, and style by an individual reading a book, even if counter-intuitive and dreamlike at times, makes sense to me in a more holistic way than whatever observable patterns of brain activation might go along with it. As a researcher and observer, I can construct theoretical models to help me interpret physical patterns in the brain, and those patterns can be tremendously useful in testing and exploring theories of language and the mind. However, I can recognize, resonate, and connect with another human being’s description of their inner experience. Though, as you will see in this dissertation, that ability is limited by the degree to which our inner landscapes are similar.

In my understanding, then, both inner experience and its physical manifestation are real phenomena that can be observed and described. This is a contentious statement, one that I will cover in more depth when I discuss Russell Hurlburt's, *Describing Inner Experience?*, at the close of this section. For now, I will simply say that I think that mapping physical manifestations of conscious experience to qualitative descriptions of that experience using a mix of qualitative and experimental methods is a valuable pursuit, one that could give insight into the nature and experience of human language and consciousness from either perspective.
Hurlburt uses the term "inner experience" as a substitute for the more common "conscious experience" used in the field of consciousness studies. In *Describing Inner Experience*, he admits that the use of "inner" is also problematic, but he explains to his co-author that he wanted to sidestep associations with Freud's "unconscious" or to a sleeping or drugged state (15). I agree with his reasoning, and I also find that the term "inner experience" is more compatible with Chafe's mind’s eye sampling a potential pool of experiences. I also am not a psychologist. I encourage anyone who is really interested in the mysteries of consciousness to do more reading than this logistical foray.

As I conclude the fleshing out of my use of "inner experience," I hope that you can see that, to me, inner experience represents the dynamic integration of mind-body-culture in the conscious awareness of an individual at a given moment in time. It is an awareness that is a functional integration of an almost unimaginable diversity of inputs from outside and inside the body. This work assumes that, in a neurotypical individual, inner experience is observable and something that an individual can easily locate describe when prompted to observe their inner world.

**The Landscape of Inner Experience**

The image at the opening of this section is from C. H. Waddington’s *The Strategies of the Genes* (1957).\(^{13}\) It was originally invented to describe the way levels of gene expression (the length of the strings of the little gene boxes below)

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\(^{13}\) To put this work in perspective, Watson and Crick had published their paper just five years before he published this book.
can warp and shift a landscape that might be said to represent the probability that a particular stem cell type (marbles at the top of the slide) will go on to have a particular developmental fate. The beauty of this model is that it allowed for some play between the genes we inherit and the phenotype of the fully developed organism. It explained, for instance, how factors in the environment could alter levels of gene expression and thus alter the ultimate phenotype of the developing organism. In this way, Waddington was able to think about development in a way that integrated genes and the environment.

In my metaphor of an inner landscape, I am drawing on Waddington’s epigenetic landscape to talk about the tendency of an individual’s mind to be drawn to particular kinds of inner experience. In Russell Hurlburt’s sampling studies of inner experience, he has found that a neurotypical population of participants reported a variety of inner experiences that he categorized into four types: verbal (ex: verbal thought, inner speech), visual (imagery), unsymbolized thought, and feeling (Hurlburt, Happe and Frith). This study focuses on audible voice, a form of verbal inner experience. So, for instance, when considering the notion of ear readers and eye readers, I might wonder if there were people whose inner landscape made them more likely to experience the sound of text when reading. This dissertation is about the experience of voice (verbal inner experience), but in the course of my study I found that some of my participants seemed to gravitate towards highly resolved multisensory imagery (Tom) or gut feeling (Gwen) as an end-state when reading.
What I am trying to get at with my use of this metaphor is that the mind of the reader is not a blank slate. When an individual picks up a book and begins to read, the text is processed within a pre-existing structure that is unique to each reader who picks up the book. The structure of the inner landscape begins with the physical development of the reader's brain, Waddington's egg and the developmental interaction of genes and environment, but it grows to encompass the full breadth of the forces that structure the conscious awareness of an adult human being who has grown, acquired literacies, and learned to read.

In the course of a reader's life, a reader has been taught to read and write in a certain way. He or she has learned ways with words, to value or not value different aspects of language. As a person ages, this growing internal structure may be experienced as aptitudes or challenges as a person tries to make their way in a social universe that may or may not have been crafted with their particular inner landscape in mind. An individual’s inner landscape lends itself to certain activities and pursuits, certain ways of making a living in the wider context that the person finds themselves in. An individual might be passive allowing these inner and outer forces to shape them, or they might be active and seek knowledge and experiences outside of what comes most easily or comfortably to them. What were once slight biologically based tendencies may, through social feedback loops, become more engrained. In the image, this might be reflected as deeper valleys with steeper sides. An individual might also develop new patterns of thought, creative work-arounds that become habits of mind and alternative structures unique to the life-path of that individual. The
reading process itself, in some sense, can be thought of as a kind of creative work-around. It is a variation in language processing that human cultures have evolved independently in several contexts, a habit of language use that we are able to instill and integrate into our habits of thought, a habit that becomes part of our inner landscape as literate individuals.

My metaphor of the inner landscape of the individual reader is an integration of body-mind-culture that honors my perspective as an evolutionary biologist turned comp-rhet scholar. A reader is a complex, biological being with an inner world that is unique to the individual. This inner world is shaped by the individual’s life-path, a developmental trajectory. All life experience leaves a physical trace, memories, associations that include all of the educational and socio-cultural contexts the individual has journeyed through. An individual has some agency in sculpting their inner landscape, though they do not begin with a blank slate.

The inner experience of reading is a product of the text and the reader’s inner landscape

Waddington's image of a curving topography in Figure 2.1A is clearly an oversimplification, but it is a starting place, a concrete image that can serve as a placeholder for the reader's inner landscape, and I think it will serve my purpose in this work. Given this image and my understanding of an inner landscape, what is the ball? What happens when the reader begins reading? The ball represents the focal attention of the inner experience of the reader. As a reader begins to read, I imagine words (or perhaps intonational phrases) going by in the reader’s
parafoveal attention like ticker tape on the bottom, and language is experienced by the reader in different ways depending on the shape of the landscape.\textsuperscript{14} In Fig. 2.1A above, imagine that each valley at the bottom of the hill represents one of Hurlburt’s categories of inner experience. Now, imagine someone reading. The landscape becomes a movie, a topographic conveyer belt. As the reader processes the text, the ticker tape goes by, and the ball rolls along and falls into whichever category of inner experience the unique combination of text-landscape makes most likely. The reader might experience the elaboration of a concept, a visual movie, the sound of the words, a sense of curiosity, vertigo, all of the above in sequential or simultaneous burts of inner experience, like inner fireworks that explode and fade from the reader’s conscious awareness. When the reader pauses (or is interrupted by a beep), they can observe and try to describe these inner fireworks before they fade.

With this concept of the inner landscape in place, the piece that is missing from my metaphorical image of the reader’s response is the force of the features of the text itself. Clearly, the features of a text have a significant influence on whether the reader experiences an image, the sound of a voice, develops a concept, or experiences emotion when reading. The classic study of rhetorical figures could be re-envisioned as a study of the inner experience generated by particular features of language. My point in all of this, though, is that the features of the text are not the only force shaping the reader’s response. To incorporate

\textsuperscript{14} In this study, the visual image of the words themselves was rarely in the focal attention of the reader when the participants were immersed and actively processing the language. However, see Paula’s account of stalling out in reading #2 for an amusing description of this.
the influence of the text into Waddington’s image, the text could be imagined as a mirror image of Figure 2.1B shaping the landscape from above, guiding the ball of the reader’s attention toward different kinds of inner experience. The point is that the experience of the reader at any given moment in time is a dynamic integration of both forces, a combination of the features of the text and the inner landscape of the reader.

Conclusion: Back to Style

In many discussions of voice in writing, for instance Lanham, there are voiced texts and unvoiced texts. The reader is assumed to be a flat landscape to be acted on by the text. If the inner landscape of the reader is considered at all, it is usually in judgmental terms. There are "good," skilled readers and "bad," unskilled readers. A "good" reader (or writer) will be able to be sensitive to (or create) writing with audible voice. If the text is voiced, then this hypothetical skilled reader will experience audible voice.

In the integrated understanding of style that I am reaching towards in this dissertation, style involves a coordinated interaction between the reader and writer, individuals with two inner landscapes that include all of the literacies and habits of thought their life and culture has given them. The inner landscape includes the biological, both what is in common between individuals who speak the same language and what varies between human minds. The reader's response is experiential, and it takes place in the context of the individual reader’s body. There is no such thing as a voiced text. There are texts that facilitate the experience of voice in a particular reader. There is no such thing as
a flat inner landscape or a universal reader. Style operates within the inner landscape of the individual, a landscape that is formed by a dynamic interaction between mind, body, and culture acquired through life experience, and it is the interaction of the features of that text and the inner landscape that creates the inner experience of the reader. Audible voice is the inner experience that I focus on in this study.

**Elbow's *Vernacular Eloquence*: Towards an Integrated Approach to Style**

This work was inspired by Elbow's move to bodily knowledge in *Vernacular Eloquence*. In emphasizing the integration of knowledge in the writer's conscious, bodily experience, he hopes to create a simpler path to producing writing with clear, well-formed written intonation. Of particular interest to this work, is his distinction between the inner and outer worlds, the mental experience of speaking and writing vs. the physical acts. In making these distinctions, he gives the writer choice, and he encourages the writer to be flexible in his or her composing process (139-145).

The process of revising with mouth and ear proposed by Elbow in *Vernacular Eloquence* is a practical, pedagogical method for getting the strength of spoken language into written text. In chapter 11 ("What the Mouth and Ear Know") Elbow seeks a way for students to access the power of effective, clear writing without having to read extensively (as Langham suggests) or integrate lessons from style manuals. The assumption of bodily knowledge, that any student who knows how to speak has what it takes to be a good writer, is one of
the central tenets of Elbow’s work. However, he does not make this claim naively. He never claims that bodily knowledge of Hartwell’s grammar number one will give writers access to the social niceties and institutional expectations of grammars 2-5 (Hartwell). Rather, he argues, that writing that works in concert with our cognitive resources for processing language will be experienced by the reader as clear, strong language, and in many cases, this is sufficient.

Elbow believes that the sound and structure of language that we learn when we learn how to speak are sufficient—if we pay enough attention during the revision process. But, he understands this attentive listening to the sound of language to be hard work. He claims, “[I]f people read aloud carefully each sentence they have written and keep revising or fiddling with it till it feels right in the mouth and sounds right in the ear, the resulting sentence will be clear and strong” (222). This process of revising aloud with mouth and ear is painstaking work, requiring focused attention. In a sense, he sees the bodily performance of the text as a way for the writer to turn-up-the-volume of this innate knowledge and help the writer judge whether the sound of the language is "right" or "off."

In this argument, Elbow emphasizes the cognitive accessibility of speech, the way spoken intonation works in concert with the language processing centers of the body-mind, but what he failed to recognize (as did I) at the outset of this investigation was that language that sounds clear and strong when performed aloud does not necessarily translate to the experience of audible voice in the mind of the reader. What is the relationship between Elbow’s ideal of "clear and strong" sentences and the experience of audible voice by the reader?
Does Elbow’s "mouth and ear" approach to revision lead to writing that facilitates the experience of audible voice? How is "voiced" writing experienced in the structured inner world of the individual reader? Finally, I keep finding myself asking, in the integrated approach to style that I envision in this work, how do culture, the powerful social forces of race, class, and gender integrate themselves into that moment when the writer re-reads her own work, listens to the sound of her own writing, and asks, "does this sound right?"

To answer any of these questions, we need a greater understanding of the way readers experience audible voice. Initially, when I started this project, I thought that I could simply collect a few texts crafted in this way, develop a measure of the reader's experience of audible voice, and make a simple experiment looking at the responses of a collection of readers to a text. However, the more immersed I became in this work, the more I realized that different readers experience different texts differently. There is no universal reader. In other words, the same features that generate an experience of audible voice in one reader might generate vivid imagery in another. There is no simple form, no straight path. However, in the integrated approach to style that is emerging from this study, I think I have found a meaningful way forward. In my work in this dissertation, I continue Elbow's move to the body in developing an interdisciplinary, integrated approach to style that expands our understanding of the experience of audible voice when reading and writing.

*Across Disciplinary Lines: Audible Voice as Inner Speech*
According to Butler, historically in our field, new ideas about style have tended to come from the margins, from places where scholarship crosses borders with other fields (Butler "Forward"). In *Vernacular Eloquence*, Elbow grounds his integrated approach to style in the mind-body by referencing scholarship by linguists like Douglas Biber, Deborah Tannen, and Wallace Chafe and their exploration of the relationship between speech and writing. Continuing down this path, I have explored the psycholinguistic understanding of language production and the cognitive processes that take place as felt sense\(^\text{15}\) becomes language and that language is articulated either through speech or writing (Alamargot and Chanquoy; Rayner et al.; Hayes). Some contemporary cognitive models offer insight into why Elbow's strategies of drafting with freewriting and revising with mouth and ear might lead to writing with Lanham's "pegs to hang emphasis on" (106). However, in our current academic culture, most people do not speak aloud when they read or write. To consider how written intonation units or Lanham's "pegs" might manifest in the mind of the reader, we have to ask: What is happening with the sound of the language in the silence of the mind?

From the cognitive perspective, this experience of inner speech, "the voice we hear in our heads," is critical because, according to Levelt and Hayes's theories and evidence of subvocalization, some form of inner speech may be generated when we speak, when we write, when we read, and when we are deciding whether the language we have generated matches our intention. According to these theories, inner speech, an inner manifestation of the fully

\(^{15}\) See (Elbow "Three Mysteries at the Heart of Writing") for a definition and discussion of "felt sense."
articulated “mouth and ear,” would be present in the mind of the writer throughout the drafting process. It would also be present in the mind of a reader reading silently. It is difficult to imagine a phenomenon more at the core of our experience of audible voice in written text.

Given this theory, it is also the experience at the core of the writing process. However, the experience of inner speech during reading and writing lies at the front edge of an advancing wave of research on inner speech (note the dates of the papers I cite next), and very little is known about the phenomenology of inner speech in this context. Therefore, for the sake of both the inner-speech and composition-rhetoric research communities, this is the phenomenon I describe in my thesis work. To this end, I will conclude this literature review with a summary of what is currently known about inner speech from the psycholinguistic and cognitive psychology perspective and review current methods for describing people’s inner experience of language.

The information in this section primarily comes from two recent review articles on inner speech by interdisciplinary groups dedicated to understanding this phenomenon: M. Perrone-Bertolotti et al.’s "What Is That Little Voice inside My Head? Inner Speech Phenomenology, Its Role in Cognitive Performance, and Its Relation to Self-Monitoring" (2014), and Ben Alderson-Day and Charles Fernyhough’s16 “Inner Speech: Development, Cognitive Functions,

16 Acknowledgments: I am particularly grateful to Charles Fernyhough and Ben Alderson-Day for sharing this review with me prior to publication. Special thanks go to Chuck Clifton, Mara Breen, and Lyn Frazier, local scholars whose openness to a wandering student from the humanities made my extra-disciplinary exploration of psycholinguistics possible. Coming from outside their field, I only realized their stature after I was already working with them, and this entire endeavor would not have been possible without their
Phenomenology, and Neurobiology” (2015). The lead researchers in these groups come from a cognitive psychology and psychology background, respectively, but they embrace a variety of other disciplines in their scholarship such as neuroscience and neuropsychology. Perrone-Bertolotti incorporates a wide variety of methods in her work: “behavioural, functional neuroimaging such as fMRI, scalp, and intracranial EEG” (Perrone-Bertolotti). Charles Fernyhough’s group, the “Hearing the Voice” conglomerate (http://hearingthevoice.org), comes from the Vygotskian perspective, and it includes literary and qualitative work in its purview in addition to cognitive psychology and neuroimaging methodologies. I only recently discovered Russell Hurlburt’s work on inner experience through my exposure to the work of these other groups, and his work will play an important role as we get to the methods I used in this study.

**What Is Inner Speech?**

Inner speech, often referred to as “the voice we hear in our heads,” is a subcategory of “inner experience” (Hurlburt and Schwitzgebel 15). Inner speech is widely reported in a variety of circumstances such as self-coaching, inner debating, and inner conversations, and repeating numbers or words in order to hold them in memory for a short period of time. Estimates suggest that we spend at least a quarter of our conscious lives engaged in internal verbal expression (Perrone-Bertolotti et al. 221). Because inner speech can be

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17 This term is not broadly used, but its use over the more broadly used “conscious experience” is argued for by Russell Hurlburt, a leader in the field of consciousness studies, because it avoids confusion with the conscious/unconscious dichotomy—a distinction that is also important for this work.
multimodal, Fernyhough’s group defines inner speech in a mode-independent fashion as, “the subjective experience of language in the absence of articulation” (Alderson-Day and Fernyhough 3). A detailed account of the experience of inner speech during reading can be found in Chuck Clifton’s chapter on inner speech in Rayner et al.’s *Psychology of Reading* (187-213).

The term “inner speech” when applied to reading describes two phenomena that seem related, but whose relationship has yet to be clearly defined. The first of these is "subvocalization." If you place electrodes on the muscles involved in producing audible spoken language (lips, tongue, chin, larynx, throat) and measure with an EMG recorder, the muscles produce detectable activity. This is true for all language tasks, including reading, listening, and thinking. When people read silently, the degree of subvocalization has been shown to decrease with increasing reading skill. When children learn to read, the usual pattern is that they begin reading aloud, then mumble, then gradually read silently with no apparent lip movement.

The second phenomenon described by the term "inner speech" is the "phonological coding," the sounding out of words in our mind phoneme by phoneme, like a child learning to read, which allows us to access the lexical meaning and leads to the inner experience of "a voice in our head." This sound is perceived by many people as they read a text silently. However, Clifton suggests that phonological coding could be present without the conscious awareness of

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18 For instance, native ASL signers report experiencing inner signing, a visual form of inner speech.
the perception of sound (187). This potential flexibility becomes more important when we get to the results.

**Three Schools of Thought**

According to Perrone-Bertolotti’s review, there are three main theories describing inner speech: the Vygotskian, the Motor, and the Abstraction schools of thought. All three theories have experimental evidence supporting them, and there is some overlap between them. The greatest divergence between the theories has to do with developmental origins and potential mechanisms, not the phenomenology of inner speech itself. One of the greatest challenges for all theories describing the nature of inner speech is to explain the fact that not all people report hearing it, or at least there seems to be significant variation in the way people experience it (Hurlburt, Heavey and Kelsey 1483; Perrone-Bertolotti et al. 228; Alderson-Day and Fernyhough 53-54). This unexplained variation makes inner speech during reading and writing an ideal phenomenon to explore using a method focused on individual experience because a closer look at inner speech in the context of a single individual might, and indeed appears to, provide some insight into what this variation means.

The earliest work on the nature of inner speech was done by Vygotsky. His contemporary theoretical descendants continue to test and refine his ideas.\(^1\) According to Vygotsky’s theories of language acquisition, inner speech is a developmental internalization of the kind of external speech we experience as we are acquiring language in community. Vygotsky assumed that children, prior to a

\(^{1}\) The “Hearing the Voice” group is a great example of this approach.
certain stage of development (around age five), do not experience inner speech and process thoughts aloud. This external thinking aloud eventually becomes internalized. Internalized thought initially is identical to spoken thought, but gradually it becomes more and more truncated and reaches a state of “thinking in pure meanings.” This "condensed inner speech" could be experienced as nonverbal. Recent evidence suggests that children as young as eighteen months have some kind of experience of inner speech (Perrone-Bertolotti et al. 221), so the developmental etiology of this phenomenon is contested. However, the observation of variation in the way inner speech is experienced is a long established tradition, and Charles Fernyhough's work categorizing and studying this variation is an important contribution to this study.

Fernyhough is a current scholar working within the Vygotskian paradigm. In his model, inner speech goes through this kind of developmental internalization. In "Alien Voices and Inner Dialogue: Towards a Developmental Account of Auditory Verbal Hallucinations," Fernyhough describes the internalization of inner speech as a four tiered system where level 1 (external dialog) and level 2 (private speech) take place outside of the body and level 3 (expanded inner speech) and level 4 (condensed inner speech) occur in the person's inner experience. Fernyhough proposes that this progression occurs through "synactic abbreviation" which is, "responsible for our experiencing it not as a sequence of fully formed utterances, but rather as a fragmentary, condensed series of verbal
images" (Fernyhough 54). However, unlike Vygotsky, in Fernyhough's model the stages are reversible. Stress can trigger a person to shift back to a state where he or she is compelled to articulate thought in order to think clearly. In his review paper, Fernyhough addresses some of the infant data (7) and spends much of his paper addressing variation in experience. He states that in his model, “inner speech varies with cognitive and emotional conditions between abstracted (condensed) and concrete (expanded) forms” (Alderson-Day and Fernyhough 27).

A second theory of inner speech is connected with the observed relationship between subvocalization and inner speech. In this “motor view,” inner and outer speech arise from the same process, and there is no developmental distinction made between them. Both occur during language production (presumably spoken and written). However, in the case of “covert” speech (subvocalization taken to an invisible and inaudible extreme), the mind inhibits articulation—the motor execution required to speak (or write) the words. This permits speakers to speak with themselves without anyone outside themselves hearing what they are saying. This theory is compatible with forward model theories of language processing during conversation such as those proposed by Pickering and Garrod (Pickering and Garrod "An Integrated Theory of Language Production and Comprehension"; Pickering and Garrod "How Tightly Are Production and Comprehension Interwoven?"). In their understanding, inner speech could be a kind of forward projection, a percept potentially used to monitor language before it is articulated.
The third theory of inner speech, like the motor theory, also assumes that inner speech is an integral component of language production. In this “abstraction” view, however, what we hear as “inner speech” is a speech percept that is generated at some moment prior to its full resolution as articulated sound. Since there is a large body of work describing the sequence of events during language production, much of the debate in this line of research has to do with what inner speech actually sounds like—the degree to which it represents the full phonology of language spoken aloud. The degree of resolution of the language would be a clue to where in language production the audible percept forms. Because the field of psycholinguistics uses the timing and nature of speech errors as flags to mark the sequence of steps during language production, many studies trying to resolve this question ask participants to report speech errors made when doing tasks that require them to monitor their own inner speech such as internally reciting tongue-twisters and reporting errors. In addition, these studies rely on well studied phenomena during language processing such as the phonemic similarity effect. Psycholinguistic studies have mixed findings. Sometimes inner speech comes through in an experimental setting as incompletely specified. Sometimes it appears to be perceived as a fully formed phonetic message.

In an attempt to explain these conflicting results, Oppenheim and Dell have put forward a variation of this theory that they call the “flexible abstraction” hypothesis. In Oppenheim and Dell’s, “Motor movement matters: The flexible

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20 See Hagoort and Levelt’s brief summary in Science for a snapshot of the current state of this work.
abstractness of inner speech” (2010), they propose an interesting compromise that seems to resonate well with the earlier reading-based studies of inner speech. In this proposal, they review evidence for an underspecified, “abstract” form of inner speech production as well as challenges to this data from the “motor simulation view” of language production. In the end, they propose a synthesis stating: “Perhaps a shortcoming of both the abstraction and motor simulation view lies in conceiving of inner speech as a stable, consistent phenomenon” (p.1150). They suggest that the degree of “motoric expression” of speech might be under the conscious control of the speaker.

In an experiment that they claimed supported this theory, Oppenheim & Dell used the phonemic similarity effect and the lexical bias effect as markers for the degree of specification of inner speech in their participants. They then had their participants perform a series of tongue twister like problems using inner speech. In some cases, participants were asked to use physical articulation (mouthing the words without speaking them aloud) to consciously increase the degree of specification. In some cases, participants relied on inner speech without articulation. They found a phonemic similarity effect in the articulated but not in the unarticulated inner speech. This suggests a difference in the resolution of inner speech between inner speech with and without physical articulation (Oppenheim and Dell).

This study has been contested. In "Error biases in inner and overt speech: Evidence from tongue twisters," Corley, Brocklehurst, et al used Oppenheim and

\[21\] The similarity between Elbow's mouth and tongue revision and this use of physical articulation is worth noting. Both probably have their origin in theories of subvocalization discussed in (Rayner et al.).
Dell's materials and additional materials in three experiments designed to test Oppenheim's conclusion. From those experiments, they concluded that the inner speech precepts were fully specified (evidenced by a phonemic similarity effect) whether there was an articulation plan or not (Corley, Brocklehurst and Moat).

The volley of discussion around this issue in the psycholinguistics community continues (Oppenheim). The theory at the heart of the discussion has to do with the so-called forward model (motor) theories of monitoring and language production. A timely slice of this debate with opinions by many of the major players can be found in the extensive commentary following Pickering and Garrod’s 2013 manifesto. Also, see Aldus-Day and Fernyhough’s review for a detailed discussion (11-12).

**Forms and qualities of inner speech**

The theoretical discussion in the previous section is primarily drawn from psycholinguistic studies of inner speech. However, those approaches generally do not take into account the inner experience of individuals. Since the goal of this study is to describe how individuals experience inner speech during reading and writing, it is important to review what is known about the phenomenology of inner speech in general. Many characteristics of inner speech have been described in the literature. If you can imagine all the ways you could describe audible speech, that gives you a sense of the wealth of possible descriptors of inner speech. In this section, I have summarized features that have been observed in the literature that I looked for when interviewing participants in my
study. (See the reading and writing response questions in Appendix C for an example of how I used these features.)

Implicit Prosody

One active area of inner speech research has to do with describing the qualities of audible speech that are present in our inner experience. In explaining his interest in punctuation and prosody, Wallace Chafe states that he believes that "writers when they write, and readers when they read, experience auditory imagery of specific intonations, accents, pauses, rhythms, and voice qualities" (Chafe "Punctuation and the Prosody of Written Language" 397). Implicit prosody is the psycholinguistic term for spoken prosody perceived in inner speech. A recent article by Mara Breen reviews experimental evidence for implicit prosody and concludes that intonation, phrasing, stress, and rhythm can be perceived in inner speech when reading and that these features can be effectively studied using psycholinguistic methods. Breen and Clifton claim that implicit prosody appears to play a role in reading comprehension (Breen 47; Rayner et al. 213).

Inner speaking vs. inner hearing

Just as with language that is spoken aloud, we are capable of perceiving inner speech as being produced by us or as coming from someone else. How does the person experiencing inner speech understand his or her orientation to the speech? Russell Hurlburt is a psychologist who has spent the past thirty years developing and refining his approach to studying inner experience. I will

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22 When reading and writing, this orientation is interestingly analogous to the "footing" of the audience in relationship to the performer in Goffman’s work. In inner experience, though, the reader can take-on the position of audience or performer. See Gwen’s description of reading #1 for her insight into this experience.
describe his DES method in detail in the final section of this chapter, however he is understood to be a vanguard scholar in the field of inner experience research.

Hurlburt recently summarized his understanding of inner speech in "Toward a Phenomenology of Inner Speaking." To more accurately describe the varied experiences of his participants, Hurlburt replaces “inner speech” in this article with two kinds of experience: “inner speaking” and “inner hearing.” Fernyhough summarizes Hurlburt’s category of inner speaking as an experience of inner speech that is “generally in the person's own voice, with its characteristic rhythm, pacing, tone, etc.; the utterances are similar in form to external speaking, and bear the same potential emotional weight; inner speaking is generally in complete sentences, uses the same kinds of words as external speech, and can be addressed either to the self or to another; and the phenomenon is apprehended as being produced rather than heard” (27). In contrast, Hurlburt describes “inner hearing” as the experience of hearing verbal language in one’s mind as if one were listening rather than producing it. He says inner hearing seems to be less frequent, and his examples include participants “talking with themselves,” in other words having an inner conversation where both voices were understood by the participant to be the participant’s own voice, but one voice was experienced as spoken and one voice was experienced as heard. His method (see the final section of this literature review for a detailed description) involves a training period, and he remarks that this kind of fine distinction is usually not possible for people to get on the first day, but he claims that participants in his study “come to find that the distinction between inner
speaking and inner hearing is approximately as unambiguously clear as that between speaking into a tape recorder and hearing your voice being played back" (Hurlburt, Heavey and Kelsey 1485).
Self vs. Other

In addition to speaking vs. hearing, another permutation is the experience of self vs. other when it comes to inner voices. This distinction is particularly interesting when we consider reading and writing since many people, including authors of fictional work, claim to experience the voices of characters, the speakers in a text, as distinct human voices, voices that are not themselves, speaking. In fact, it is a common lore in fiction writing that the written voices of characters will be flat unless they are sufficiently developed in the writer’s imagination to the point that the writer experiences the voices of his or her characters as “other.” Elbow’s “dramatic” category of voice in writing describes this experience when reading. One study, currently under way in Fernyhough’s group, is trying to understand the nature of these distinct inner voices experienced by writers and readers (Brown).

Table 2.1: Summary of the neurotypical forms of inner speech described in Hurlburt’s Toward a Phenomenology of Inner Speaking:

<table>
<thead>
<tr>
<th></th>
<th>“Inner Speaking”</th>
<th>“Inner Hearing”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced as self</td>
<td>Common</td>
<td>Less frequent, takes training to distinguish from inner speaking “Talking to one’s self”</td>
</tr>
<tr>
<td>Experienced as other</td>
<td>Predicted by Vygotsky, but rare in DES investigations (1488)</td>
<td>Common</td>
</tr>
</tbody>
</table>

The synesthetic, multimodal nature of inner experience

Evidence from Hurlburt’s work and many other studies (Perrone-Bertolotti et al. 229-30) indicates that inner speech can be perceived through
many senses. Deaf people who are fluent in ASL experience inner signing, a visual form of inner speech, complete with the equivalent “speech-errors” (Perrone-Bertolotti et al. 229). The potential for multimodal experience of language is important to keep in mind when thinking about reading and writing. Hurlburt claims that a significant fraction of the population does not experience inner speech at all and may experience visual imagery when reading (Hurlburt, Heavey and Kelsey 1483, 92). Much to my surprise, I found this to be true in my pilot interviews for this study. I found programmers who claimed to see images when coding. I met a poet who said she experienced meter in poetry as pressure, not sound or image.

In addition, synesthetic experiences of language have been widely documented. “Synesthesia” refers to crossover between cognitive sensory pathways. For instance, a person’s hearing might be stimulated, but they see light instead of or in addition to hearing sound. Synesthesia is common in people with autism. In the Perrone-Bertolotti review, they conclude their section discussing the multimodal nature of the inner speech of deaf people with the suggestion that “inner language may include (and perhaps integrate) multimodal sensory information, in the auditory, motor, kinesthetic and visual domains” (230). For all these reasons, I was careful to craft language in my study to allow for multimodal inner experience of language.

Individual Variation in the Perception of Inner Speech During Reading and Writing
Potential variation in the experience of inner speech in general appears to be realized by actual variation in the way individuals experience inner speech during reading and writing. The most compelling evidence for this comes from Hurlburt’s work with the phenomenology of inner experience. The book *Describing Inner Experience? Proponent Meets Skeptic* is full of conversations with his skeptical co-author about the dangers of assuming that everyone’s inner experience is the same as your own. (See box 7.4 “Are People Mostly Alike?” for an interesting summary of the individual variations that he has observed.) From his reports and my interviews, I suspect that this kind of variation in the inner experiences of reading are due to the kind of neurodiversity in the human population that emerges from the complex topography of the inner landscape, and individual inner landscape’s may shift the degree to which individuals perceive text visually, auditorily, or kinesthetically. Whatever the cause, it is becoming clear that we cannot assume that everyone’s inner experience of language matches our own.

This diversity poses some methodological challenges. With the exception of Hurlburt, most of the research on inner speech up to this point has been within traditional scientific methodology. Quantitative science, by its nature, looks for universal trends and therefore frequently is looking for statistically significant universal patterns rather than what is happening in any one individual. However, the Perrone-Bertolotti review paper concludes: “We propose that our knowledge of inner speech will benefit from integrative approaches including first-person subjective information and third-person objective measures” (Perrone-Bertolotti
et al. 236). In my study, I created a methodological hybrid combining composition’s strength in qualitative methods, Hurlburt’s methodological insights, and some indirect, quantitative measures to create the kind of integrative approach that Perrone-Bertolotti suggests. My hope was that this hybrid approach would shed light on individual experiences of inner speech during reading and writing as well as support what I think is a generative trend toward integrated methodologies in writing studies.

**Inner Experience Methodology: Russell Hurlburt’s DES Method**

In this final section, as a bridge to the detailed description of the method I used in my study, I’d like to review the methodological challenges involved in addressing my seemly simple questions: “What does an individual hear when reading silently? What does an individual hear when writing?” The Perrone-Bertolotti review summarizes a wide variety of methods that have been used to explore the inner-speech phenomenon. Empirical studies of inner speech in psychology and psycholinguistics have tended to be highly controlled studies that rely on indirect measures of individual perception. As the breadth of the Perrone-Bertolotti review shows, we have learned a lot about inner speech using these methods. For the most part, these approaches assume a need to control parameters of the study in order to reduce the influence of the researchers’ (or participants’) bias and they assume an inherent distrust of an individual’s self-knowledge and reporting of his or her own inner experience.

This distrust, according to Hurlburt and Schwitzgebel, is well grounded. The fundamental question in their book, *Describing Inner Experience?: Proponent*
Meets Skeptic, is whether accurate reporting of inner experience is possible. This book is essentially Elbow's believing game played out by two scholars. However, one thing these scholars agree on is that the study of inner experience in psychology has a dubious track record. Introspective studies of inner experience from the late nineteenth to early twentieth century earned a reputation for being unduly influenced by the theoretical assumptions of competing researchers (Hurlburt and Schwitzgebel 4). The questions and assumptions in the researchers’ interviews did not leave room for answers that did not align with the scholars’ pet theories. Because the results of these studies were not able to be replicated by other researchers, this history tainted the subsequent exploration of conscious experience in the corporate memory of the field.

Due to the interdisciplinary nature of this work, I must stop for a brief digression at this point. Scholars steeped in qualitative research methods are probably not surprised by this conundrum. The history of the study of inner experience illustrates the critique of the scientific method that qualitative methodologies seek to address. Qualitative scholars, particularly those coming from post-modern perspectives, assume that objectivity is a Quixotic goal. Therefore, for research results to truly be meaningful, personal bias must be acknowledged and accommodated in a research plan rather than controlled or eliminated. Freeman et al. captured this sentiment in their discussion of validity in qualitative research when they said: “Rather than focusing on eliminating the subjectivity of the researcher in a fruitless effort to attain objective knowledge, qualitative researchers pursue how best to work with the fruitful positionings
that each researcher brings to a project.” This is why qualitative projects, including this one, often begin with the personal context of the researcher. It is a significant philosophical difference between the qualitative and scientific approaches, one that I have wrestled with in this work. I discuss this more in the "validity" section that closes the discussion of my methods chapter, and I will happily share Anne Herrington’s handout titled, "Some Notes on Alternative Conceptions of Validity and Reliability" with anyone who would like to explore this worthwhile discussion further. For this reason, though, some qualitative scholars might assume that the kinds of methodological challenges that led to this dismal track record in inner experience research would be true for any scientific study that relies on objectivity and controls to restrain personal influence, but Hurlburt understands inner experience research to be a special case, one requiring more care, because he claims that this type of research is particularly sensitive to the preconceived theories of the researchers and informants.

Inner sensations can be dreamlike, not following the same rules of observation or physics in external reality, so there is no easy way to validate the experience. People can experience an hour's worth of inner conversation in a minute. Some people can focus their mental attention on several things at once, a kind of inner multitasking. Some of that attention may be registered in their consciousness and some of it is not. For instance, an individual’s eyes might be processing text, but their conscious mental experience could be that of an image suggested by the text or emotion experienced as kinesthetic sensations (62–72,
100–102). Readers may or may not be simultaneously aware of the text and the image.

People participating in a study of inner experience might find that it is difficult for them to explain experiences that do not align with external reality. The dominant culture lacks a common vocabulary for describing these experiences, so people tend to go for metaphorical language, and metaphorical language is highly dependent on the life experience of researcher and informant. For instance, a person who has seen an IMAX movie might describe her experience reading using an IMAX movie as an analogy. However, a person without the experience of an IMAX movie might describe the same experience of an image as being like a postcard. These are two very different ways of experiencing an image, but they could both be used by an informant to get at the nature of the same inner experience. A researcher in this situation may need to explore the details of the metaphor to get at the exact nature of the experience, but in his or her questioning runs the risk of biasing the informant towards his or her preconceived notions of what the informant might be experiencing. On the other hand, in a structured interview, if I ask my participant, “Did the image look like an IMAX movie or a postcard?” I am relying on my participant to have that cultural knowledge and to be able to assign their unique inner experience to one category or another. In a phenomenon we know little about, there is a lot of room for error. In a qualitative research setting, with a more open structure, however, metaphors and the participant’s use of a particular term might be explored
through further questioning. This is the approach taken by Hurlburt in his DES
(Descriptive Experience Sampling) method and the approach I took in this study.

Chapter two of, Describing Inner Experience?, is titled "Can there be a
satisfactory introspective method?" In this chapter he summarizes his technique.
Participants in his Descriptive Experience Sampling (DES) studies carry a kind of
beeper that randomly interrupts them during routine daily activities and
prompts them to record a few notes about their inner experience at the moment
just prior to the interruption. The prompts vary depending on the nature of the
study. Participants bring a record of the samples and their notes to regular
interviews where researcher and participant explore the experiences together.
Hurlburt has developed a careful interviewing technique for this research, and he
thinks it is critical that both interviewer and interviewee receive training and
practice in this technique so that they don't fall into some of the unique pitfalls of
inner experience research. Hurlburt's DES method is an active critique of
previous approaches, and it emphasizes the importance of natural contexts and
individual experience (Hurlburt and Schwitzgebel).

Hurlburt believes that accurate introspective reporting of inner
experience is possible, but it takes practice on the part of both the researcher and
the participants. Other scholars, for instance his foil in the book, believe all of the
challenges of introspective reporting make accurate reporting fundamentally
impossible. Much of Hurlburt’s work has been an effort to look at past mistakes
in the field and try to develop a new method that avoids the pitfalls of previous
introspective approaches. In his book, he summarizes what he has learned and
lists fifteen guidelines for researchers seeking to reinvigorate inner-experience scholarship. Here is a summary of the guidelines that I think are particularly relevant to my study:

1. Human memory has been shown to be susceptible to a variety of errors. The longer the period of time between the inner event to be described, the introspection by the self-observer, and the reporting of the event, the more likely the experience will be reshaped by the process of remembering. Therefore, a researcher should strive to minimize the time between the experience and the report of the experience (14–15). One skeptical researcher suggested inner experience should be thought of as a snowflake caught in a warm hand (17). Hurlburt uses the term “pristine” inner experience to describe the snowflake before it loses its shape.

2. Avoid “armchair” introspection. “Casual observation about inner experience is not likely to yield scientifically valid results” (19). Without targeted, concrete experiences to refer to, people tend to shape their report of inner experience to support preconceived theories that they have about those experiences. For instance, if a person thinks of themselves as a visual thinker, they might only report that they experience visual imagery—even if, when given a concrete task, they might experience a clear perception of inner speech. Target experiences should be brief, concrete, and as natural as possible. Reporting should happen
immediately after the targeted experience and not during it because an interruption of an ongoing inner experience will alter it (16–17).²³

3. Terminology is problematic. Most people in this culture do not have a shared speech community where communicating about inner experiences is part of their day-to-day interaction. Because of this and because people do not share an external reference they can use to calibrate their language describing inner experience, people’s vocabulary for talking about their inner experiences is often limited and people may use identical words to refer to different experiences. Therefore, a researcher needs to interrogate the observer to try to flesh out exactly what he or she means when he or she uses certain terms (18).

4. Separate introspective observations from explanations of causality. Do not ask participants to explain why they think they experience what they do. Participants frequently are unable to determine why they think or do what they do and, if asked, will make things up to satisfy the researcher (18–19).

5. Try to connect introspective observations with other kinds of research results (20).

Hurlburt’s guidelines have been extremely helpful to me in thinking about the methodology of this study. While he honors the value of individual introspection, he expresses the need for care and skepticism in doing so. He

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²³ I violate this rule in my study, interrupting my participants mid-task. However, I may have made up for this error in my retrospective questioning prompting participants to consider moments earlier in their experience of the text. See my conclusions for more thoughts about the issue of timing the beep.

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emphasizes repeatedly that introspection about inner experience is a learned skill, and I expect that the biggest critique he would have of my study is the fact that I did not incorporate a sufficient training period into my approach. His scientific approach assumes that there is a “real” inner experience that can be accurately sampled. It puts the researcher in the role of an objective observer trying to sort through the messiness of an individual’s experience through careful questioning. His method calls for the researcher to train participants in the study, to help them become more accurate in their reporting of inner experience.

Critical ethnographers might balk at his subject position in his work, a knowledgeable, objective scholar trying to probe the inner experience of a naïve subject. In my study, I strove for accurate reporting of inner experience while maintaining an atmosphere of co-explorers of the phenomenon. I did this because it felt like a stance that was real to me, one I could perform with integrity. It also seemed like the best way to establish the trust necessary for my participants to push back against my pre-conceived notions. It is a tricky business. However, I think it is impossible to learn anything about the inner experience of voice during reading and writing without allowing for a little messiness, acknowledging that some lack of control is a necessary part of the process of a hybrid venture.

Figure Notes

Fig. 2.1. Images reproduced with permission from Figures 4 & 5 in Waddington, C. H. The Strategy of the Genes. 1957. London: Ruskin House: George Allen & Unwin
LTD, 1957. Print. The original figure legends were as follows: Figure 4: "Part of an Epigenetic Landscape. The path followed by the ball, as it rolls down towards the spectator, corresponds to the developmental history of a particular part of the egg. There is first an alternative, towards the right or left. Along the former path, a second alternative is offered; along the path to the left, the main channel continues leftwards, but there is an alternative path which, however, can only be reached over a threshold" (p.29). Figure 5: "The complex system of interactions underlying the epigenetic landscape. The pegs in the ground represent genes; the strings leading from them the chemical tendencies which the genes produce. The modelling of the epigenetic landscape, which slopes down from above one's head towards the distance, is controlled by the pull of these numerous guy-ropes which are ultimately anchored to the genes" (p.36). These images are not included in the creative commons license. Anyone wishing to reproduce these images should seek permission from the original publisher.
CHAPTER 3

METHODS

Introduction: The Method in "Audible Voice in Context"

The primary goal of this study was to describe individual experiences of audible voice in context. My use of "in context" has three meanings and three audiences as I try to position this work in relationship to previous work done with audible voice and inner speech.

For the scientific community, "in context" emphasizes that my focus is inner speech in the context of a single individual responding in the context of a single text. I am following in Hurlburt's footsteps, striving for as natural a context as possible. My participants were looking at complex readings, the kind of material they might be exposed to in school or seek out for their own enjoyment. The texts read by my participants were not stripped down. They were .pdf files of published work, complete with chapter headings, layout, images, and (in the case of websites) advertisements. This contrasts with many studies of inner speech in the psycholinguistic community that are limited to tightly controlled texts, often single sentences or sentence fragments. Most scientific studies of inner speech during reading take place in contexts similar to the implicit prosody quiz, and this will be meaningful when we get to the results of this study where my participants describe their experiences of both the IP Quiz and the readings. In going for a rich description of individual experience over the statistical power of
big numbers, I hoped to reveal some of the diversity in experience that can be hidden in averages or stripped of meaning when summarized in standard deviations.

For the composition community, "in context," refers to a return to the body, the individual context of the reader, the integration of mind-body-culture into the inner landscape of the reader and the way the interaction between text and the inner landscape manifest in their inner experience while reading.

Finally, as a poet and person who loves wordplay, I have my own peculiar understanding of "in context." For me, the title of this dissertation is a play on words drawing on the Latin to mean "Audible Voice in With Text." To me, it resonates with Robert Frost’s quote about living poetry:

The living part of a poem is the intonation entangled somehow in the syntax idiom and meaning of a sentence. . . . It is the most volatile and at the same time important part of poetry. It goes and the language becomes a dead language, the poetry dead poetry. (Barry 61)

Despite Frost’s grand words, this is a humble effort. The study was always intended to be small scale and exploratory. With seven participants, there was no hope of doing large-scale statistics. In this work, I cannot claim universal truths about human beings. I also cannot claim methodological purity. What I think this method and study offer is a careful, focused look at individuals’ self-reported inner experiences of text when reading and writing, a look that can be used to inform what we think we know about cognitive processes from other methods and to give a sense of a range of pattern and possibility in the inner experience of text when reading and writing. My participants’ experiences are not universal
truths, but they are windows into an inner reality that has not been sufficiently explored.

To accomplish this, I developed a unique mixed-methods approach. The core of the study consists of a blend of qualitative interviewing within a structure created by a modified version of Russell Hurlburt's DES method for sampling inner experience (Hurlburt and Schwitzgebel). Given that a lack of common vocabulary for inner experience is one of the challenges for this kind of research, I used the Likert follow-up questionnaires to explicitly introduce a common vocabulary and framework for participants to use when describing their experience, a framework that was based on current knowledge about the experience of inner speech and some preliminary results from pilot studies. My goal was to suggest a realm of possibility to participants in order to encourage them to report even counterintuitive sensations like producing a voice that they identified as "other."

After giving them this framework, I then encouraged participants in the instructions and throughout the interview to push back against the framework I had created. I prompted participants to elaborate on their answers and explain why they chose one number or another. What did a "3" mean to them in that context? I offered gratitude and encouragement any time a participant elaborated on or pushed back against a category I'd created. I told them the form was a first effort and their feedback would be used to design more accurate forms in the future. My hope was that this push-me, pull-me approach would give participants both the structure and the freedom they needed to assert their own
observations as co-explorers of the world of inner experience during reading and writing.

The fact that I had many coded "negotiations" with each of my participants is a sign that this aspect of the method worked as intended. In addition to this core approach, I collected indirect, quantitative data about participants' ability to perceive implicit prosody and estimated their reading speed in each context. The goal of this quantitative data was to have a different angle of information available to describe the individual experiences in context and to provide one common measure that might prove useful in comparing the experiences of the participants.

**Study Overview**

The study consisted of two phases: (1) recruitment and screening and (2) an in-office session where I led participants through a variety of activities and interviews designed to gather a sense of their inner experience of reading and writing, particularly their experience of inner speech. I developed a plan for the study that included protocols to ensure confidentiality and ethical treatment of my participants. I submitted the initial plans for the study to the institutional review board in January, received approval in February, and followed all applicable IRB standards.

**Recruitment**

The goal of the initial phase was to recruit using a strategy that would maximize the diversity of inner-speech experience represented in my final pool of participants. I had done enough preliminary work to know that there were
some individuals who reported not hearing inner speech at all when they read, that this experience was less frequent, and I estimated it to be very roughly one in ten people. I also knew that I would not have the time or resources to interview more than ten people in the second half of the study. Therefore, I aimed to recruit twenty to fifty people in the initial outreach and whittle that group down to my final ten using the background survey (Appendix B) as a tool to screen for diversity.

Volunteers from the Western Massachusetts community were recruited from Craigslist using an advertisement placed in a variety of different forums on the Western Massachusetts Craigslist site. (The advertisement is included in Appendix A). Aiming to recruit participants from diverse walks of life, I posted the ad in a variety of Craigslist "gigs" categories for short or part-time work including volunteers, computer, creative, talent, writing, and labor. In addition, I invited a few individuals to participate who had already shared interesting experiences of inner speech with me or expressed interest in the study in the course of informal conversations. Of the final seven highlighted in this dissertation, one was selected in this way. Individuals who responded to the announcement or invitation were sent an email containing the informed consent form and the background survey as an encrypted .pdf file. I instructed potential participants to review the informed consent form and contact me if they had any questions. Participants wishing to enroll in the study were instructed to sign the consent form with a digital signature (a feature incorporated into recent versions of Adobe Reader), complete the background survey, and return the encrypted
forms via email. Receipt of the signed consent form along with a completed background survey formally enrolled participants in the study and entitled them to a ten-dollar stipend for completing the survey. Participants received an additional forty-dollar stipend for completing the in-office session.

I chose the email approach because I thought that it would be easy for the participants and the encrypted .pdfs seemed like sufficient security to protect participants’ data. However, the forms posed unanticipated technical challenges. Out of more than sixty people who responded to my advertisement, only thirteen completed the process of filling out the forms. In an effort to help, I waived the digital signature requirement for several participants and, instead, had them sign the form in person if they came for an in-office interview. One participant simply printed and scanned his forms, and I hand-entered that data.

Upon receiving the completed consent form and background survey, I sent each participant a snail mail letter with the ten-dollar stipend and a copy of the printed and signed consent form. I continued recruiting participants through early March, when I felt I had sufficient numbers and diversity in the sample of people who applied.

At this point, I deleted the advertisements from Craigslist and followed up with people who I knew had begun the process, but not finished. In the end, I had thirteen enrolled participants in the study. I scheduled eleven participants for in-office sessions. Of the eleven scheduled sessions, nine sessions took place (two needed to be rescheduled, but then I needed to close the study). Out of the nine in-office sessions, I chose not to summarize one participant because that session
went over time, and I was unable to get to the writing portion of the concrete interview. I dropped a second person because I was short on time, and I was satisfied with the final seven because each participant's experience was unique, and I had participants' whose experience ranged from clear perception of audible voice when reading to "slippery" perception. There never was a shortage of people interested in participating in the study; I think this reflects a general interest in this community in the concept of voice in writing, one that I have encountered when speaking with people about this work in many different settings.

**In-Office Sessions**

**Office Setting**

Following the recruitment phase, I used a combination of email and phone to invite participants to meet me in my office in downtown Amherst. My office is in a historic home turned office space that includes life coaches, writers, and therapists. The room is small, but has two windows and room for a desk and a sitting area. I arranged the space so that the participant and I could sit in comfortable armchairs for the armchair interview, then move over to a desk where I displayed materials on a large-screen iMac. While the room feels cozy and homelike to me, it consequently may have felt intimidating to participants expecting a more neutral, impersonal space (McKinney). However, the personal nature felt appropriate because I never conveyed the pretense that this was an impersonal study. I was inviting them into both my personal space and my theoretical world, and I did my best to help them feel welcome there. I provided
nonalcoholic drinks for the participants and did my best to help them feel comfortable while engaged in study activities. With two exceptions, everyone seemed to feel at ease, curious, and interested in the study. Skyler expressed some anxiety at the beginning, but I took steps to address it; By the end of the session, Skyler seemed relaxed and engaged. The other anxious participant was later dropped from the study.

**Sequence of Events**

I created a form to prepare for each office session that included the outline of the session, notes from the background survey, the exact wording of questions I wanted to use as prompts, and space for notes (see prep form in Appendix H). The form had a few versions, but the changes mostly had to do with format, trying to make it visually easy to use during the interviews. I typed any handwritten notes I made on these forms onto the digital version and included them when compiling information during the analysis. In-office sessions lasted between two and three hours following this sequence: (1) Greeting and orientation, (2) Armchair interview, (3) Implicit prosody quiz, (4) Post-quiz interview, and (5) Concrete interview. I will describe each of these activities in detail in the "Materials and Activities" section below. At the end of the in-office session, I thanked the participant and gave a forty-dollar check as compensation for their time. I informed them that this marked the end of their formal participation in the study. However, I invited them to come to the celebration that I plan to hold once I submit this dissertation. At this party, I plan to share the

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24 I completed nine interviews. However, I only fully processed the data from seven participants. See explanation in the "Recruitment" section.
results with the participants. All participants said that they would like to come to the party.

**Materials and Activities**

This section offers a detailed description of the materials I developed for this study, the rationale for their use, and how, exactly, I used them.

**Background Survey**

The background survey (see Appendix B) was exploratory and consisted of a variety of questions that my research and preliminary interviews had led me to believe might influence or inform the participants’ experience of inner speech when reading and writing. This included questions about experience with speed typing, freewriting, and speed-reading plus other general information that I thought might impact a person’s experience of inner speech. In addition, it included a detailed survey of the participants’ language background and fluency, their current occupation and lifetime job experience, activities they found meaningful or important, and surveys of participants’ reading and writing habits including lists of genres they frequently read or wrote. The survey also included instructions for three activities designed to sample the inner experience of the participant when reading and writing along with the forms necessary for recording their report of their experiences (see below). The survey also included the Varieties of Inner Speech Questionnaire (VISQ) (see below).

The background survey was emailed along with the informed consent form to participants in the form of a password-protected .pdf form. This form could be completed using Adobe Reader version 11 or higher (a freely
downloadable program). A link for this download was included in the email. I estimated that it would take one to two hours to complete the survey, and judging from the feedback I got, it probably was more like one to three, but most of the trouble came from technical challenges with the forms. I made myself available to answer any questions. Participants returned the completed survey by email. As surveys came in, I completed the final materials for the in-office interviews, did two pilot interviews, and began to invite people to participate in the second part of the study according to the range of experiences I was interested in. For instance, based on current research and the preliminary interviews, I knew that I would want at least one person in the study who had a clear and unambiguous experience of inner speech when reading and writing and one who reported not hearing inner speech when reading. I used the background survey activities to try to pre-categorize the kinds of inner-speech experience I anticipated from the people I included in the final group of participants.

**Background Survey: Reading and Writing Activities**

These activities were the screening version of the full inner-experience sampling technique that I used during the in-office concrete interview. There were three activities: reading an excerpt from *The Great Gatsby*, writing a letter to a friend, and reading a text that the participant selected and enjoyed. I gave detailed general instructions, including instructions to read and write silently. I then gave a short reminder version just before the text and/or instructions for the activity. Participants were instructed to set a one-minute timer and, when the
timer went off, to jot down impressions of what was happening in their mind. For example, Figure 3.1 is a page extracted from participant #567, a house painter who chose Ethan Frome for his pleasure reading. The short prompt was the prompt for activities #1 and #3. These experience sampling activities served many roles. First, they were designed to serve as a pre-screen. I wanted to be able to look at the background surveys and have a sense of whether my participants’ experience of inner speech was dominated by sound, image, or other experiences. For instance, in Fig. 3.2, I would have noticed that the participant experienced vivid imagery and noted that imagery first as his dominant experience when the timer went off. He also clearly experienced audible voice, his "standard narrator." Though, he noted it as an afterthought.

My goal was to recruit people with as wide a variety of inner-speech experience as possible. Also, respondents' reporting on the background survey would give me a sense of their skill and intuition for reporting inner experience. In addition to serving as a pre-screen, I wanted to start the process of introducing participants to the kind of inner-experience sampling I would use in the in-office interviews and the vocabulary I would use.
Code:  567

Instructions:

1. Set a timer to alert you after 1 minute.
2. Begin reading.
3. When the timer goes off, immediately jot notes in the file about what you were experiencing in the moment just before the timer went off.
4. Now, using the notes you jotted, write a paragraph describing your experience in more detail.
5. Finally, turn to the question page associated with the activity and answer the questions about your experience when writing.

Activity 3: Pick something you really enjoy reading. It can be any genre. Pick any place you’d like to start reading. Start the timer when you begin reading it.

Jot Notes:

i was picturing the room in which the scene was set and feeling for Ethan since his wife will be home soon

Summary:

I have a particular attachment to this text as it is the book I am currently reading. Since I’ve already built a mental image of the room in which the scene is set I was looking around it mentally and had a sense of cold blowing in from the cracks around the windows and doors. There is a man at the table that I didn’t really remember from earlier in the story and I was briefly distracted by thoughts of who he was but told myself to forget it and keep going. I didn’t hear any voice other than my standard narrator voice that I use for everything. I consider this my voice even though it doesn’t necessarily sound like my spoken voice.

What text did you choose (Give the title, author, and page or URL if possible)?

I chose Ethan Frome by Edith Wharton, first page of chapter six.

Note: If it is a personal text, something not publicly available, please describe the text here and bring it with you if you are invited to come for an interview.

Fig. 3.1 Response to activity #3 from participant #567's background survey.
Fig. 3.2 Participant #567's response to the second page of follow-up questions in activity #3.
Follow-Up Questions

This three-page series of Likert-style questions (see Appendix C for the full set and variation between the reading and writing versions) were used to introduce vocabulary and concepts to help participants focus on particular aspects of inner speech when reporting their experience. The questions on the background survey were almost identical to the questions used during the in-office concrete interview; therefore, I will put the primary description of them here and refer back to this section when I describe the concrete interview.

In these forms, I deliberately introduced participants to a vocabulary and potential categories of inner experience that were informed by previous research about inner speech using other methodologies as well as my own preliminary interviews. In particular, both in the research and the preliminary interviews, I was struck by reports of visual images and kinesthetic sensations in addition to sound when readers described their experience of reading. Given that the literature reported synesthetic experiences of inner speech, I wanted to be sure that my questionnaire included all senses. (See the review of research on inner speech in the background chapter for more on this.) Although the experience of smell had not been reported previously, I thought it would be interesting to include it as a kind of control for eager-to-please participants. I did have two participants report smell. My sense now is that this experience was not due to a desire to please on the part of my participants, but rather that smell can be part of the vivid imagery created by people when forming a scene. Other signs of vivid imagery were tactile sensations and moving elements.
The second group of questions on the forms continued in this exploratory mode trying to ask questions that allowed for the unknown. I asked about the participants’ experience of pleasure, familiarity, and presence—all factors that seemed like they could be connected to a person's experience of voice in writing. The final page of questions (see Fig. 3.2) came primarily from Russell Hurlburt’s concerns in "A Phenomenology of Inner Speaking" and highly contested theories about inner speech in the psycholinguistics community. So, for example in Fig. 3.2, participant #567 describes experiencing his "standard narrator" voice as his own voice, male, and as if he were producing it or speaking it.

In general, all of the questions on these forms were informative—as used in the dialogic context this study. Some, like the initial sound and image questions, seemed to lend themselves more easily to quantitative ranking. Some, like the gender, movement, and presence questions, were primarily useful in triggering conversation, giving insight into the participants' theories and perceptions about their inner experience.

The final questions about qualities of sound, the "details" and "resolution," questions, however, approached being useless. In the end, I discarded the details question almost entirely in the material I used for my analysis. The questions came at the end of the battery of questions, long past the time that the memory of their experience was fresh. The theory behind these questions was too difficult to explain to participants, and how that theory might manifest in their experience was unclear. Even more problematic in the details question was the fact that I listed rhyme and described alliteration as possible examples in the text of the
options. Participants, struggling for a way to answer that question, tended to immediately latch onto these specifics and score it just for the examples. A typical response might be something like: "I put 0 because I didn’t hear any rhyme in that text. I never hear rhyme except when I’m reading poetry."

At the end of this study, I have an intuition that there is something important in their responses to those questions. It is possible that participants struggled so much with these two because they: (A) didn’t hear any sound details in inner speech unless their attention was drawn into it by the language or genre and (B) were able to hear supra-segmental features of the language without hearing words or details of sound. I heard responses supporting the possibility of either of these experiences. However, both of those possibilities would be highly counterintuitive, and both of these aspects of inner speech will have to be addressed by a study better designed to describe participants’ perceptions of these features of the language before any meaningful conclusions can be drawn.

Early in the process of developing this study, I developed these forms intending to use the Likert rankings as part of a large-scale statistical analysis. However, at the end of this study, I realized that using them to compare individuals would be like comparing apples to oranges because, for example, what one person means by movement is not the same as what another person means by movement, so I would not recommend that they be used for that purpose without careful consideration of what the numbers reflect. The rankings are not meaningless, but the meaning is unique to each participant, would need to be solidified through repeated exposure and discussion, and would only be
meaningful for comparing the responses of that individual to their own response to different readings and different genres. However, if used carefully, they could be used to rank individual responses to different genres and then those responses could be pooled to analyze broader patterns.

This is not to say that the follow-up questions were useless. Quite the contrary; I think they were an essential part of this study. But, now at the end, I will reframe what they were useful for. I think it was important to give my participants language to describe their experiences and create questions that prompted them to be open to potential inner experiences of text that had been reported in the literature or that I had heard reports of in my preliminary interviews. Since many inner experiences are dreamlike, I think that offering a range of possible experiences helped my participants feel more at ease in reporting odd or counterintuitive sensations. The need to arrive at a number ranking their experience kept participants focused and encouraged them to be careful observers of their own inner worlds. I used the follow-up questions explicitly in the background survey activities and concrete interview. However, because I had provided the structure and vocabulary ahead of time, they also were a subtext in the open discussion of the study during the armchair interview and during the IP Quiz post-interview.

In the context of the background survey, I hoped these questions would prompt participants to observe themselves and, perhaps, ask questions between the time they took the survey and the time they came into the office. I found that, with one exception, they did not ask questions before I met them. However,
several times during the in-office sessions, participants reflected back on how they had initially interpreted these questions and their new understanding now that they were engaged in concrete activities and discussion with me during the in-office session. For example, a participant might remember interpreting "movement" a certain way on the background survey, but now that they were faced with the same form during the interview and had me there encouraging them to question, they would ask me if their initial interpretation was "correct"—giving me an opportunity to understand and record their interpretation in both places. This kind of exchange happened several times during the study. Here is an example from a conversation with Maja about presence in sample #1. In this excerpt, we had been having a conversation trying to distinguish between "presence" as picturing the person in one's head vs. feeling a sense like someone is present with you in the room. Maja was wondering if an image of a person counted as presence, perhaps since she had just mentioned having an image of the speaker’s face. However, in this excerpt, she claims that she had understood it to be a physical presence when she completed the background survey before:

MAJA: Sense of presence, I mean I, that's not the same as picturing the person in my head so the sense of presence is like, like a physical presence with you as you read is what I had understood it as before?
AIRLIE: Yeah, so that's how you understood it before.
MAJA: Yeah.

We talk more about this, and I give an example of the difference between the feeling of facing a wall when alone in a room or facing a person.
AIRLIE: So then the question is somewhere along the scale, if you’re reading that text, do you start feeling like more there is someone there and, but it’s not, it’s not and like I wasn’t trying to do it in like a, I mean because of course intellectually you know someone’s not there.

MAJA: Right, right, yeah.

AIRLIE: But more just that feeling of not being alone.

MAJA: Hmm? Maybe, I mean, I’m just trying to think, I know when I did this and, you know, I, I just, I know I put zero for all of them because I, it’s not something I had ever thought about or and, you know, and the text was so short and I guess I, when I read, I don’t, it’s not like the person is there next to me but it’s like what we talked about before like feeling that it’s like I’m there. (Laughter) Not that they’re here but that I’m there. So I don’t know if that’s the same (laughter).

AIRLIE: Well, no, but that’s, but that’s, I think is similar kind of thing I’m trying to get at so like the way you’re describing it is interesting.

MAJA: Yeah, yeah, yeah.

AIRLIE: So like immersion –

MAJA: Right, right.

AIRLIE: - a sense of being taken away from here.

MAJA: Yeah, so it’s like a sense of being the silent observer in that world of, of the story.

AIRLIE: Yeah.

MAJA: So, so I guess I would, I don’t know. I don’t know if that answers that if that’s the same thing.

AIRLIE: Well, I don’t either. (Laughter) I mean, so, but again that’s why I’m emphasizing this is an exploratory, there’s things out in the literature that made me put this here and then my own experience.

MAJA: Yeah, yeah.
AIRLIE: But like really I'm just trying to get what are other people's experiences.

Comments like these suggest that the presence of the forms in the initial survey did help participants begin thinking about their inner experience and practice making observations prior to the in-office session. A period of training is an important component of Hurlburt’s DES method, one that I skimped on in this study. Therefore, it is important to note that the inclusion of the forms in the survey may have provided some "training," though it was biased in that it fed the participants a set of categories and vocabulary to use in observing their inner experience.
Varieties of Inner Speech Questionnaire

The VISQ (Varieties of Inner Speech Questionnaire) is an eighteen-question, Likert-style questionnaire designed to quantify the degree to which a person's general experience of inner speech falls into one of four categories: "dialogicality, condensed/expanded quality, evaluative/motivational nature, and"

Table 1

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor loadings Factor 1 Factor 2 Factor 3 Factor 4 (Dialogic Inner Speech) (Condensed Inner Speech) (Other People in Inner Speech) (Evaluative/Motivational Inner Speech)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think to myself in words using brief phrases and single words rather than full sentences</td>
<td>.09 .78 .03 .05</td>
</tr>
<tr>
<td>When I am talking to myself about things in my mind, it is like I am going back and forward asking myself questions and then answering them</td>
<td>.80 -.02 -.04 -.10</td>
</tr>
<tr>
<td>I hear the voice of another person in my head. For example, when I have done something foolish</td>
<td>.09 .10 -.79 -.09</td>
</tr>
<tr>
<td>I hear my mother's voice criticising me in my mind.</td>
<td>.23 .02 -.73 -.08</td>
</tr>
<tr>
<td>I experience the voices of other people asking me questions in my head</td>
<td>.05 .03 -.81 -.02</td>
</tr>
<tr>
<td>My thinking in words is more like a dialogue with myself, rather than my own thoughts in a monolog</td>
<td>.76 .04 .01 .01</td>
</tr>
<tr>
<td>My thinking to myself in words full sentences*</td>
<td>-.21 .76 -.03 -.07</td>
</tr>
<tr>
<td>My thinking to myself in words is like shorthand notes, rather than full, proper, grammatical English</td>
<td>.03 .77 .10 .03</td>
</tr>
<tr>
<td>I think in inner speech about what I have done, and whether it was right or not</td>
<td>.01 -.11 -.02 .66</td>
</tr>
<tr>
<td>When I am talking to myself about things in my mind, it is like I am having a conversation with myself</td>
<td>.78 -.08 -.01 .15</td>
</tr>
<tr>
<td>I talk silently to myself telling myself to do things</td>
<td>.29 .12 .05 .61</td>
</tr>
<tr>
<td>I hear other people's actual voices in my head, saying things that they have never said to me before</td>
<td>-.10 -.09 -.75 -.07</td>
</tr>
<tr>
<td>I talk back and forward to myself in my mind about things</td>
<td>.70 -.10 -.08 .27</td>
</tr>
<tr>
<td>My thinking in words is shortened compared to my normal out-loud speech. For example, rather than saying to myself things like 'I need to go to the shops'; I will just say 'shops' to myself in my head</td>
<td>.06 .79 -.09 .11</td>
</tr>
<tr>
<td>If I were to write down my thoughts on paper, they would read like a normal grammatical sentence*</td>
<td>-.10 .74 -.09 -.14</td>
</tr>
<tr>
<td>I evaluate my behavior using my inner speech. For example I say to myself, &quot;that was good&quot; or &quot;that was stupid&quot;</td>
<td>-.17 -.01 -.79 .17</td>
</tr>
<tr>
<td>* Item reverse scored, loading co-efficients &lt;.3 displayed in bold.</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Descriptive statistics (N=220).

<table>
<thead>
<tr>
<th>Measure</th>
<th>(Mean (SD, range))</th>
<th>Cronbach's alpha</th>
<th>Test-retest reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>VISQ: Condensed Inner Speech</td>
<td>15.09 (5.60, 5-28)</td>
<td>.80</td>
<td>.61</td>
</tr>
<tr>
<td>VISQ: Dialogic Inner Speech</td>
<td>17.80 (4.67, 5-24)</td>
<td>.83</td>
<td>.69</td>
</tr>
<tr>
<td>VISQ: Other People in Inner Speech</td>
<td>11.99 (6.66, 5-30)</td>
<td>.88</td>
<td>.66</td>
</tr>
<tr>
<td>VISQ: Evaluative/Motivational Inner Speech</td>
<td>18.68 (4.31, 4-24)</td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>Auditory hallucinations</td>
<td>9.46 (3.02, 5-20)</td>
<td>.73</td>
<td>-</td>
</tr>
<tr>
<td>Visual hallucinations/disturbances</td>
<td>1.82 (92, 0-4)</td>
<td>.78</td>
<td>-</td>
</tr>
<tr>
<td>HADS: Anxiety</td>
<td>8.05 (4.18, 1-20)</td>
<td>.83</td>
<td>-</td>
</tr>
<tr>
<td>HADS: Depression</td>
<td>4.60 (3.81, 0-21)</td>
<td>.81</td>
<td>-</td>
</tr>
</tbody>
</table>

*p < .001. VISQ = Varieties of Inner Speech Questionnaire, HADS = Hospital Anxiety and Depression Scale.

Fig. 3.3 Varieties of Inner Speech Questionnaire

25 This questionnaire is reprinted from (McCarthy-Jones and Fernyhough 1586), and it was published and was used with Charles Fernyhough’s permission. However, it is not included in the CC license for this dissertation. Questions about use of the VISQ questionnaire should be addressed to the original authors.
the extent to which [their] inner speech incorporates other people's voices” (McCarthy-Jones and Fernyhough, 2011, 1586). I included the VISQ questions in my background survey because I wanted to maximize the diversity of the kinds of inner speech of people in my study, and I thought that there might be a relationship between people’s self-description of their general experience of inner speech and potential variation in the experience of inner speech when reading and writing. In addition, incorporating these questions into my survey would allow me to position my participants within the relative frequencies of the various categories of inner speech described during the process of psychometric validation of the VISQ as an instrument for use in studies in cognitive psychology. I calculated the VISQ scores for my participants (detailed below), and the ranges of their scores fell within the ranges reported for the original population sampled by the VISQ.

The VISQ is imperfect because it relies on a ranked self-reporting of inner experience, so it has some of the same flaws that I mentioned that my study would have if I used my Likert questions in a similar way (Hurlburt, Heavey and Kelsey). However, it is one of only a few questionnaires developed to assess inner speech, and it is the only one that represents the Vygotskian perspective. It is also the one most aligned with the kind of phenomenological experience described by my study (Alderson-Day and Fernyhough).

Initially, I did not score the VISQ questionnaire. In screening participants, I glanced at a few of the questions, primarily to make sure that I included people who reported experiences in each of the four categories of inner speech. I was
particularly interested in the questions describing condensed inner speech since this form of inner speech was reported to be less common, and I had wondered if the "not hearing" people I was looking for might overlap with people who claim to experience condensed inner speech.

Later, as I began the analysis, I started noticing the correlation between the IP Quiz scores and the condensed inner-speech factor that I describe in my broad results section. At that time, I decided to go ahead and carefully score the VISQ questionnaire and include it in my analysis.

**Details of the VISQ scoring protocol**

First, I collated the VISQ portion of the background survey forms into a compiled worksheet in an Excel workbook. The VISQ questionnaire was developed using a factor analysis protocol. In this analysis, each of the final eighteen questions was determined to represent one of four inner-speech categories: Condensed Inner Speech, Dialogic Inner Speech, Evaluative/Motivational Inner Speech, and Other People in Inner Speech. According to McCarthy-Jones, "An examination of all responses to items on each subscale showed that 36.1% of participants reported some experience of Condensed Inner Speech, 77.2% reported some Dialogic Inner Speech, 25.8% reported some Other People in Inner Speech, and 82.5% reported some Evaluative/Motivational Inner Speech." I transposed my Likert indices so that they matched the order used in the McCarthy-Jones paper (scored 0-6) and accounted for the two reverse scored items (#15 and #7). See McCarthy-Jones et. al. for details. Following Michael Lavine’s recommendation, I then used a
common protocol for calculating Likert scores as a guide for calculating the sum and mean scores (Anglim). Sum scores were a simple sum of the reported Likert scores in each category. The mean scores were calculated using the average function in Excel. The final VISQ scores for each participant are detailed in Appendix F. The McCarthy-Jones study used the summed scores and reported the mean, range, and SD of participants in the study (291). The range of my participants' scores fell within the range reported for McCarthy-Jones's population (N = 220), and I used this as a confirmation that I had calculated the scores correctly.

**Implicit Prosody Quiz**

Table 3.1: Types of IP Quiz problems and their sources.26

<table>
<thead>
<tr>
<th>group</th>
<th>type</th>
<th>ability tested</th>
<th>source</th>
<th># of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Nonsense homophone questions.</td>
<td>Ability to detect homophones of phonemic nonsense words using implicit prosody.</td>
<td>22, p.402</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Stress - Prosodic Phrasing</td>
<td>Ability to determine the correct information structure of the sentence then choose the correct main stress accent to match the meaning using implicit prosody. (Underline used to indicate emphasis.)</td>
<td>Deuel et al. example from Breen, Mara. &quot;Empirical Investigations of the Role of Implicit Prosody in Sentence Processing.&quot; Language and Linguistics Compass 8.2 (2014): 37-50. Print., p.39</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>Stress - &quot;reciprocals&quot;</td>
<td>Ability to perceive stress accents through implicit prosody and use them to determine agency in an otherwise ambiguous sentence. (Underline used to indicate emphasis.)</td>
<td>Developed from example shared by Chuck Clifton in his office on 12/2/2014.</td>
<td>4</td>
</tr>
<tr>
<td>6A.</td>
<td>Stress - Anticipated Stress in Limerick A.</td>
<td>Ability to detect when anticipated stress would make homographs incongruent with anticipated meaning when silently reading limericks. Processing difficulty assessed by asking if one limerick is more difficult to read than the other.</td>
<td>Problem set used in Breen, M., &amp; Clifton, C. (2010). Stress Matters: Effects of anticipated lexical stress on silent reading. Journal of Memory and Language, 64, 153-170.</td>
<td>5</td>
</tr>
<tr>
<td>6B.</td>
<td>Stress - Anticipated Stress in Limerick B.</td>
<td>Ability to identify the homograph causing the difference between the limericks.</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>7.</td>
<td>Prosodic Chunking - Punctuation</td>
<td>Ability to determine agency in an ambiguous sentence disambiguated with commas. Note: These problems did not have a “right” or “wrong” answer. Therefore, I used them in the follow-up interview, but did not include them in the score.</td>
<td>Problems from study in press at Lingua: “Relative Clause Attachment in German, English, Spanish and French: Effects of Position and Length,” Barbara Hemforth1, Susana Fernandez2, Charles Clifton, Jr.3, Lyn Frazier3, Lars Konieczny4, and Michael Walter4 p.36-37</td>
<td>9</td>
</tr>
</tbody>
</table>

26 Questions from group 7 contained errors. Therefore, they were not included in the scoring or Appendix D. See the section: "Details of IP Quiz Scoring" for more information.
Following the armchair interview, participants took a quiz on the computer that was designed to assess their perception of prosodic features of language when reading silently. All quiz items are included in Appendix D and Table 3.1 summarizes their content.

This quiz, developed with the support of Chuck Clifton and Mara Breen (scholars who study implicit prosody during reading), is an important feature of this study for several reasons. The obvious contribution of the IP Quiz is that the score describes a participant’s ability to perceive different aspects of implicit prosody when attempting focused tasks, a useful reference in trying to describe and think about the participant’s reported experience of inner speech when reading. Another way this quiz proved to be valuable is that it provided a concrete context, a kind of obstacle course for the inner ear, immediately following the armchair interview. This sequence enabled participants to compare their armchair remembrance with something immediate and tangible. (This aspect will be discussed more in the post-quiz interview section.) The IP Quiz is the only portion of the study that did not rely on participants’ self-report of their experience. This indirect data is valuable because it is, theoretically, not as easily swayed by a participant’s theories about his or her own mental processes or his or her desire to support the interviewer’s theories. Having a little data like this is particularly important since, in this study, no effort was made to disguise the interviewer’s theories. Finally, the IP Quiz data is the only indirect, quantitative
measure that is present for all participants. Therefore, it provides a common thread for thinking about and organizing the experiences of the participants.

The quiz had two main sections: (1) three practice questions at the beginning and (2) a series of problems, the "obstacle course." The practice questions consisted of brief readings and a simple question: "Did you hear sound when you read this sample?" I originally introduced the passages to help participants get used to the read, click, answer pattern that proved confusing during the pilot run-throughs. However, these practice items turned out to provide useful data since they gave me a data point I could use to estimate reading speed (see the reading speed section for more on this), and they provided a sampling of different genres for the participants to reflect on when comparing inner-speech experiences during the quiz. Since these were intended as practice examples, very little thought went into their selection. I chose brief passages that I thought might prompt different experiences of inner speech out of the .pdf files I had handy on my computer.

The "obstacle course" section, on the other hand, involved considerable work developing the questions. It was, initially, divided into seven groups based on the types of problems. However, the seventh group was found to contain errors and therefore was later dropped from the scoring. The sources and aspect of implicit prosody tested by each type of question are described in Table 3.1. The full set of scored problems are in Appendix D. However, I'll include a few problems in Fig. 3.4, including one from group 7, so that you can have a sense of it.
The quiz was designed to work at two levels: (1) it provided a series of multiple-choice questions that required participants to use different aspects of inner speech to answer the question. Most quiz items were modified from published studies with the goal that they exhibit "sledgehammer" effects. By "sledgehammer," I mean that we chose prosodic phenomena that, statistically speaking, participants were likely to experience and structured the questions so that correct answers on the quiz would be unequivocal evidence for the perception of implicit prosody. For example, the rhyming questions in group 1 had sounds that rhymed, but no rhyme pair had matched letters. In group 2, the rhymes used unusual phonetic spelling so that previous knowledge could not be used to detect the correct answer. A participant would need to "hear" the rhyme
and not "see" it.

<table>
<thead>
<tr>
<th>A. Group 3 (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTRUCTIONS: Silently read the following sentence until you understand what it is trying to say. Click the mouse when you know your answer to the question.</td>
</tr>
<tr>
<td>Awh theigh stikee pheate and haeree bowdeze and in theigh saking mowthz theigh karrie menie milyunz uv gerrnz and bryng suhn four-lee kyndz of dizee.</td>
</tr>
<tr>
<td>(a) This text describes a cute little girl.</td>
</tr>
<tr>
<td>(b) This text describes a fly.</td>
</tr>
<tr>
<td>(c) This sentence is utter nonsense. It makes no sense to me, even when I try very hard to make it make sense.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Group 4 (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTRUCTIONS: In this question, <strong>underlining</strong> indicates stress or emphasis. Imagine someone just asked you the question. Reading silently, choose the response that would sound correct to you if replied to the question aloud with the emphasis indicated.</td>
</tr>
<tr>
<td>What did Damon fry?</td>
</tr>
<tr>
<td>(a) Damon fried an omelet.</td>
</tr>
<tr>
<td>(b) Damon fried an omelet.</td>
</tr>
<tr>
<td>(c) Damon fried an omelet.</td>
</tr>
<tr>
<td>(d) Damon fried an omelet.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Group 7 - Not Scored</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTRUCTIONS: Silently read the sentence and then answer the question about who did what.</td>
</tr>
<tr>
<td>The son, of the colonel who died, wrote five books on tropical disease.</td>
</tr>
<tr>
<td>Who died in this sentence?</td>
</tr>
<tr>
<td>a) The colonel</td>
</tr>
<tr>
<td>b) The son of the colonel</td>
</tr>
</tbody>
</table>

Fig. 3.4 Example of some IP Quiz problems and their answers.

The quiz included questions that were designed to give the participant a sense that all potential answers were valid responses. Questions number 3, 5, and 11 included a "negative" response that was a similar structure, but asked
participants to detect the absence of the phenomenon being examined. So, for instance, questions 3 and 5 asked the participant to be able to detect that a rhyme was not present where the other questions asked them to detect the presence of a rhyme. Question 21 was a "filler" encouraging participants to believe that sometimes there would not be a difference in difficulty between the limericks.

The software used to present the problems also timed how long it took for participants to complete the problems. This timing data had the potential to give another layer of resolution to the results by providing an estimate of how difficult it was for the participants to complete each problem. Unfortunately, I included the instructions on the images for the problems, and that made the timing data unusable for this study. Without that error, the IP Quiz would have provided an indirect measure of whether participants were able to use aspects of implicit prosody to accomplish a focused task and how difficult it was for them to do so. As it is, the quiz score is an indirect description of each participant’s ability to perceive prosodic aspects of language in inner speech. As will be discussed in the results chapters, the scores appear to be meaningful in the context of the qualitative and other quantitative data.

One final observation came from the IP Quiz that was useful in describing my participants’ experience of text. While participants took the quiz, I discreetly watched and listened to see if they attempted to read aloud or mouth language to answer the questions because previous research suggests that this kind of subvocalization may have a significant impact on the perception of implicit
prosody during a focused task (Oppenheim and Dell). I observed this kind of behavior in one participant (Maja) and noted that Paula nodded emphasis briefly during the group #5 portion of the quiz, but I did not interrupt them. It is worth noting that Paula and Maja had the two highest scores on the IP Quiz, therefore their performance may have been aided by supplementing their subvocalization with body movement. Another explanation, though, is that they moved because they are both people engaged by implicit prosody.

Details of IP Quiz PROTOCOL

The quiz was administered on a twenty-seven-inch, late 2013 iMac using PsychoPy,²⁷ a standard psycholinguistic software package that enables precise timing of responses. Quiz items were written in MS Word, printed as .pdf files, cropped, and saved as .jpg files with a file name numbering each question. Using PsychoPy, I was able to present each question image in a sequence determined by an Excel file, and then time the number of seconds between the presentation of the image and the first mouse click. I instructed participants to click the mouse the moment they knew the answer, and then select the correct letter. (The exact instructions are in Appendix G.) My intention with this procedure was to accurately record the time it took for participants to arrive at their response. There were a few problems with this setup that I later realized. I made one revision after the initial interview with Nancy because she noticed a spelling error in my instructions. I changed "percieve" to "perceive." The quiz took about a half hour.

²⁷ Though simple, I would be happy to share these scripts with anyone interested in seeing what I used.
Details of IP Quiz Scoring

I administered the quiz, entering the unique code for each participant before they started. Quiz data for each participant was stored in an Excel worksheet labeled with the code for that participant. I pasted participants’ responses from that worksheet into a scoring form containing the answer key (see Appendix E) so that it would be easy to record and review their responses. I checked my written notes for each participant to account for times when participants recorded an answer, said it was a mistake, and asked me to make a note to correct it. I edited the score accordingly, and I put comments on the scoring forms where I made this kind of edit (participants #123 and #345). The group 7 questions were problematic for several reasons, mostly having to do with errors I made in designing and administering them, so I did not score them or include them in Appendix D. However, as the last problems participants did before the post-quiz interview, they were particularly useful in their qualitative contribution because they required participants to pay attention to the role of commas in prosodic chunking of sentences. Many participants commented on their experience with these questions during the interview, so I felt it was important to include them in the table of question types, share an example, and not eliminate them completely from the record.

Each question in groups 1 through 6 was worth 1 point. I created an Excel workbook to help me accurately calculate the scores. I copied and pasted participants’ responses from the scoring pages into the workbook, double-checked the ID, and let the worksheet do the math. Putting them into the
worksheet enabled me to easily order the participants’ scores, compare them, and look at the patterns of error that they made. Later, we decided not to score questions 21A and 21B because they were filler questions and did not reflect a participant’s ability to perceive implicit prosody. So, I made the appropriate edits. The final scores ranged from 17 to 27, with scores distributed throughout that range.

**Estimating Rough Reading Speed**

Estimating the words-per-minute reading speed of my participants was a bit of an afterthought in this study. However, after being shocked to realize how far Gwen got in reading #3, I realized that I really wanted to know if and how some of the reports from the participants might be related to their reading speed— if there was any obvious relationship. It seemed like an essential piece of information in thinking about my participants’ experience of inner speech and their response to specific texts. I did a quick brainstorm and realized that, while it wouldn’t be perfect, I did have two sources of reading speed information built into the study: (1) The practice passages at the beginning of the IP Quiz were timed and a fixed length and (2) The recordings included time information along with my spoken notes about when a participant started reading and my spoken notes about where they got to in the text. All together, this theoretically gave me six or seven data points from readings of a variety of lengths, forms, and genres. Once I decided to collect this information, I created an Excel worksheet so that my calculation would be consistent, and I completed this form for each
participant as I reviewed the concrete interview transcript forming the initial "concrete summary" (described below).

In terms of the pros and cons of each source of data, the pro side of the IP Quiz data was that it was more precisely timed. The con was that, as part of the warm-up, sometimes participants hit a key before they pressed the mouse, making the time a bit longer than it should have been. If I noted that a participant asked me a question during a particular passage, I did not use that data point. Also, I did not explicitly ask participants to read to the end. It is possible that they might have just read until they felt they could answer the yes/no question about sound at the end. However, if that had been the case, I would have expected the estimates from the first category to be significantly different from the second category, and I did not see this.

The time gathered from the concrete interviews was estimated from my initial statement on the recording indicating that the page was visible and they could start through the buzzer. I used the last word or character mentioned in their statement of where they were to count the words. This estimate clearly had fuzzy boundaries and, often, the final place in text was vague: “I got to somewhere around here . . .” In one case, I forgot to ask the participant where he had stopped and, therefore, was not able to use any of that potential data. However, when averaged together, I think these measurements are a meaningful WPM estimate and can be used as such as long as they are not mistaken for precise data. While no obvious trends were apparent in this small study, in the end, this data was useful in painting a fuller picture of the participants’ reading
experiences. In particular, it supported qualitative data from participants that suggested that they controlled their reading and shifted their reading rate according to the material.

**Armchair Interview**

The armchair interview, in many ways, is what motivated this project to begin with. Early in my exploration of inner speech, I started asking people about their experience of inner speech when reading and writing. I found it was a good beginning to talks because it helped ground my audience in the phenomenon I was talking about. When I first began this exploration, I assumed that all people experienced inner speech during reading and writing the way I did, so my questions were merely a rhetorical exercise to ground my audience in the experience. But I quickly realized that people reported a wide variety of experiences, some of which bore little resemblance to my own. I found that people, when they took a moment to introspect, were often surprised and fascinated by what they found in their own inner experience. A few times, these conversations and comparisons so engrossed people that I found it difficult to move on to the substance of my talk. As I prepared to move into my dissertation work, I realized that this rhetorical question—"What do you hear in your mind when you read and write?"—had ceased to be rhetorical and had become the core question of my project. I deliberately refined my questions and, at several conferences this past summer (2014), tried the questions on individuals and in a focus group–style interview at Peter Elbow’s summer symposium (Fontana 704). The approach used in this study is derived from the interview style that I found
most effective in drawing out my respondents’ responses in these preliminary interviews, particularly responses that were unexpected from my own experience (though later corroborated in recent reviews of inner-speech experiences).

In the interview, I tried to facilitate a natural conversation with an overall tone of two partners engaged in a mutual exploration of a phenomenon we know little about. I provided some structure to prompt the conversation, but allowed the conversation to wander, within limits, trying to keep it within the realm of inner experiences during reading and writing. Rather than trying to frame or control what participants said ahead of time, I tried to listen and ask questions to help fill out as full an understanding of their experience as possible. The final summary of their experience includes what they experience, when and how they report experiencing it, and what they believe impacts that experience. In addition to asking about specific genres, I used information they shared on the background survey, for instance jobs and hobbies, to prompt them to share potentially relevant experience.

DETAILED ARMCHAIR INTERVIEW PROTOCOL

Structure during the interviews was provided by four pre-written questions, a list of genres to cover generated from the genres the participant reported using most frequently in the background survey, and other information I wanted to explore from the background survey. I began the recorded portion by announcing that the recorder was on. I then used the following questions to prompt the discussion:
1. What do you hear in your mind when you read silently? If you do not experience sound when you read, what do you experience?

2. What do you "hear" when you write? If you do not experience sound when you write, what do you experience?

3. Is there a difference in your reading experience when you read GENRE A vs. GENRE B? Describe your experience reading GENRE A, B, etc.

4. Does your experience writing change for different genres? For instance, what do you experience when you write GENRE A vs. GENRE B? Is it the same? Describe your experience when you write: GENRE A, GENRE B, GENRE C, etc.

I continued the interview until they had responded to each primary question, we had covered each genre I had hoped to, and we had covered other experiences from the background survey that I wanted to explore. When possible, I waited until we had exhausted relevant tangents. However, there were a few times when time was running short and I had to stop more abruptly than I'd like. The armchair interviews ranged from twenty to over sixty minutes, but generally were around thirty minutes.

**Post–IP Quiz Interview**

At the close of the implicit prosody quiz, I immediately turned on the recorder and asked participants to reflect on their experience taking the IP Quiz. My prompt was usually: "Tell me about your experience taking the quiz." Once I got their initial response, I prompted them with other questions: Did they find that it was easy? Were some parts more difficult than others? I then encouraged
them to look back at a printed version of the questions and describe their experience with particular types of questions. I tried to steer the focus of their response on their experience of sound. I encouraged them to talk about their experience with any questions they found difficult. I did not have access to their scores on the quiz at this time.

When we transitioned to the IP Quiz, participants had just spent close to an hour trying to remember their experience of inner speech under different circumstances during the armchair interview, so this post–IP Quiz moment turned out to be quite interesting for them and for me. When taking the quiz, participants were particularly self-aware and had a sense from the background survey and interview of the kind of information I was looking for. In addition, the quiz problems required them to use inner speech in a focused task. Participants sometimes were surprised at what they experienced when their minds were tuned in to the process. Many of them reported hearing their own voice saying the words of the instructions and problems, so for many participants, I used this interview to form my description of their sense of their own voice. Most of them described experiencing a different kind of voice when reading the practice passages at the beginning. I will include more about this distinction between kinds of voices in chapter 5.

Hearing participants explain their experience of particular IP Quiz questions was quite fruitful when I later matched their response with the scores they received on the quiz. During this review, I frequently spent time explaining the questions, how I had developed them, and the kind of effects they were
designed to elicit. The post-quiz interview was the shortest; it usually only lasted ten to twenty minutes.

**Concrete Interview**

Table 3.2: Summary of activities during the concrete interview.

<table>
<thead>
<tr>
<th>sequence</th>
<th>activity</th>
<th>source/genre</th>
<th>why chosen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Read</td>
<td>Letter from collection of Armistice Day letters.</td>
<td>First-person letter with clear written intonation units.</td>
</tr>
<tr>
<td>2</td>
<td>Read</td>
<td>Scholarly linguistics text.</td>
<td>Excerpt is from a book reported in and out of linguistics to be difficult to read. Scored most voiceless by the focus group.</td>
</tr>
<tr>
<td>Writing</td>
<td>Write</td>
<td>Write a letter to a friend.</td>
<td>Reaching out to known other. Relatively easy to do quickly and without preparation.</td>
</tr>
<tr>
<td>3</td>
<td>Read</td>
<td>Zora Neal Hurston’s <em>Their Eyes Were Watching God.</em> Opening of CH 19.</td>
<td>Passage is mix of narration and vernacular dialog. Mentioned by several people in the focus group as having a strong sense of audible voice.</td>
</tr>
<tr>
<td>4</td>
<td>Read</td>
<td>Chosen by participant during Background Survey.</td>
<td>Assumption that enjoyment and familiarity would encourage engagement and the perception of audible voice.</td>
</tr>
</tbody>
</table>

Hurlburt's guideline 4 is, "Target specific, concrete episodes" (Hurlburt and Schwitzgebel 16). Admittedly, "concrete" is a strange term, but I am using it as Hurlburt does as the opposite of *abstract*. The armchair interview is abstract, theoretical, reflecting on past experiences through the filter of memory, but the concrete interview is tangible, immediate, hands-on. My assumption in this study was that questions about the experience of audible voice can best be answered or understood in the context of specific texts and specific genres and that, given the warping influence of memory discussed by Hurlburt (14-17), the most accurate representation of the experience of audible voice is the participant's self-report immediately following the experience. Therefore, I designed the "concrete interview" so that participants would be immersed in reading a specific text or
writing a specific genre for a period of time, then interrupted and asked to speak what was happening in their mind. After each activity was interrupted (reading and writing), I encouraged participants to describe what was happening in their mind just before the beep. I coded this response as the "First Response" and gave that description additional weight during the rest of the interview and when I did the analysis. When I felt I had exhausted participants' initial impressions, I encouraged them to continue to the follow-up questions.

I chose to randomly interrupt the activity rather than allow participants to continue to a common stopping point because that approach seemed closest to the technique used by Hurlburt in his DES sampling. In retrospect, this strategy has proven to be interesting because the beep captured people during different stages of the reading and writing process. If all the samples were taken at "the end," the first responses would have had a different quality because participants would know "the end" was coming and set their mental world in order in anticipation of that end-point. However, if the goal of the study was to compare individuals and not to capture a sense of individual experience, sampling participants at a common point would be important. I discuss this more in chapters 5 and 6.

The instruction for this portion of the interview was critical. I did not use a pre-set text because I felt that a sense of co-participation and rapport was critical to the success of this approach and reading from a pre-set text felt artificial and broke that mood. (I did try a pre-set text in the pilot interviews, and
I abandoned it.) Instead, I used an outline and made sure that I hit all the points on that outline before we got started.\(^{28}\)

I began this section of the interview by referring back to their experience with the background survey. I explained that this would be similar to what they did before except that I would use a random timer, and I would ask them to speak when the buzzer went off and report what was happening in their mind just before the buzzer. I told them that once I felt I had captured that “pristine” inner experience, I would ask more questions exploring their experience of sound (or the lack thereof) during the entire passage. Using that experience as a reference, I would have them return to the bubble form with the follow-up questions that they completed during the background survey. Unlike with the background survey, though, this time they would have the opportunity to describe the process they went through in trying to answer these questions. I encouraged them to talk throughout the process of completing the form, providing positive feedback any time they questioned a term or tried to elaborate on their experience. I paid particular attention to any questions they found difficult to answer or confusing and tried to elicit conversation when this occurred.

I spent time explaining this method and made sure that they understood why I wanted this kind of feedback and how I intended to use it in the study to create as accurate a depiction of their inner experience as possible. I spoke

\(^{28}\) Originally, I included this prompt on the prep sheet that I used to prepare for the interviews (see Appendix H), but I found it to be distracting there, so towards the end of the study I excerpted the text and edited it to more closely reflect what I was actually saying. I used this excerpt as my guide for the remaining interviews.
directly about my inability as a researcher to construct questions that accurately matched their experience and emphasized the exploratory nature of this project and the value of their truth in it. This approach led to two important features of the concrete interview that I coded and noted when reviewing the transcripts: Affirmation and Negotiation. I will describe these in more detail and provide some examples below.

**Affirmation**

During the course of the interview, if a participant reported an experience that they seemed to be trying to self-censor since it seemed counterintuitive or didn’t match their reported understanding of their own process, I tried to encourage them not to censor themselves and allow for counterintuitive experiences. This sometimes involved encouraging participants to trust their first response rather than rethinking their experience farther removed from the beep. For instance, here is an example of affirmation from a discussion about whether Maja experienced audible voice as a sound that she was producing or a sound she was listening to, a discussion prompted by a question on the follow-up question form:

P: Right, yeah, yeah. Well so this is interesting. So I, I always feel like when I read that it’s, that it sounds like I’m producing or speaking it. It doesn’t feel like I’m listening to it.

I: So the, go with, go with your senses. Again, this is a new experience.

P: Right, right.

I: Like it doesn’t have to make sense.

**Negotiation**
Throughout the study, I spoke openly with participants about the research used to develop the study materials, answered any questions they had, and encouraged my participants to consider themselves co-explorers able to push back against and redefine vocabulary used in the study to better match their experience. Every participant responded to this invitation and completing the forms during the first two readings often involved multiple discussions as the participant and I arrived at a kind of consensus about what terms like "clarity" and "movement" meant in their experience. I consider these negotiations to be a good sign that I succeeded in creating the co-explorer atmosphere that I intended. Evidence of this push-back also gives me a sense of the accuracy of my descriptions of their experience because, as we went along, we were usually able to come to some kind of consensus for terms like “sound,” “movement,” and “presence.” On the other hand, the meaning of other terms used in other form questions, particularly the last two, the "details" and "resolution" questions, were slippery and sometimes never settled during the course of a session.

I am using the term "negotiation" to describe this evolution and refinement of the meaning of terms over the course of the concrete interview, and I think this is one of the unique features of this study. It is important to remember that, although the response forms looked like standard Likert questions (and it helped, I think, that they were a familiar genre), the way they were used in this interview was more like prompts or scaffolding to ensure that we carefully considered all of the aspects of inner speech that I was curious about from the literature.
I coded moments of negotiation with participants and listed them on a separate page so that I would have them as an easy reference while I formed the summaries. It is important to note that I formed the summaries from the transcripts of the interview and not the numbers on the form. I used the form numbers as part of my participants' sense of their own experience, not as an indirect measure.

This process will probably be clearer with an example. The following is a negotiation Mark and I had in his encounter with the form and this question.

When I was reading the text silently:

0 - I did not hear sound in my inner-ear.

1 -

2 - I heard something in my inner-ear.

3 -

4 - I clearly heard sound in my inner-ear.

This conversation took place just after his first response to reading #1. The gunfire reference is in response to comments he made during his first response:

MARK: So do you mean sound like, like . . . if I heard someone like reading?
AIRLIE: Uh-huh [affirmative], so when I wrote this, I was thinking of, of like the actual sound of the language. But, but then so your understanding is, well I didn’t hear gunfire, you know?
MARK: Yeah.
AIRLIE: So like, so again, that’s what the whole point of doing this part of it. So tell me, tell me what experience of sound you had at all and then how you would answer that.
MARK: I guess if it was anything, it was like a little bit of voice like I guess I kind of heard a, I don’t know, I guess kind of like an accent, not an accent
necessarily, nothing really crazy sounding. But like I could hear like the sound of the, not necessarily the tone of their voice, or maybe it is the tone and not the, I don’t know. I didn’t hear a literal voice but the inflections of a voice were there.

AIRLIE: Uh-huh [affirmative], so like I sometimes think about like, you know, the Charlie Brown—

MARK: Yeah.

AIRLIE: —because, and like the teacher is like [nonverbal imitation of Charlie Brown’s teacher] . . .

MARK: Yeah.

AIRLIE: —like is that, like was that the kind of thing you heard?

MARK: No, no, definitely the words, definitely like words. But it wasn’t like, I don’t know, loud and clear. It wasn’t like a big booming voice. It was just kind of like, I don’t know, I was, I was reading it but it was like being processed through a, I don’t know, some kind of communicative voice. I don’t know. It wasn’t a, somewhere in between a voice and not a voice. I guess, so, yeah, but like—

AIRLIE: Yeah, so just, pick your number, yeah.

MARK: I guess I say, yeah I did. [He picked 2.]

Detailed Protocol for the Concrete Interview

I followed the protocol outlined on the prep sheet (Appendix H). I used the Game Timer App on my iPhone to randomly beep at some point between forty-five seconds and one minute and forty-five seconds after they began reading or writing. I started the timer and propted them to begin the activity. I had to adjust the volume and type of beep during the pilot interviews to find a setting that was not startling to the participant. After their first response, I had them respond to
the follow-up questions (Appendix C) on the computer. I had them repeat this exercise with three or four different readings, depending on the time. (See descriptions of the reading selections below.) When possible, I concluded the readings with the text sample the participant reported enjoying in the background survey. In the one case where this did not occur, I asked the participant to find a text that he or she would normally read for fun, and he used a text that he had brought with him.

As in the background survey, I included an exercise where the participant was instructed to write a letter to a friend. I put this exercise between the second and third readings thinking that the participant and I would have a clear understanding of the vocabulary at this point, but we would not risk running out of time. During the trial runs, my pilot study participants experienced some stress trying to decide what they would write and found it hard to get the words flowing knowing that a random beep was imminent. Therefore, in the final protocol, I instructed participants to take their time thinking about who they would like to write a letter to and what they would like to write about. I told them that I would start the timer when they began typing, and this is what I did. Subsequently, I followed essentially the same procedure as the reading activities using the writing version of the follow-up questions.

During the concrete interview, I freely shared my rationale behind the questions, my research, my own experiences, and the experiences of other participants in the study.
READINGS AND WRITING ACTIVITY

I worked with Peter Elbow and other scholars interested in audible voice to choose the readings for the concrete interview. My goal in selecting the readings was to, in a sense, put readers through their paces in terms of their experience of audible voice. Peter and I have several theories about features of texts that catalyze the experience of audible voice in writing. For instance, Elbow is interested in written intonation units and their role in facilitating the experience of audible voice (Elbow Vernacular Eloquence: What Speech Can Bring to Writing 244-49) and I am particularly interested in a sense of engagement or entrainment with a text and the way that sense of engagement might translate into an experience of audible voice. These are compatible theories and both could be operating in a single text.

I also did a pilot study with participants at Peter's 2014 summer symposium titled "Rhythm and Intonation on the Page." The thirteen participants at this conference were deeply immersed in scholarship related to this topic. I shared my definition of audible voice with them, and I asked each of them to share an excerpt from a piece of writing that they felt represented "voiced" writing. I formed these excerpts into a packet and had the group as a whole rank the packet of writing samples according to the clarity of their experience of audible voice. I also included some excerpts of writing that I suspected would generate little to no sense of audible voice, and one of those that I suspected to be voiceless was chosen by all people who responded as the least voiced of the samples in the packet.
Because the kinds of voiced writing picked by people in this focus group were so varied and personal, I decided that the most reliable way to be sure I had writing in the study that my participants would find engaging and therefore experience as having audible voice would be to ask them to choose a text that they liked. I do not consider engagement (which I understand to be more like entrainment or immersion) and aesthetic enjoyment to be the same reading experience. However, in trying to fish for a text that I knew would engage my participants, I thought it was reasonable to assume that a text participants liked would also engage them.

In the end, time constraints for the in-office session limited the number of reading samples I could use to three or four. I chose the following: (1) a passage that Peter believed would have a strong sense of audible voice according to his interest in written intonation units and first-person narrative, (2) a passage that generated very little audible voice based on the feedback from the focus group, (3) an optional sample that would encourage the experience of a fictional character's voice through the use of vernacular, and (4) a passage the reader found to be pleasant and familiar. I've listed these readings in the table above.

For reading #3, I chose a passage from Zora Neal Hurston's *Their Eyes Were Watching God* because this book was chosen during the symposium and was mentioned in other contexts as an example of a book reputed to create a powerful experience of audible voice.

With the exception of one participant, reading #4 was identical to the text chosen by the participants during the third activity on the background survey. In
that activity, they were prompted to "[p]ick something you really enjoy reading. It can be any genre. Pick any place you'd like to start reading." I was able to use the reference participants’ gave to find the exact text they chose. Participants' responses to reading #4, then, also represented a kind of control where I could compare and get a sense of how much and in what way the open exchange of information and negotiations during the office session shifted their initial responses to the text on the background survey.

The writing activity during the concrete interview was also identical to the activity on the background survey. I simply asked participants to "write a letter to a friend." I did not specify whether the letter was snail mail or email, and I provided a blank page in Microsoft Word for them to type on during this exercise. I chose the letter to a friend genre because it was simple and informal, and given that most participants reported emails to friends as being one of their regular activities, it seemed like it would not be overly stressful. However, many participants experienced some stress with this activity. The keyboard was unfamiliar, and I think having someone you know is a writing instructor watch you write must have been intimidating (though many of them reported feelings of stress in their notes on the background survey as well). Writing, it seems, stresses many people out.

Follow-Up Questions

After each reading and writing activity, the participant and I engaged in a discussion while they completed a Likert-style questionnaire about their experience of inner speech. (The final forms are included in Appendix C). I made
a few changes to the forms between the background survey and the in-office sessions. The few changes I made stemmed from my two pilot interviews when participants asked for responses that were not listed, cued by the specific texts, that I thought should be available. Most participants, after my detailed instructions encouraging them to talk when completing the form, began speaking almost as soon as they started completing the forms. For a few participants, Skyler in particular, I had to prompt them to talk through their ideas. Skyler kicked in by the second form, however. Generally, people were more talkative in the beginning as we negotiated what they meant by different questions. By the end, however, they were quickly clicking their way through the form, just announcing their choice.

I discussed these forms in detail in my presentation of the background survey; here I will just note features that pertain to the way they were used in the concrete interview. The co-explorer dynamic that emerged during the interview seemed to be fostered by and not inhibited by these questions. Participants frequently said things like, "I've never experienced that before. Did other people in your study experience this?" At times, they were surprised when they reported something that they had not recalled experiencing before. Clearly, it is possible that the power of suggestion was at work here, and in feeding participants the frameworks, I generated the experiences. However, participants' responses included the full range of experiencing or not experiencing sensations, and most people seemed clear and confident in negative reporting: "I never experience X" was a comment I heard many times in the course of the interviews.
Analysis

My primary goal in this project was to describe as accurately as possible, each participant’s answer to the questions: (1) What do you hear or experience when you read? (2) What do you hear or experience when you write? in the context of each reading. Second, I wanted to begin to categorize and analyze these phenomenological descriptions in as valid a way as possible. The first step of the analysis came immediately after the in-office session when I wrote an initial response to the session, noting particular moments or observations that I thought would be useful as I made the final summary. I then set that aside. Later, after the interview phase was complete, I used a checklist (see Appendix I) to methodically go through the data collected from each individual and "knead" that data into a series of summaries that culminated in the "final summary" of each participants' experience. This process was very much like making bread in that I mixed the primary ingredients together to make a ball of dough (concrete summary). Then, I kneaded that description adding in material from other places. In kneading this data, I essentially reversed the order I had gathered the information. I started with the first responses in the "concrete summary" and then gradually incorporated information from other sources to form a "rough summary." Then, I reviewed and organized these rough summaries to form my polished "final summary."

Transcription and Coding

Transcribing these interviews was quite difficult for me, and I knew from a previous research study that it would be. Therefore, from the beginning I hired
my high school friend Lorie, a professional transcriptionist, to help me in this effort. Initially, I thought I could do the first pass and just give her selected regions to transcribe. I tried listening to interview recordings, taking notes, excising regions of the recordings to transcribe, and coding those regions with labels like NEGOTIATION—GENDER; however, I soon realized that (in my hands) this approach would be inaccurate, inefficient, and far too time consuming. After the first two or three participants, I resigned myself to the fact that the most efficient and accurate path forward was to have Lorie transcribe the entire interview, then I would read through the interview while listening to the recording (making corrections if needed), coding sections of interest, and then cutting and pasting sections of interest into a separate file.

According to Lorie, this approach was easier for her too, and therefore resulted in no change in the overall cost. I am quite grateful for her help in figuring out the best procedure and her pushing hard to get through the transcripts. She transcribed all of the armchair interviews verbatim. The first four of the post-IP Quiz interviews and first three of the concrete interviews were done with the region-extraction approach that I described above. The rest of the post-quiz interviews were transcribed verbatim. For the remaining concrete interviews, Lorie worked with me to transcribe the concrete interviews into a template we designed together (see Appendix J for an excerpt of a concrete interview transcript using this template).
She only transcribed moments when the participant said something other than the language that was on the follow-up question form. So, for instance, on the question:

When I was reading the text silently:
0 - I did not hear sound in my inner-ear.
1 -
2 - I heard something in my inner-ear.
3 -
4 - I clearly heard sound in my inner-ear.

if the participant said, "I did hear something in my inner-ear" and ranked the sound they heard as (2), then, Lorie did not transcribe that portion, and I used the information on the form. However, if the participant had a conversation with me about why they chose (2), then she transcribed that conversation under the Sound category on the template. This strategy worked well and made it much easier for me to process the transcripts.
When marking the original transcripts, I coded excerpts with highlights and labels that noted negotiations and moments that seemed to illustrate the participants’ experience well. Sometimes these labels were simply my shorthand code for questions on the follow up form like MOTION. Sometimes, they referred to the activity the transcript was in response to. After completing the interviews, I was aware of some common themes that I would want to return to during the analysis, so I also coded for these themes. For instance, I coded for discussions of MY VOICE or GENDER. If an excerpt addressed more than one category, I just
listed them all using hyphens. Here is an example of a coded and highlighted excerpt from a concrete interview transcript:

**NEGOTIATION—SMELL**

**Smell (.5):**

P: I'm kind of debating a 1 and a 0 for the smelling.

I: Okay.

P: Well, I'm going to put a 1 but like it's more of like a .5.

I: Okay, good, good, okay. And what, what was generating whatever smell was there?

P: It was like the original thing. I imagined like a, you know, like kind of, you know, how like in, like in, in Britain or so, you have like it's always raining and it's like—

I: Yeah.

P:—kind of this, and just everything's wet and everything's gray and I, I could just like, I just thought of smelling that if anything. But it was just, you know, it was just only the beginning and then it kind of went to like this, this, so I think I kind of like smelled dirt in a way.

**Afterthoughts**

Immediately after each interview, I wrote about a page of notes that I titled "Afterthoughts" where I tried to record my gut sense of their experience and note interesting moments in our discussion that I should be sure to go back to and transcribe. I think that gut impressions are important. There is a lot of information present in body language and interaction that memory and the reviewing of transcripts cannot capture. I thought it was important to save what I

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29 Note: On all of Lorie’s transcripts, she used I: to represent the interviewer and P: to represent the participant. In the results section, I will replace these with names and pseudonyms according to MLA guidelines. However, this was a practice intended to ensure confidentiality.
could immediately after the fact for similar reasons that I thought it was
important to have participants report their experience of reading in that moment.

Concrete Summary (the Dough Ball)

The distinction between the "armchair" interview and the "concrete"
interview is drawn from Hurlburt and Schwitzgebel's book, Describing Inner
Experience? As I mentioned in the literature review, Hurlburt cautions people
against trying to describe inner experience by asking people general questions or
asking them to recall specific experiences at a time far removed from the event. I
refer to my armchair interviews this way because not only did they take place in
armchairs in my office, they were exactly the kind of recalled experience that
Hurlburt believes will be inaccurate. He used "armchair" in a derogatory fashion,
contrastimg that approach with the DES technique he developed. I used the label
as a constant reminder to myself to use the armchair interviews to supplement
concrete experiences, but not to use them as a base to build on.

So, for instance, if a participant describes experiencing "other" voices at
some point in the past during the armchair interview, but then does not describe
hearing those voices during the IP-Quiz or concrete interview, then I either did
not report that comment or I used some kind of caveat like, "Participant X
remembered this kind of experience during the armchair interview, but did not
eXperience it during the in-office session." The concrete interviews, on the other
hand, were as close as this study got to Hurlburt's DES guidelines. (See the
literature review for a detailed discussion of how my methods line up with his
recommendations.) Since participants immediately reported what they had been
experiencing moments earlier, these reports reflect what I think is the most accurate report of their experience.

I wrote the initial summaries of each individual (the concrete and the rough summaries) one participant at a time after I had completed all of the interviews. I wanted to be able to immerse myself in synthesizing each participant’s experience, and I tried to give myself long stretches of time to facilitate this kind of immersion. To form the ball of dough, I summarized the quantitative data into a simple statement and then moved on to the first responses from the post-quiz interview and the concrete interview. I went through each activity weighting the first responses as I mixed in the discussions and negotiations during the follow-up questions. I made a separate summary answering the questions "What did my participant hear? If they didn’t hear, what did they experience?" for each activity, and then where something seemed obvious, I made a separate "general" section where I tried to describe what seemed to be dominant features of the participant’s experience overall. In particular, I took note of how the participant experienced what I initially called "my voice" and now have decided to call their "identity voice" and "other voices" because I was starting to realize that these were going to be important categories in the final analysis, and I wanted the information organized. Just like in bread making, I didn't always do this in a lock-step order, but by the end, I had all of these ingredients worked into separate descriptions of my participants’ experience of audible voice during each activity and some sections highlighting striking qualities of their overall experience. As I put the concrete summaries
together, I took note of particular words or phrases participants used to refer to their experience during the interviews. I recorded these key phrases on my summaries sheet for easy access during the next phase.

**Forming Rough Summaries (Kneading in the Flour)**

I then worked backward from this "concrete" ball of dough, reviewing the background survey, armchair interview, and afterthoughts for aspects of each participant's life experience and literacies that seemed to give insight or be relevant to the participant's experience of reading and writing, information that felt like it gave a more complete picture of the inner experience described in the core summary. I used these notes to form the introduction to each participant that I labeled CONTEXT. I also incorporated material from these sources that supported the "answers" to the questions that I had arrived at in the concrete summary.

I would not, however, use a claim about the perception of inner speech made during the armchair interview as a part of the core description. If there were notable changes, for instance someone claimed not to hear during the background survey and armchair interview, then discovered they did hear a voice during the post-IP Quiz interview, I tried to note that change along with other significant shifts or negotiations that occurred during the study.
Final Summaries (Letting It Rise, Punching It Down, and Letting It Rise
Again)

Once I completed a rough summary for all participants, I wrote my first
sketch of the broad results chapter as a kind of hypothesis representing the
overall trends that I thought I saw in my participants’ experiences. I then
returned to the data, starting with the first summaries I’d completed, and I
created a checklist to guide me in organizing and polishing the final summaries.
After completing two final summaries (Maja and Gwen), I revised that checklist
to make it neater and more efficient. This is the checklist I used to form the rest
of the final summaries. (See Appendix I.) Once the individual profiles were
completed, I polished the reading summaries.

In my process of testing my summaries against rawer versions of the data,
I will shift briefly from bread baking as an analogy for my process to a Quaker
one.30 This testing process was akin to the Quaker practice of taking minutes as a
recording clerk and then reading back the minute to the gathered group to see if
the group felt like I had captured the sense of the meeting we had just
experienced. Minutes often go through many revisions during a traditional
Quaker business meeting as the group explores and affirms the sense of the
meeting through this process. The idea is that writing a summary of an
experience is an effort to capture the truth of that experience, but discerning
truth is best done as a corporate effort because each of us bring our own

30 I am adding this note post-defense. During my defense, Peter asked me to talk about the influence my
Quaker practice had on this project, and in answering, I realized that the influence was considerable. My
committee suggested that I add much more about this important aspect of my personal context when I turn
this work into a book. But, for now, this note will have to do.
perspectives to the corporate process and all perspectives should be present in the summary. In this case, I was working alone, but each step along the way I tried to summarize and then confirm that my summary had captured the sense of my participants’ experience, assuming that their experience was most clearly present in the raw data, particularly the concrete data.

In the final stage, the scoring stage, I went beyond checking the individual truths of my participants and tried to check the truth of the broader conclusions I had made when analyzing the data and writing this dissertation. I wanted to check that any general statements that I made in chapter five were grounded in concrete examples from individual participants and not just hunches or examples that caught my attention because of my pet theories. As part of my final work neatening and organizing the summaries, I reviewed the data with fresh eyes and my new broader perspective. I first checked to make sure that all quotations were correct and that they felt like they were being used in context and were fully informed by the negotiations and the armchair survey. While I did this review, I also checked each participant for the presence or absence of particular traits that had emerged as important when writing the general results. I called this process “scoring,” and I recorded the scores on a chart as I went through my notes and the concrete transcripts for the last time. During this time, I collected quotes from participants that I thought might support (or refute) claims I made in the summaries and concluding chapters. Once I decided that my final summaries and results chapters were a satisfactory reflection of the data at hand, I revised the summaries so that they were uniform in their organization, concise,
and polished. These formed the final profiles presented in the next chapter. In this way, I tested the hypotheses I had formed in writing my summaries and in chapter five against my original data.31

**Final Organization**

As noted earlier, I arrived at the final organization of the individual summaries chapter after completing the general results chapter. I wanted to organize the data in a way that highlighted the uniqueness of my individual participants’ experiences. One important aspect of this study is its emphasis on the unique experience of the individual and the unique experience of audible voice in the context of particular texts. I thought that introducing each participant, allowing the reader of the dissertation to experience the reading the participants experienced themselves, and then being able to see the diversity of experiences in the context of that reading would be an order that might best achieve that goal. In accord with some of the results discussed in chapter five, I decided to order the individual summaries from the highest IP score to the lowest in each section because I thought that would highlight the role the participants’ perception of implicit prosody might play in these results. Because the final polishing included organization and organization has a strong influence on interpretation, I also considered the polishing stage of writing the results and, ultimately, this dissertation to be part of my final analysis.

**Validity**

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31 I did this final analysis under some time pressure, and I think that Chapter 5 is the least trustworthy of the chapters in this work.
In "Standards of Evidence in Qualitative Research: An Incitement to Discourse," Freeman et al suggest that: "A key source . . . of standards of evidence and quality throughout the history of the scientific method and its application in qualitative inquiries has been the systematic and careful documentation of all procedures--an account of practice--to provide a record for a researcher's ongoing contemplation as well as for peer review (26). Given the problematic history of inner experience research and the ease with which I could bias my participants and my own interpretation in this study, I have done my best to be scrupulous and transparent in documenting what I've done. I have tried to explain my rationale and approach to each step of the analysis. I have tried to be reflective and aware of the strengths and weaknesses of my approach. These efforts, I think, have made this a trustworthy study in the sense developed by Anne Herrington in her handout for our qualitative research methods course: "Some Notes on Alternative Conceptions of Validity and Reliability" (Herrington).

Given my interdisciplinary audience, my intention is that this transparency will enable scholars from a variety of disciplines to weigh and compare this work and evaluate my results according to their own standards. To this end, I have also included my full analysis, including a large volume of source material, in my results section (chapter 4) so that future scholars can have the opportunity to see and think about the observations that I used to draw my conclusions.
CHAPTER 4

AUDIBLE VOICE IN CONTEXT

1. How to Read This Chapter: A Few Thoughts Before Diving In

The descriptions of my participants' experiences represent the core results of this study. Although I tried to give some framing and transitions to guide a reader through them, they are not intended as a narrative. They are a methodical attempt to describe the inner experience of reading and writing of the people I interviewed. The results are organized into two main sections: (1) Participant Profiles and (2) Audible Voice With Text. In the first section, I try to help you get a sense of the unique context and inner landscape of each participant. I introduce them, try to highlight what was most striking about their inner experience during the session, and share their experience while they were reading a text that they enjoy. The second section is titled "Audible Voice With Text" because it introduces each reading that the participants are responding to and then allows you to compare each participant's experience of the same reading. This arrangement highlights the interaction between text and reader.

In this section, I've included the readings so you can get a sense of your own experience of these texts. With that awareness, you might find it interesting or surprising to hear how each of the participants experienced what you just read. If you appreciate this hands-on approach, I also encourage you to try your hand at the exercises I had my participants do. The IP Quiz questions are
included in Appendix D, and the instructions for experience sampling are simple. Just set a timer for one minute and observe what is happening in your own mind when the buzzer goes off. If you do this, it will help you recognize the context most of the quotes are taken from. It will also help you get a sense of where your inner landscape might lie within the diversity represented in these samples. I have found in doing this study that it is remarkably difficult to grasp that some people have a different inner world than my own. Skyler's 32 profile, for instance, is so long because their experience feels so foreign to me that I don't trust my summary of it. I think most people's default assumption is that everyone around us is more or less like us. I mean, yes, we know superficially that neurodiversity exists. However, really building it into our awareness and daily interaction with other people is harder work, work that I hope this study will facilitate.

Personally, my inner experience is probably closest to that of Paula and Maja. It makes sense that I might be grouped with them because, like them, I am a person who writes, works with writing, and evaluates writing. However, it is important to realize that I am not taking a stand in this study about the chicken-and-egg question of whether Paula, Maja, and I have similar inner experiences of text because of the work we do or we have been drawn to the work we do because of our inner experiences of text. I am a big believer in feedback loops, and I think the role of aptitude in guiding one's life path and that path subsequently shaping aptitude makes for the lurching and awkward process of

32 Skyler identifies as Agender and asked that I refer to them with gender-neutral pronouns.
vocation and life that many of our students are just embarking on as they sit in our First Year Composition classrooms.

Finally, before I send you off into the data, I want to warn you that the relatively raw data\textsuperscript{33} in these profiles is dense and not easily digested on a first read. To help you find your way through the profiles, I would like to highlight some of the major patterns that I noticed as I was immersed in the interviewing and analysis. I will discuss all of these patterns in detail in chapter 5.

The focal questions for my study were: What did my participants hear or experience when they read and what did they hear or experience as they wrote? Thinking back to the metaphor of the inner landscape that I introduced in the background of this dissertation, the glimpse I’ve gotten of the inner landscape of my participants during this study suggests that the perception of audible voice when reading is clearly shaped by both this inner landscape and the features of the text. During the in-office sessions, each participant in my study heard some manifestation of audible voice at some point in the study. However, there was significant variation in the quality of these experiences, a variation that I coded, categorized, and scored as I made my way through the analysis. Participants reported two major and easily distinguishable categories of voice that I initially coded as "my voice\textsuperscript{34}" and the "personality voice." In addition to the major categories, there were two minor categories: "vague voice" and "mixed voice," which might represent distinct categories of experience or represent a blending or "low-volume" version of the major categories. Each participant's experience of

\textsuperscript{33} Well, \textit{seared} is probably more appropriate since clearly I've done some selection and interpretation.

\textsuperscript{34} In my discussion, I renamed this category "identity voice" for reasons that I explain in that section.
audible voice varied from reading to reading and when writing. Several participants reported that their experience of voice shifted during the brief period when they were reading and writing, and a few participants were able to describe these shifts in detail. Each participant’s experience of inner speech and audible voice was unique with striking characteristics that made sense in their individual context.

In addition, in selecting participants with diverse experiences of inner speech, I seem to have succeeded in recruiting seven people whose experiences inhabit a spectrum that includes people who clearly perceive inner speech on one end and people who struggle to perceive it on the other. For participants at one end of the spectrum, this sense of the sound of the language seems to be a comfortable, stable place, the bottom of a depression or a streambed in their inner landscape; the sound of words, of verbal inner speech, appears to be the path of least resistance when it comes to their thought and language processing. For participants at the other end, the perception of audible voice is possible, but their perception is slippery, at times unstable. Sometimes it feels like the experience of audible voice is at the top of a narrow ridge for them. Getting there is difficult, and it requires energy and focus to stay in that awareness.

This spectrum of experience, which I will quantify and discuss in detail in chapter 5, was obvious enough that it played a significant role in shaping the way I interpreted the data towards the end of the analysis. It was corroborated by the indirect measure of participants’ implicit prosody using the IP Quiz and further substantiated by participants’ self-reports of their day-to-day experience of
condensed inner speech on the VISQ questionnaire. For this reason, I have ordered the profiles according to participants' scores on the IP Quiz in the hope that, as you are immersed in the detailed descriptions of individual experience that are the heart of this study, you also get some sense of this meaningful trend in my participants' experiences.

Some things you might look for as you go through the profiles are shifts in the ease with which participants were able to respond to my questions about the sound of the language, the types perceptions that were present or absent during their first responses, modifiers like "vague," "quiet," and "distant" in their descriptions of what they heard, statements about being drawn into the sound of language or having to consciously steer their attention into it, a love or dislike of poetry or poetic language, and finally success or challenges in their academic, creative, or work-related endeavors with reading and writing.
II. Participant Profiles

<table>
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<th>PROFILE #</th>
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<td>Maja</td>
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<td>7</td>
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1. Paula

Introduction

At forty-two, Paula is an accomplished poet, novelist, and publisher. She has been writing since she was a child and publishing her website and judging several of its many contests for fourteen years. She is highly educated with a formal education that included Latin in middle and high school, undergraduate degrees in comparative religion (a minor in chemistry) in college, and a graduate degree in law. Her legal training, work as a publisher, and work as a contest judge has given her extensive experience reading large volumes of material with a critical eye and ear. Her work writing and revising her poetry and novel has given her insight into her writing process. Paula is also the mother of a toddler who shared his cold germs with her, so she was a bit under the weather on the day of our interview.

35 An important disclaimer is that this participant is also a close friend of mine, and so she had more awareness than the other participants about the history and development of this project. Knowing this interview was coming up, she reported paying more attention to her inner world than usual.
Striking features of Paula’s experience

The awareness and control Paula exhibited over her reading and writing processes was impressive. Her consideration of when and how she might employ one kind of reading over another and how that might shift her inner experience was evident throughout her background survey and the in-office session. Paula’s average reading speed over four samples was close to four hundred words per minute, the highest in the study. However, there was considerable variation between the samples indicating that she altered her reading speed according to the text and may have skimmed some passages. Her quick speed and highly controlled reading pattern is in accord with her life’s work. Similarly, Paula got a perfect score on the IP Quiz. Not only was her score perfect, but during the post-quiz interview she was able to describe the nature of the stress effect in the limericks and described the prosodic impact of commas in precise language without any explanation. She nodded her head a little during the group 5 problems, so even if she found them challenging, she seemed to know how to use her body to accent her experience of inner speech. Her skill with and sensitivity to implicit prosody, though, is not surprising given her work as a poet and poetry contest judge.

During the interview, Paula described many different patterns of reading and writing. In general, she said that her default reading pattern was one of reading for information. She feels a sense of urgency when she reads and pushes ahead looking to reveal the content. However, she will consciously put on the
brakes to savor image and sound in a text. Her description of her inner experience when judging a poetry contest is worth sharing in detail:

When I read slowly enough, I will be sounding out the words to myself in my mind. A lot of times, if I'm reading for pleasure, I will get a kind of an overall impression of the page and I think I will slow down enough to hear every word individually. If I'm reading when I'm judging a contest, a poetry contest, if I think it's a poem that's worth spending time on and it's something that has a chance of getting somewhere in the contest, then I'll read it very closely and listen to the way the sounds resonate in my ear and listen to how the rhythm of it falls and that's a very intuitive process if the rhythm does, doesn't satisfy me or it really does satisfy. And that's, that's like the professional read. Less so when I'm reading short stories and essays for the contest because every word isn't as crucial. But I will end up eventually reading it closely and, and then having it kind of by default be sounding itself out in my mind a little bit more. If I'm reading a finalist that I'm reading multiple times, then phrases unbidden will come to my mind and sort of echo in my ear, my inner ear.

When I'm reading for pleasure, I... I would listen for it.

When reading during the in-office session, Paula experienced some texts as her own voice (quiz problems, reading #2) and some as other voices (readings 1 and 4). In reading one, she described forming a perception of a male voice with accent and personality, though she suggested that her awareness of the sound of that voice dimmed and was replaced by more of a sense of embodied immersion in his experience as she read the text. Paula heard her own voice when she wrote and when she read reading #2. When asked about reading #2, she said: "It sounded like me because I was sounding it aloud to myself although it didn't sound like my voice speaking. If that makes any sense." She heard “my voice” as a
woman’s voice, but this might have to do more with a sense of a female
personality than hearing some pitch that is stereotypical of a female gender.
When we discussed her experience of gender in a voice (hers or another
person's) she felt her experience of gender had more to do with the personality
she experienced with the voice than any sense of a stereotypical pitch associated
with the male or female gender.

Paula described experiencing image in all readings, though minimally in
reading #2. However, when cruising during reading, she seemed to need to
prompt herself to develop the images in her mind. She commented on this
describing her experience with reading #1:
"I have to kind of make a conscious effort to stop and visualize when I, when I
read and not miss that because I’m so impatient. So around the part where he
starts describing his first flight over the lines, then I start saying, okay, he’s going
to describe something visual now. I should stop and slow down and try to picture
it before jumping on to the next bit of information."

During the armchair interview, she described sound as something that
grabbed her. She had to slow down to savor it, but she claimed that well-crafted
sound could grab her and hold her attention.

Paula’s experience of a favorite poem, "Lodge" by Ariana Reines
Her most vivid impression of a voice came from her reading of the poem in
reading #4, a familiar poem that had been crafted to highlight the sound. The
poem is laid out in long lines, almost a prose poem in style but not quite. At the
moment of the beep, Paula was experiencing a sense of connection, of closeness with the author:

I was experiencing how true the line feels to me, “how badly does a narrative long to be beautiful” and then there’s also previously this, this paragraph about if the style, “if the style is too much of an achievement then.” I was like, I just like stopped and let that sink in. I was like, yeah, that’s so true. That becomes more true the more I read this, you know, from 2008 when I first read her book to now it’s just a more, it’s so pleasurable to come back to this text and be like, yeah.

As she continued moving into the form, she claimed to clearly experience the sound of the language of the poem:

I very much heard sound. And her work is very oral and so even when I don’t understand it on a, you know, literal level, I understand it just because of the, the skill of the sound and the shifts, the rapid shifts in style of speech in it and it feels very present and like she’s really messing with your head passionately for a purpose.

She heard the language of this poem being spoken in a woman’s voice that was not her own. One interesting thing she noted was that, although she has met the author in person and feels a sense of connection with her, in reading this, the voice she hears in this poem is the author’s "poetry voice," something more "muscular and tough and pretty and bloody" relative to the author's spoken voice. (I discuss this observation more in the section on known voices in chapter 5.)

In addition to sound, she experienced multiple sensations reading this poem. She experienced both kinds of movement we had discussed in negotiations over the course of the session: (a) a sense of vicarious immersion
into the speaker’s experience and (b) the *umph* or sense of pressure created by the rhythms of the language, though she found that sense of pressure difficult to distinguish from the experience of sound itself. Overall, she experienced this motion as a kind of immersion into the world of the poem:

In the sense of, that there’s a real forcefulness and emotion behind her writing and also the sentences have a powerful rhythm to them and I felt physically drawn into that.

AIRLIE: And, you experience that as movement?

PAULA: Yeah, her work is so embodied that I could feel that. It’s all about cars and trains and boxcars and cows and slaughter and running away and, you know, there’s a lot of movement imagery in it.

To her surprise, she also found that she also had a slight experience of smell, one of two people in the study who did:

AIRLIE: There’s a lot of blood in there.

PAULA: Yeah, yeah, blood—

AIRLIE: Is that what you smelled?

PAULA: Blood, yogurt, and farting. [Laughter]

When completing the form, she said that she found the poem to be highly pleasurable, familiar, and there was a strong sense of presence. She gave this poem relatively high marks on all measures. Clearly this poem is a kind of peak experience for her in terms of vividly experiencing the language.

2. Maja

Introduction
Maja is a highly educated mother in her early thirties. She taught elementary school for several years, but currently spends most of her time reading aloud to her young son and teaching ESL. As mothers and teachers, Maja and I established a good rapport. Listening to the tape, we switch back and forth easily and complete each other’s thinking fairly often. Currently she is expecting her second child, and she was noticeably pregnant during the interview. In fact, her baby is due the week that I am writing this chapter.

She said that she has been a reader her entire life, and Maja’s love of language was evident throughout her interview and background survey. She remembers reading passages aloud when she was a child—just because she enjoyed the sounds of words. She listed reading as one of her three favorite activities on the background survey:

> From the time I was a child, I have adored books. I love being immersed in a novel, feeling like I am right there seeing the action first-hand, feeling like I know the characters. The feeling of not being able to put down a book is very familiar to me! Books have provided me with company when I was lonely, and so many things I’ve read have shaped me. I can’t imagine my life without reading!

Maja’s enjoyment of reading seemed to carry over to her experience with the activities during the in-office session; she had fun with the limericks.

She thinks this love may have come from her use of reading as a refuge during her transition from Poland to the United States as a child. During the interview, she said:
My mom would read to me... I remember her reading me picture books when I was really little and then... when I moved here, I mean maybe that was part of it... moving here and I, I was seven and a half and – and so I remember learning English and, and I remember kind of feeling on the outside a lot as a kid, you know, in elementary school—as an English language learner and so, so yeah, that was kind of a theme... in my early years... it was kind of like an escape sometimes maybe.

Maja’s native language is Polish, and she is deeply and effortlessly bilingual. When journaling, she will use both languages according to which better fits her mood and what she is trying to say. She makes absolutely no distinction between her experience thinking, speaking, reading, or writing these languages. She claims that this holds true for her inner experiences of Polish and English as well. Maja has no spoken accent at all; she has a mellifluous way of speaking with prosodic emphasis that clearly communicates her thoughts. Her spoken voice was quite pleasant to me.

Maja was the only participant to use body movements to assist her throughout the IP Quiz. She mouthed the words in places (despite instructions not to) and nodded her head on all of the problems that involved stress or emphasis. This movement seemed to work for her since she earned the second highest score on the IP Quiz, missing only one problem. She also reported in several places during the session that she enjoys reading passages aloud and said that she was tempted to read the vernacular in reading #3 aloud. So, she really enjoys the sound of language, and also is willing and able to take steps to enhance her experience of the sound through subvocalization and reading aloud.
Striking features of Maja’s experience

For Maja, the sound of inner speech when she reads and writes is clear and obvious: "I hear myself reading it in my head . . . just like I would read it out loud . . . or just like somebody would speak with, you know . . . with intonation and pausing and so just like real speech." She often described reading and writing in what she describes as her own voice, her own, spoken voice. For instance, in her description of the Great Gatsby passage from the background survey, she describes herself reading the words to herself (perhaps like she reads to her son):

As I silently read the text, I could hear my own voice in my head reading the words. I heard myself read with fluency and expression. I also could see images as I read. For example, I clearly saw the pulpless halves of oranges, or the motorboats racing across the water. Everything that I read I saw in my mind.

In addition to hearing her own voice, she is also capable of experiencing a voice as other, what she called character voices. During the armchair interview she said:

I’m reading Too Late the Phalarope by Alan Paton. It’s a book I had read in high school a long time ago and so, yeah, so as I read it, I do hear different character voices, and I think this one . . . is interesting because the narrator, it’s written in first person . . . so the voice I hear I think is slightly different than my own. I don’t think it’s me. I don’t think it’s my voice that I hear when I read the narrating part. So I think it’s, it’s like I, because I also visualize a lot when I read so I’m visualizing this woman narrating this story and I think it’s, I think [laughter]. It’s kind of hard to tell…
When she identified the speaker in the text as someone other than herself, she experienced the voice as "other." However, during the concrete interview, she often qualified that experience, hedging, at times describing the voice as a mix of her voice and "other" as evidenced in her description of the freewriting example\textsuperscript{36} on the IP Quiz where she clearly sensed that she was experiencing someone else's thoughts: "Someone's random thoughts. It [the voice] was a little less me because it wasn't how I think. So, not so much my voice as somebody else's?"

Maja's experience reading the \textit{Alpha Mom} blog

For reading #4, Maja chose to read an excerpt from an entry on the \textit{Alpha Mom} blog discussing "The Hows, Whys & Whens of Transitioning a Co-Sleeping Child." This entry is in the form of a letter to Amy and Amy's response. The two authors are made distinct by the use of different font graphics and the text is full of informal parentheticals, caps for emphasis, italics, and underlining. In this way, it is a text with lively implicit prosody. At the beep, Maja reports:

\begin{quote}
MAJA: So this was, so I heard a voice and it, it wasn't so much mine as, as it was the woman's who, who wrote the blog.

AIRLIE: Okay.

MAJA: So it, it seemed a little different from mine.
\end{quote}

Maja also reported hearing the distinction between the two authors in the reading:

\begin{quote}
MAJA: No, there was a slight change, there was a slight change, so and again I, with things like this, I don't hear the voices as clearly as I did for the
\end{quote}

\textsuperscript{36} The second practice problem on the IP Quiz came from a published example of freewriting from the book \textit{Nothing Begins with N} (Belenoff, Elbow and Fontaine).
last reading passage with the, with the vernacular and everything. But I, so
I’m not sure how to really explain what the change was. (Laughter) But it just
sounded different maybe because I knew it was, you know, one person
writing and then the other person responding, so.

Maja also reported hearing the emphasis in words that were emphasized in the
text. This was our last activity, so it represented the end point of our negotiation
of different concepts. Her response when prompted to talk about what was
pleasant to her in this text reflects this clarity:

MAJA: Yeah, sure. I guess I, the difference I see now is just when you, when
you read something and you enjoy, you enjoy reading it because it’s
interesting, because it interests you or because it’s, you know, it’s funny or
because it pulls you in. And then there’s . . . which is related to the use of the
language being pleasing as well, but not as much because like that other text
of one of those something about phonology, language –

AIRLIE: Yeah, yeah, yeah.

MAJA: - one of those dry texts, I could, like the language was, you know, like
the words were pleasing but it wasn’t, I wouldn’t say I felt clear. I wouldn’t say
I felt pleasure reading that text because I didn’t. It’s not something I would
pick up to read on my own. So I guess that’s the difference I’m seeing in that
now, now that I think about it.

AIRLIE: So one’s just more just was this experience pleasing to me versus
the language [inaudible]?

MAJA: Right, exactly, exactly

AIRLIE: But in this one, was the language pleasing?

MAJA: Yeah, yeah, it was pleasing.

AIRLIE: Okay.
MAJA: It was, I liked, I just, I liked how, you know, maybe I'm having trouble separating meaning from language too.
AIRLIE: Which, that's a whole philosophical debate there. (Laughter) But that's the fun of it, so, yeah.
MAJA: Yeah.
AIRLIE: Maybe there is no difference.
MAJA: Yeah, I'm not sure.

3. Nancy

Introduction

As the oldest person in this study, Nancy (sixty-two) has had a long working life with many different phases. She is a self-educated worker with extensive skills in software engineering. Her relatively low level of formal education (a high school diploma) belies her extensive technical knowledge and history of leadership roles in her field. She worked for more than twenty years as a software quality engineer and team leader, work that required technical expertise and strong interpersonal skills. She also worked writing annual reports and prospectuses for mutual funds. Earlier in her career, she worked in a variety of secretarial and administrative assistant roles. This experience combined with her programming experience has given her deeply engrained skills in speed typing and transcription (something we spoke about during the interview).

Currently, she is unemployed, and the bulk of her time (thirty hours/week) is spent building job skills and searching for work. She also has a daily morning writing practice, freewriting three pages a day, about an hour each
morning. She has a history of using writing as therapy and seems to enjoy using it that way. She is also an accomplished knitter, and I spent some time asking her about her reading interaction with knitting patterns because I thought that might give some insight into the way she uses inner speech when reading and writing.

**Striking features of Nancy’s experience**

Early in the process, Nancy wrote a helpful statement of her experience in the form of an emailed question as she was completing the background survey. She wanted to be sure she was interpreting “sound in the inner ear correctly”:

> When I was writing the letter I heard myself composing the letter in my head. I heard my hesitations, and tones of voice. Is this hearing sound in my inner ear? I think it must be. ?? When I am reading I hear the words in my head. As a matter of fact, I don’t think I can read without hearing the words.

Nancy was confident and clear in her report that she heard “the words” whenever she read or wrote. However, what was most striking in our session was not the detail of the sound she experienced, but rather her vivid, multifaceted experience of "other" voices.\(^{37}\) It was clear in answering the forms that she sensed emotion and perceived a complex sense of the personality of the speaker in all the voices she heard. She experienced readings #1, #2, and #4\(^{38}\) as being in a voice other than her own, and she often reported these voices as a mix of sound and a sense of the emotional state and personality of the speaker in the

\(^{37}\) It is worth noting that Nancy along with Paula had the highest scores on the Other VISQ factor, though what relationship there is (if any) between that factor and the experience of detailed character voices while reading is currently unknown. However, Fernyhough’s Hearing the Voice research community just completed a study that might offer some insight into this question.

\(^{38}\) She did not complete reading #3.
text. She commented on this integrated experience of voice in another part of the interview:

For whatever the situation I'm in, you know, it's like my mind is working on two levels . . . and I think of it as a voice because I think of everything that's coming from inside me as a voice, you know, even though it's a thought, I hear it. I mean I, I guess . . . I don't know, to me, I don't know how you can have a thought without hearing it.

During the armchair interview, she also tried to explain this sense of a merged sound and emotion, noting: “Depending on the words. I mean, you know, you can tell sarcastic writing, so I can hear an intonation, I can hear sarcasm, you know, or imply sarcasm. But I, I'm pretty sure I hear it because it's so interesting, I tried to read without hearing anything, I couldn't do that. [Laughter].”

Nancy's Experience Reading *Play Dead* by Rosenfelt

Nancy's choice for reading #4 was an excerpt from *Play Dead*, a novel by David Rosenfelt, an author she really loves for his wry sense of humor and because the novels almost always have something to do with dogs. At the end of the interview, she said the text was “vivid” and familiar, something she really likes. Her first response after the beep was that she was hearing the words, and they were in Andy's, the character-narrator's, voice. In the background survey, she noted that her impression of this character has been built over several novels where he is the protagonist. When prompted, she said his voice sounded sardonic, that he is very intelligent: “He says it in here, but he is going into a shelter and he hates going into a shelter. So, he's dreading it. He's very self-deprecating.” Nancy's tendency to project personality into the words in her mind
even extended to knitting patterns. In the armchair interview, she reported that most of the time she hears her own voice or “an anonymous” voice saying the patterns. But if she recognizes the author of the pattern as being one from a podcast by a knitting celebrity, she will hear the text in her mind in the spoken voice of the author.

Given Nancy’s predilection for hearing inner speech as a vivid other, Nancy seemed a little surprised to discover that she heard her voice saying the words when she was doing the problems on the quiz. She also heard her voice as she wrote. When she reported hearing her own voice when taking the quiz, she made a theory trying to explain it. She thought it was because she was “reading for retention” rather than reading for enjoyment.

Despite Nancy’s clear sense of "hearing the words," her implicit prosody score was in the low, middle of the participants in this study. During the post-quiz interview, Nancy read one of the problems aloud, and I wrote a quick observation that she read with a notable lack of emphasis. That note is interesting in the context of the data because she missed questions related to stress in groups 5 and 6. Her description of her interaction with the limericks on the IP Quiz might give some insight into her experience of implicit prosody in these problems:

NANCY: I like the limericks. I don’t read limericks though. [Laughter] They were fun, but I know there’s some, you know, way that they’re supposed to be and I’m not sure what way that is except for rhyming that, you know, there’s more than that to it.

AIRLIE: But there’s, there’s a particular meter.
NANCY: Yeah, there’s a meter and I don’t know what the meter is . . .

That Nancy’s experience of implicit prosody might be lacking in relation to her experience of vivid emotion and personality in her inner speech is also supported by an experience she described during the armchair interview where she had read a book, enjoyed it, and then listened to an audiobook version of the same text:

NANCY: . . . it’s a really fun series written like fifty years from now or a hundred years from now and one of the guys is Irish and, well, it’s interesting because now I’m listening, I, I don’t have a good ear, you know, I can’t, if I hear someone with an Irish accent, I recognize it. But I can’t reproduce it in my head, you know what I mean?

AIRLIE: Okay, yeah.

NANCY: You know? And so listening to it now, I’m like, oh, I love the way that sounds, you know? [Laughter]

AIRLIE: Okay, so, because listening with the audiobook it had more of the accent, the Irish lilt?

NANCY: Exactly, yeah.

AIRLIE: That you weren’t able to create in your mind reading it?

NANCY: Right, exactly. I wasn’t able to create that and they gave the, another character like a Brooklyn accent and I never got that, I never got, they never even mentioned that he was in Brooklyn. [Laughter] So I didn’t even think of that. But I don’t know—

In general, visual imagery did not seem to be a dominant part of Nancy’s experience when reading or writing. She only reported experiencing images in reading #1 and reading#4, and the images she experienced seemed fuzzy or
relatively undeveloped. She used factual clues in the text to shape her experience of voice, not visual ones.

4. Tom

Introduction

Tom is a twenty-three-year-old undergraduate majoring in earth systems and physics with minors in music and geology. He is also an accomplished pianist and plays semiprofessionally. He has a good sense of pitch and finds it relatively easy to translate music that he hears to sheet music and to read sheet music. His ability to hear pitch and imagine chords in his mind is remarkable. However, he says that writing is a weak point for him. He writes very little during the week, most of it physics homework.

Tom was raised in a bilingual home where his parents spoke Tagalog with each other, but encouraged him and his siblings to speak English. He claims he cannot speak or understand more than a few isolated words of Tagalog. He reported being late to speak, and his parents sent him to a speech therapist when he was little. He enjoys learning about other languages and cultures, and he speaks functionally fluent Spanish, though he claims people in Spain would immediately identify him as a nonnative speaker by his accent. Memories from his substantial travels in Europe came up more than once during the concrete interview.

Striking features of Tom's experience

The most striking thing that stood out in the interview with Tom was his vivid, multi-sensory imagination. All activities, with one notable exception, led
him to generate vivid visual images. Two of these images (prompted by reading #1 and writing) were fully developed scenes complete with moving elements, weather, sound, and smell. He described this kind of image making as being an essential first step in his writing process.

One might think that a person with such a vivid imagination would enjoy literary works. However, texts too laden with metaphor and imagery seemed to overwhelm him. For instance, his notes on the *Gatsby* passage on the background survey were:

- Summertime
- Reminds me of AP English in high school
- Could not understand exactly what was happening -- too many metaphores
- Impressionist paintings

In contrast to this distaste for metaphor, he remarked in reading #1 that the simplicity was what appealed to him and enabled him to generate the vivid imagery he experienced with this reading:

- AIRLIE: And for you this piece was very vivid, your sense of –
- TOM: Yeah, very, it was very, I think part of the reason is it was so easy to understand. It was very vivid ... letters are meant to be easy to understand and, and I think that’s what it was so, it was so easy to hear and picture what was going on.

During the armchair interview, he mentioned that the only literary text he enjoyed reading in his AP English class was Kurt Vonnegut’s *Slaughterhouse-Five*:

- TOM: But I when I was reading the passage [from] *Great Gatsby*, it just reminded me of so many things I’ve read and, you know, like just like took me back to high school and that, you know, AP English class and just, and
having like so many types of writing that, you know, I would find it difficult to understand because it’s more of like a stream of consciousness and it’s more dreamlike and not really knowing what’s going on. And I’m like, could you just speak normally to me please?

AIRLIE: [Laughter], so the literary language was not fun for you?

TOM: Yeah, yeah, it’s, some language I think the only time I actually enjoyed the language like that was I guess when I read Kurt Vonnegut’s Slaughterhouse-Five. But—

AIRLIE: That’s a good book. But other than that—he has very tight, tight language . . .

TOM: It’s vivid but it’s, there’s not these long wandering metaphors to—

[Laughter]

In addition to disliking long, wandering metaphors, he seemed to have significant difficulty reading texts written in vernacular. He struggled with reading #3 and reported having difficulty reading texts written in vernacular in other circumstances as well. At the beep in reading #3, he said: “trying to understand what people were saying because I couldn’t. It was difficult.”

AIRLIE: Okay. Tell me about that experience of trying to understand.

TOM: It’s like, let’s just say it was more difficult for me to understand maybe even just as difficult or more to understand this, the, the I’m assuming two people were saying in this conversation than if I were to listen to people talking to each other in Spanish.

AIRLIE: Okay, so it felt like a different language?

TOM: Yeah. What’s, what’s the name of that author that wrote Grapes of Wrath and—

AIRLIE: Steinbeck?
He went on to describe struggling reading Steinbeck, whose long, vivid descriptions mixed with dialogue in dialect were too much for him. Later, during the form for reading #3, he noted that the vernacular forced him to pay attention to the sound of the language (something not true for him in all the readings), but the challenge of it left him unable to develop the rich imagery characteristic of his encounter with other texts in that reading.

Tom was able to perceive implicit prosody in most exercises. He missed one problem in group 5 and two of the ten problems in group 6 (limericks). Both questions that he missed in the limericks were from group B, so he was able to detect the stress effect, but not pinpoint the word that was causing the trouble.

Tom was a careful observer of his inner experience. During the post-IP Quiz interview, he described experiencing several types of voices (discussed in chapter 5). He experienced a similar range of voice types during the concrete interview. He clearly seemed to experience a personality kind of voice in the practice passages. He described hearing his own voice sounding out the words in the homonym and homophone focused groups 1-3. He seemed to experience the limericks in an interesting way. In the limericks, he describes hearing the voice of someone else, but the voice seemed far away. He mentioned that he was focused on the content of the limericks, the joke and not the sound. He found group 4 easy and group 7 irritating, but he clearly described the impact of adding commas as shifting the sound in his inner experience and clarifying the meaning.

Once, in the context of describing the group 7, problems in the post-quiz
interview, he describes what might be a transition or continuity between this vague sense of voice and "his own" voice:

    TOM: I read it a first time and then it's, you know, just kind of, you know, this vague voice. But then I, when I begin analyzing it I hear myself and I'm like, okay, I, I'm saying how, I'm judging my own, like my internal inflection of how I say it...

At other points during the session, we had discussed the concept of rehearsal, and the concept of rehearsing language seemed to speak to him, perhaps because it was an important aspect of his writing experience.

He reported hearing his own voice when drafting writing and rehearsing language as he wrote. In his description of texting during the armchair interview, it sounds like he rehearses or monitors his language carefully most of the time and texting is one place where he lets himself relax a little:

    TOM: I, well, when I write a text message, I, I write everything out.
    AIRLIE: Um-hum (affirmative), you write out all the –
    TOM: Yeah, I, and I, like I like to be, I'm one of those types, you know, I write out everything, complete sentences, perfect punctuation.
    TOM: And, but to convey like my tone of voice, you know, sometimes like I read my text and it actually sounds kind of, I realize that it could come across as ambiguous how, how I'm presenting the text, but I often just say to myself, oh, you know, they'll figure it out and I just send it anyway.

When Tom experienced a voice that was not his own, he often seemed to focus on a sense of the inflection of their voice and not, necessarily, the meaning of the words. For instance, in the vernacular text, he recognized a regional accent and described hearing intonation, but wasn't sure about the meaning. He
described something similar with the Keats poem in the practice problems and his description of his perception of his friend's voice in the image he was generating in preparation to write. The exception to this was when he described a voice that was like listening to a generic textbook. This textbook voice was "other" and present in reading #2 and reading #4. When he describes focusing on content, he describes this voice. This textbook voice was "other" and present in reading #2 and reading #4. When he described focusing on content, he described this voice.

Tom’s experience reading a Nature article: "Supervolcanoes within an ancient volcanic province in Arabia Terra, Mars"

Tom's selection for reading #4 was a Nature article describing a supervolcano on Mars. He was familiar with this article and had submitted it for a group discussion in one of his courses. At the beep, he was immersed in an image of: "Mars, going through the process of volcanism and doing this resurfacing event where, where the, where much of it was covered in this, in this, the salt lava material." By this point, he knew I was going to ask about sound, so he volunteered this:

TOM: What I could hear from that was, what was going on? It was just like an, it was an introduction. It was like a kind of text book, almost text book reading. But it was also like I felt like it was going somewhere. Like I felt there was a direction.

AIRLIE: Now did you hear this as you reading it to yourself or you being read to?
TOM: I would say a mix, a mix of the two. Because it's me trying to understand it but it's also them [the multiple authors] conveying their, their point across.

Going through the form, he scored sound (2) because, "it was a little bit muffled just because of, you know, reading it in depth and I feel like the more you read in depth, the less you hear the voice." He scored image (4): "Four, I saw a clear, vivid images because, because being a, you know, like a, a geoscientific paper, it's very like the geosciences are such a spatially like it, it requires a lot of spatial thinking." He mentioned that he thinks that spatial, visual thinking is a "go to" for him. He scored movement and pressure as (2), and we had a long discussion about whether he was experiencing the sensation of pressure, identifying with the volcano, or making an intellectual, semiotic connection with the word *pressure* in the prompt and the discussion of pressure when it comes to the lava in the volcano. This conversation continued as we got to the question about presence, and we arrived at an understanding that the volcano is more present to him than the authors in this reading. However, his score of (2) does not reflect a kinesthetic sensation he is experiencing. It is more connected with the ideas in the article. He mentions that, in the background survey, the *Great Gatsby* reading, he did experience a sense of kinesthetic movement when reading, but he did not experience that here.

Despite his vivid visual-spatial imagery, he did not report a sense of smell, stating: "I did not experience smells because I don’t really know what Mars smells like." Because his perception of the source of the voice was a mix, perhaps taking turns between rehearsing the language and listening to it, the orientation
of the voice was unclear to him. He scored the resolution of the voice as (2) because it was kind of muted, the voice was not the point, and the personality was not developed. He said, "When it comes to like that type of writing, I just want to know what the content is."

5. Mark

Introduction

Mark is a twenty-four-year old man whose life revolves around music. He estimated that he spends close to fifty hours a week playing, listening to, and composing music. As a musician, he primarily identifies as a drummer, and he majored in college in jazz and African American music studies. However, during the course of the interview, he mentioned playing several other instruments. When, during the armchair interview, I commented on the detail with which he considered and spoke about his inner world when composing, he said: "Yeah, [it's] pretty much the only thing my brain does." Mark did well on the first groups on the IP Quiz, but he missed half the questions in groups 5 and 6, which was interesting to me because, as a drummer, I expected him to be sensitive to emphasis and stress. During the post-quiz interview, he reported difficulty discerning the word that was problematic in the limericks.

Mark's undergraduate experience sounded like it was not smooth sailing. According to his background survey, Mark spent six years as an undergraduate. We didn't spend too much time on the struggles he had with school, but he mentioned skipping class and he volunteered that he had taken his FYC course more than once. We did speak at length, though, about his struggles transcribing
music; he spoke about how difficult it was for him, and that it felt wrong to him somehow to place some intermediary between his mental experience of the music and the performance of it.

**Striking features of Mark's experience**

Mark's resistance to layers or blocks to the flow of experience and his enjoyment when ideas and associations flowed freely was an important theme throughout our time together. Clearly, this aesthetic is in synch with his love of jazz. But, it also carried over to his enthusiasm for people and a desire for an unmediated experience of the personality of the writer when he read. Interestingly, then, he was enthusiastic about reading #2, which offers very little in the way of personality. What he seemed to enjoy in that text was the presentation of ideas, the nuggets of thought that he was free to meditate on, disconnected from the linguistic flow of the text.

When I asked him about composing his own music and writing it down, he said he could do that, but he often just gestures:

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MARK: A lot of songs I’ll just, I have them in my head or, and I’ve written, or I’ve written like a little bit of it down just like, or just like an idea written down like a couple of words about it. And, but a lot of the songs I’m, a lot of what I’ve been doing now is just kind of like out, out in the air. There’s no, no paper, there’s no like middle ground between having the song just like right out of me. But I’ve also written stuff too like to give to other people to play.
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At times, he seemed to resist the process of mind-to-paper and paper-to-mind. However, during the armchair interview, he shared a recent memory of voluntarily freewriting in a museum to get out his thoughts.
Mark is drawn to reading texts that encourage a sense of connection with people. He spoke about this in several places during the session, and it was evident during the concrete activities we did. Two genres he enjoys are autobiography and poetry. In describing his enjoyment of Maya Angelou's poetry, he said:

MARK: Oh, that I definitely when it's like a poem like that, I definitely feel the, the writer.
AIRLIE: Uh-huh [affirmative].
MARK: Like I don't know if I can necessarily hear their literal voice, but I hear more of like a, an external voice. It doesn't feel like me at all. It feels like someone's like, emotion, someone's talking deeply about their emotions and how they feel about something. And I can feel, yeah, I can feel like where they're coming from, a good poet anyway.

... MARK: It was really like gripping and I could really feel her, her soul coming through. It was almost like I could almost hear her voice and I've never heard her voice. I don't know what she sounds like but I could, I could definitely imagine like a, like angry, not angry necessarily but like a, I don't know, black lady of the time, fed up with, with her society. I could really feel like her, her voice and her energy coming through, just those few little poems that I read.

Feeling the writer, experiencing a sense of immersion in the writer's mind (or in this case soul), seems to be an important aspect of his experience of reading. Mark clearly is capable of hearing inner speech when he reads. However, he is one of the only participants in the study who—at times—seemed not to hear anything at all. We spoke about this in a more relaxed fashion at the end of his response to reading #2:
MARK: Oh, yeah, I, I will like read over things and I don’t even know if I’m taking it in sometimes. Oh my God! I’ll be like sometimes my brain, my thoughts will come up so loud over the writing and I’m like, I’m not [competing] but it’s like I’m still looking at the words at the same pace. . . .

MARK: But I won’t be registering it at all. It is like just staring at it and just, I see every word, maybe I even am saying the words in some part, but like—

AIRLIE: But that’s not where your attention is.

MARK: No, no, like my attention is, has become on like what [does] this mean? like, I don’t know, language is great but it’s like I don’t know, it’s limited in a way I guess to language. right, right.

MARK: And all we can, all we can use it for is to express like, just like, I don’t know, it’s such a humanness in it, which is great and like obviously I’m not knocking language but it’s like, I don’t know. There’s, I don’t know, I guess pure like essences of things like can’t really be described in words. I don’t know. I’m pretty like into Eastern philosophy and stuff and there’s a lot of stuff that’s like there’s no words for this thing. It just, we don’t even, can’t, we just like don’t even have anything for it. It’s just, it is, it is, we can’t, we can’t even comprehend it as human so it’s like, I don’t know, a lot of times ideas, it will take a lot of, a lot, a lot of writing to just be like, actually if you can just grasp the concept of it, it isn’t so bad. But trying to put it into words and trying to like word it out to describe for someone else is like, you’d sound like a joke, like a mystic.

Mark’s attention seemed to be drawn into images and ideas more easily than into sound when reading. Certainly, he had to be prompted on readings #1 and #2 to mention his experience of sound. He seemed deeply immersed in the experience (reading #1) and ideas (reading #2). Mark reported particularly vivid images, images that included moving figures like a movie in reading #1.
Once his attention was brought to the sound of the language, though, he would try to describe it. What is most striking in listening to this effort, though, was his relative struggle trying to describe what he experienced with sound vs. his clear, enthusiastic response when he reported images. During reading #2, his own inner speech thinking about the material was much more easily part of his awareness than the sound of the words. He made a clear distinction between a kind of vague inner speech in the fictional readings and reading #2 and his experience of his own voice that he claimed to hear clearly when he wrote and read the instructions and problems during the IP Quiz. In reading #3, the language seemed to pull him into the sound of the words, but he actively resisted being drawn into the details of the sound and seemed to find that experience overwhelming. The "otherness" of the language, though, may have played a role in his resistance. In reading #4, he identified with the author and experienced the text as the author speaking directly to him, and this language did occupy his awareness, and he seemed to hear the words clearly.

Mark's experience reading an article in a local paper: "Bias and fear: Marijuana, science, and the media" by Terry Franklin

I was unable to access the article from Drum!, "Don't Mess With Jimmy Page" by Brain K Carvell, that he chose on his background survey. Instead, during the in-office session, he decided to read a news article, an opinion piece, in The Advocate that he had brought with him into the session. He picked a piece on pot legalization, and he said, "Terry Franklin was reading right to me." He was interested in the content of the article and found himself agreeing with the
opinions and the style of the author. At the beep, he said, "I was just giving him his, his all, giving him full attention." In this case, he gave sound the highest mark (4) and did not experience image or other sensations. He did indicate that he experienced a sense of presence (3), and he compared this sense of presence with autobiographies, which for him are a (4). He described presence as a sense of projected personality—something that he appreciated not being over the top in this piece:

MARK: Like there’s, he’s not putting any personality forth in this. It’s mostly like, obviously some of his personality’s going to come through and then he would have to. But it wasn’t like, it wasn’t about him. It’s like mostly fact based and like based on studies and what not. . . .

. . .

AIRLIE: Yeah and you value the kind of, like the more distant writing . . . ?

MARK: . . . yeah, in a way to like a more, I don’t know professional minded take on it was a very . . . professional sounding, . . . it wasn’t like, yeah, man, legalize pot bro’. It didn’t sound like that. It was like a professional person speaking clearly . . .

He seemed to appreciate this impersonal, professional tone, something that came out again in his enthusiasm for reading #2.

6. Skyler

Introduction
At twenty-one, Skyler was the youngest person in the study. Skyler identifies as Agender and performs this identity in name, dress, and manner. According to the background survey, they had completed a two-year degree majoring in literature, art, and music. In line with these majors, Skyler reported a deep love of reading and listening to music throughout the interview and seemed to be exquisitely sensitive to written style. Skyler enjoys a variety of genres including fiction, nonfiction, social media, and blogs. At odds with this love of reading was Skyler’s statement during the armchair interview that reading was often difficult. I asked if their experience of inner speech when reading different genres was different, and they replied:

Yeah, it’s definitely very different. I find like fiction, reading fiction, poetry and prose poetry, I haven’t been doing as much lately because reading is like difficult for me and it’s not always fun. Maybe like more than fifty percent of the time it’s not fun and it takes me a while to like really get into it and focus. But I think those genres are more like rewarding to me. I think reading like nonfiction or news or anything that’s more straightforward is like easier. And I mean, yeah, just the whole experience is definitely different.

Skyler currently works as a delivery driver and is able to listen to audiobooks, podcasts, and music while driving about thirty hours a week. They reported very little regular writing, less than seven pages a week, mostly cover letters for job hunting. However, the writing they did for this study seemed fluid and interesting. Though they mentioned that they might have exaggerated how

39 They requested that I write this summary using gender-neutral pronouns. In future work, I will use a more graceful alternate pronoun. In this work, I refer to Skyler as "they" throughout.
much reading they did on the background survey, in general, they came across as eloquent and careful in describing their inner experience.

**Striking features of Skyler’s experience**

Skyler came into the interview with a suspicion that they had an unusual inner world. They were intrigued and puzzled by the fact that at least one friend with an autism diagnosis had suggested that they were autistic. Skyler’s VISQ scores were markedly skewed towards the condensed inner-speech factor. Their highest VISQ score was in condensed inner speech, and they reported the lowest score of all the participants profiled in the other three categories. Tom and Gwen had higher condensed inner-speech scores, however Skyler was conservative in all Likert reporting, so it is possible that their daily experience of condensed inner speech was actually comparable to the experience of participants with higher scores.40 It is impossible to know. Regardless of rank, it is clear that (at least according to the VISQ) Skyler’s primary experience of inner speech was in the condensed form.

Skyler’s self-description on the VISQ was corroborated by their qualitative descriptions of their inner experience. Skyler described something that sounded like Fernyhough’s description of condensed inner speech in several places in the interview. For instance, during the armchair interview, I asked Skyler to make a distinction between their inner experience of rehearsing language when writing vs. reading aloud, and they said: "Well, I don’t know. It’s funny because I don’t, I

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40 In general, Skyler seemed very conservative when responding to the Likert questions on the follow-up forms. They never ranked anything (4) and very rarely ranked anything higher than (2). Since the VISQ questionnaire was a similarly structured Likert scale, it is reasonable to think that Skyler might have been conservative in reporting the VISQ scores as well, resulting (perhaps) in a lower score than other people with similar experiences.
don’t think I like think in, in sentences or it’s like very abstract like very
fragmented and I don’t think I have like an, an inner narrator at all really.” Later,
during the writing portion of the concrete interview, Skyler went back to this
experience of inner speech and expanded it in the context of writing:

SKYLER: I feel like, like I said before, I don’t think in sentences. I think in
fragments. And it’s almost like those fragments are images and I know right
away like at the same time, like I have a very clear in my mind and then I
have to figure out how to express it. It’s, it’s more like I think in like feelings or
like, like little movements that are very abstract, like it’s, like I don’t know it’s
hard to talk about because I don’t think I, I don’t think it’s like purely visual but
it’s also not sound. It’s just something else.

AIRLIE: Okay, we, we have a term like it’s, there’s a term in my field that
people call like felt-sense which is like the, the feeling or the idea that you
have like just before you start forming words. Does that sound like it?

SKYLER: Yeah, it’s kind, it’s kind of like spatial.

This spatial experience of text seemed to be connected with Skyler’s
experience of movement or pressure, a concept we were never able to
sufficiently negotiate, but one that seemed particularly meaningful to them.

During our discussion of pleasure during reading #4, Skyler said:

SKYLER: I think most of the pleasure I get from reading is from humor.

AIRLIE: Uh-huh [affirmative].

SKYLER: Specific images of, I think I found . . .

AIRLIE: So it’s humor through image?

SKYLER: Yeah, or like motion. . . .
SKYLER: Where the motion isn’t visual, it’s like, I don’t know how to describe it. This is like the one thing that I, I want to be able to describe. But, yeah, I don’t know.

Airlie: Okay, like the, the emotion of humor or like the pleasure of it, like?

Skyler: I, I guess I just want, want to figure out how to like trace what humor is to me because it’s definitely connected to movement . . .

Unfortunately, the only time Skyler reported experiencing a sense of movement (1) on forms during the session was during reading #2. During our conversation about this score, Skyler was talking again about the register or style of the language, claiming that there was some sense of movement or pressure in "the linguistic terms themselves, just because it’s like very specific and kind of hard and sterile." My sense is that, in Skyler’s case, the sense of movement or pressure they referred to was something too far outside of my experience to translate properly, but it was almost as if their experience of style or register was tactile, kinesthetic—or at least that was the closest we both could get.

Skyler was talkative throughout the IP Quiz and they reported feeling some anxiety. I have several notes on the prep sheet where they commented on various questions—mostly struggling with not being able to find the right answers in the list of options on the quiz. In this excerpt, Skyler describes their experience of hearing the sound of the words when reading the limerick problems as being unexpected and theorizes that they heard the words because they were anxious, but they clearly report hearing the experience of emphasis in the limerick problems:
SKYLER: But I mean I was anxious for the first part of it. It’s, I don’t know. Um, I think just, just because of that reason, I kind of read aloud in my head most of the way through just like to get focused. But I don’t think that’s generally what I would do.

AIRLIE: Okay, and tell me what is reading aloud in your head like with these kind of questions?

SKYLER: It, it like phases in and out, which is kind of hard, like I’ll literally read a few words aloud in my head and then the next few, I’ll just kind of skim and then read the next few, so like on and off. Except for the, the poems in there, or the limericks, I read aloud like the whole way through.

AIRLIE: Okay. And you, but you had a lot of like, like places where it wasn’t matching the question. So what, can you tell me a little bit more about your experience of, of reading the limericks like trying to solve the problem or the puzzle there or the question?

SKYLER: Yeah, for most of them it just seemed like, like the, the ones that were more difficult than the others had a word in them that was like weight, more weighted than another.

AIRLIE: Uh-huh [affirmative].

SKYLER: And I, I felt that was clearly the answer but it wasn’t up there, which was strange.

AIRLIE: So you heard, you heard of this some words were weighted more than the others?

SKYLER: Yeah.

AIRLIE: Like can you tell me a little about what you mean by that, like?

SKYLER: Like the emphasis, like if you read it aloud, the emphasis was on a particular word.

Skyler’s reported experience of the limerick problems matches the design of the problems. However, Skyler missed six out of ten of the limerick problems,
and they missed the complete problems when they missed them. So, perhaps
Skyler could hear a sense of imbalance, but not orient that imbalance in the text?

Skyler had the second lowest IP score, and their score was notable in that
the mistakes were spread out among several categories of questions whereas the
other lowest scoring participant primarily missed questions in group 6. Skyler’s
reading speed estimate, 179 words per minute, was one of the slowest of the
participants in the study. This estimate, though quite low, was supported by
statements made by Skyler during the concrete interview about difficulty
focusing and using audiobooks to help them read faster when in high school.

This description of an on-off experience of inner speech was pervasive
throughout the session. For instance, in this discussion of resolution during
reading #3:

    SKYLER: So I would say again like it goes in and out and I hear the voice but
it’s also muted and I don’t know where it is and it almost feels like it’s
physically far away and I’m like trying to reach for it.
    AIRLIE: So it comes and goes?
    SKYLER: Yeah.

Other times, the experience was more like what I refer to as "priming the
pump" in chapter 5, an experience of hearing inner speech at the beginning of a
reading and then having it fade out as attention shifts to other experiences.
Skyler described the first pattern during the IP-QUIZ and reading #1 and the
second pattern during writing and readings #2 and #3. Skyler referred explicitly
to this experience of on/off inner speech in every activity except reading #4.
However, in this reading they referred to a kind of wrestling with the formation of the voice that might be a theorized version of the same phenomenon.

Skyler seemed to be very sensitive to style and register in writing. They experienced a clear sense of personality that was not themselves for each speaker in readings #1 through #4. In a discussion prompted by the pleasure question on the form for reading #3, Skyler stated:

It’s, I don’t know how much I like it. It’s, it’s just like funny, sometimes writing styles are funny to me when they are like more serious. I guess I just haven’t read the classics in a long time and so when I read them, it’s like this is a very specific style.

AIRLIE: Oh, is it a similar feeling to like when you read the letter and it like that first piece we did?

SKYLER: When I read, yeah, yeah, it’s like that.

AIRLIE: So like, like, it’s like the, the old style of the language is kind of like funny?

SKYLER: Yeah, it almost is a, a setting. Like I heard the, what’s the, the more academic one with the spectrum. Like I heard, I kind of imagined someone like talking at a podium and then with, with the wartime one, I was thinking of someone like writing maybe at their desk. And then with this one, I, I feel someone like reading from a book or something.

Skyler described this characterization of the speaker of the text in more detail when we spoke about their experience of reading #2:

SKYLER: Just because it was that nondescript voice, I think the voice still had character and the character was that, it was like sterile and nondescript.

...
SKYLER: Yeah, because I think just having the idea of like a man like standing at a podium reading and then, I mean, it was, it wasn’t quite like, like the voice of like an audiobook, but it was almost like that.

AIRLIE: So when you say it’s like the, in other words does it, it gave you that feeling of like you were listening to an audiobook or it gave you the experience of hearing like an audiobook?

SKYLER: It was more like an, like an image of the voice. Like I knew what the voice kind of sounded like but I wasn’t reading in that voice the whole time. So like maybe like I heard it for like a sentence a little bit vaguely and then that just [entered] the rest of the piece, like the character of the voice.

AIRLIE: No, this is making sense. It really is. So, so it’s almost like kind of like you get started, you get oriented, you hear like this is the voice that this is in—

SKYLER: Yeah.

AIRLIE: - and then it’s not real, like then it just flavors everything?

SKYLER: Yeah, yeah.

Skyler described hearing their own voice in two places during the session, when writing and when doing the quiz problems. This excerpt is from the post-IP QUIZ interview:

SKYLER: Parts of it my voice sounded like me or what I think I sound like.

AIRLIE: And what, what do you think you sound like?

SKYLER: I have no idea. I have this really strange reaction to hearing my voice recorded where I actually tear up for no apparent reason.

We discussed the difference in experience between the voice we hear in our minds and what we hear when listening to a tape recording of ourselves and how we feel about that difference:
SKYLER: It’s [my inner voice] like not completely me so I can’t even really call it my voice. It’s just like maybe partly me. Do I like it? No. [Laughter] I mean I don’t dislike it.

... SKYLER: I mean it also would be weird if you really like liked it though or, like pleased by it. That seems strange to me too. I mean if you’re like, if it’s, if it’s familiar in some way, then that could be nice.

In the course of this discussion, I ask if the voice they identified as themselves when taking the quiz was the same voice they would hear when journaling. They responded: "No, it’s more clearly me when I’m writing, yeah. But it’s still like distant in a way that I’m like constantly aware of and makes me anxious, you know? I don’t

Skyler experienced a few, memory-like images during the readings. However, the most detailed visual imagery came during writing. In general, Skyler seemed to experience a more vivid inner reality when writing than reading. Here is what they put in response to the writing activity on the background form:

I could tell that the voice in my head was different from the one I had when I was reading the previous passage. It seems my inner voice is different from when I read and when I write. When I write the voice is closer to me, and I speak aloud in my head when I write, and enunciate clearly. But when I read, I don’t silently read aloud the words most of the time. It is a more quiet activity"

Skyler’s experience reading *E! Entertainment* by Kate Durbin
Skyler’s choice from the background survey was an excerpt from *E! Entertainment* by Kate Durbin. I had not been able to get a copy of the text to display on the computer, but Skyler happened to have brought their copy with them. So, this reading was using the actual paper book and not a .pdf displayed on a screen. *E! Entertainment* is a unique book, a kind of novelization of a current reality TV show. The cover is a psychedelic geometric visual pattern that almost obscures the E embedded in the exclamation point embedded in the broader pattern. The layout of the pages is more narrow than standard and the genre is a hybrid between a novel and screenplay. The chapter Skyler was reading opens with a description of the setting and an explicit description of the physical relationship between the reader (camera) and the characters in the set. This opening is followed by long columns of terse dialogue. The dialogue, however, doesn’t have the usual spacing and identifiers of a screenplay. It uses the fiction convention of "He said" and short-hand nicknames in capitals embedded in the text to identify characters speaking like "The Guy" and "Not-Husband."

Skyler had watched the show, and so they were familiar with the living voices of the people represented as characters in the novel. At the beep, they were reviewing their experience of the text, thinking about what they had just read. When completing the form, Skyler described hearing the sound of the voices of the characters. However, as in all the readings, Skyler reported the sound of the voices as going in and out. This was true of Skyler’s experience of voice in every reading. However, in this case, they created a theory about this experience describing the unusual experience of consciously resisting the voice
their mind had chosen for one of the written characters—referred to as Kim Kardashian's Not-Husband in the reading. Skyler knew the voice of Kardashian’s husband in real life (Kayne West) and kept experiencing the Not-Husband’s voice as Kayne West’s voice, though the Not-Husband in the novel represented a different person, one whose voice Skyler didn’t know from real life: "So I’m like hearing things but it’s coming in and out because I keep reminding myself that it, that I’m thinking of someone that’s not who it is supposed to be." Later on the form, Skyler returned to describing their experience of these voices, saying: "So yeah, at times I could like hear Kim’s voice but then like for her husband partly because I’m reminding myself that it’s not him, his voice is more muted. Her voice is more resolved. And then when there’s no dialogue it’s [the narration is] more muted, maybe more like flat.

In terms of image, this reading contained images for Skyler. They liked the format of it reading like a TV script: "It kind of goes from image to image and she’s really good with that, so I see some of them and they’re just like really funny, especially because it’s kind of surreal and not completely saying exactly what happened in the show." Skyler found pleasure in this reading through the humor of it, something they experienced as a kind of movement.
7. Gwen

Introduction

Gwen is thirty-six years old. She has a high school diploma and is currently going back to school to earn a BA in journalism after working for a decade as a freelance editor. She currently estimates that she gets about twenty percent of her income from editing work. Gwen supplements her editing work with a wide variety of other short-term gigs—like this study. She describes herself as a generalist and spends time working with her hands, walking outside, and playing with her cat in addition to about twenty to thirty hours a week engaged in reading and writing tasks related to her online college program. She enjoys being “unplugged” out in nature and considers herself a philosopher and observer of life. She mentioned that if she brought a pencil out in nature with her, she would find herself writing. So, she currently chooses to leave the pencil at home in order to have an unmediated experience of nature. She was a delight to work with, and was enthusiastic and engaged throughout our session.

During the armchair interview, she described a history of frustration with reading and writing, despite being drawn to work involving text. For instance, when describing her choice to work as an editor, she said:

> I consider myself more of an editor than a writer because to me writing was always so difficult and then when I realized that I could sit there and actually just correct things, I was like, this is where I, I need to be because I could, I have a gift to see when something’s wrong. And I can see flaws pretty easy and, you know, it’s a lot more difficult to see, to create something . . . for me it is.
She expressed frustration with her current school work. She said she generally tries to skim and get through the reading as quickly as possible. She resisted exploring her inner experience skimming textbooks, so I asked her to elaborate on her typical reading process when reading something she enjoyed. She chose to imagine reading *The Advocate*, a local newspaper, and said:

P: So as soon as I pick up *The Advocate* and I’m reading about how, you know, in Northampton [a] downtown business organization had disbanded or something and, and so I’m reading it, I’m not really, and I’m not really getting what’s going on but then all of a sudden, a line will stick out and then that’s when I re-read that line. Something makes that line stick out. There’s something that my subconscious recognizes as this is actually the, the nutshell of things. And then that’s when I reread the line to make sure, to slow down and then that’s when my brain develops a clearer picture, so I can understand the situation.

AIRLIE: So when you’re saying you’re re-reading that sentence...do you hear the words?

GWEN: Do I hear the words? Yes, I, yeah, I think I hear the words then because I’m pronouncing them in my mind really slowly. So, yeah.

AIRLIE: Okay, and so you, so when you’re rereading and now if you go back and imagine in general do you hear the words?

GWEN: Do I hear the words when I read? I think I do but I’m, I don’t think all the time. Yeah, yeah.

When I asked her to describe her inner experience as she edits, she said:

GWEN: . . . It’s basically like seeing black and white text and, it’s not that I see neon but I guess the saying, the cliché would be to see red flags and I just kind of, I feel it . . . you know, you ask someone to marry you and they
say no . . . it's visceral, but it's this mental note like click, like it's . . . I guess it's the closest to someone saying, no, you know?

AIRLIE: Okay.


AIRLIE: And so like the da, da, da is that—

GWEN: Da, da, da, da is all the parts that are right.

Striking Features of Gwen's Experience

In general, Gwen's go-to term for the end-point of her reading process is a nonverbal and non-image experience she calls "feeling." This emphasis on a kind of gut feeling was a common theme throughout our session. Where others might describe the end-point of their reading process as developing a full concept or image from the text, Gwen often described a sequence of image, then feeling.

Her estimated reading speed from the in-office interview suggests that, like Paula, she employs a wide range of reading speeds depending on the text. Also like Paula, she reported steering her attention to different aspects of inner experience as she read. I asked her about her reading and skimming abilities, and she said that she was really good at paraphrasing. In a job writing scripts for news shows, she found she could easily translate the meaning of something more complex, like The New York Times, for the TV audience. She said she would "break it [the main ideas] down in really simple TV speak." However, she contrasted this ease accessing the main idea with her struggle to retain the actual wording of what she read. In several places, she mentioned a connection that she saw
between her inability to remember the words and her inability to retain what she'd read:

I am really, really bad at retaining information when I read. So almost in all cases, I don't really understand what I'm reading... I can never, I can never actually memorize the way the sentence went. So I could never actually repeat something I just read. I'm always going to get it wrong. And I have a hard time understanding what I read too. But somehow I sense what's going on, I sense the main idea and then that's what I use to reconstruct my version of...what they were saying. My, my own universe of what they were saying.

It seems possible that Gwen's struggle with reading and retention could be related to her experience of inner speech. Gwen had the lowest score on the IP Quiz of all of the participants in the study. This low score primarily came from trouble with the limerick problems. Her trouble seemed to stem from the fact that she went right through the limericks without hearing them. She said, "In my mind limericks are a dime a dozen and so you just read it for the punch line [snapping] it's like a quick little joke... So I kind of like blank, blank, blank, blank, and then a kind of visceral like... somehow I think it's funny."

When I described the stress effect the limerick problems were supposed to test for, she said, "I still don't even get what you mean." She asked me to read one of the problems aloud to demonstrate the effect. I did, and she expressed surprise, exclaiming "Oh!" like she hadn't gotten it before. She then seemed to remember hearing something, but she said, "I'm like, it sort of works, but I didn't even stop to contemplate why it didn't. And so that's what it was, the emphasis there." When I asked if she experienced any difference in difficulty in reading the
limericks during the quiz (the test condition in those problems), she said no. She said she experienced them all as being equally easy to read. This is also what she reported in her answers during the quiz.

Gwen did hear inner speech. During the in-office session, Gwen described some experience of inner speech, which she referred to as “saying it in my head,” during each of the readings and when writing, but her attention seemed to not be drawn into the sound of language in her mind, and there were moments when she appeared to hear nothing. She frequently used the metaphor of a radio set at a low volume to describe her experience of inner speech, something she commented on when prompted to describe sound during the writing activity:

P: I did, I did hear something. I was, I guess I didn’t pay this much attention to it but—

AIRLIE: So if you can imagine just before the beep went off.

P: Right, I am, I’m saying a sentence and then writing it down. But I’m not thinking farther than that sentence. Once I hit the period, then I think of something and my, I guess I am saying the words in my head. So I did hear something. I always pick the little bit [on the form] because it’s not really that loud. It feels like it’s a, it feels like a radio on a low volume.

She seemed to have some degree of volume control, though. In several places during the interview, she described steering herself to tune in to the sound: when she felt she needed to be paying attention during the IP Quiz (reading the directions), when she was required to focus on the sound by the problem (homonyms), remembering German words (during the book review passage), or struggling with unfamiliar material (reading #2).
In every activity during the concrete interview, with the interesting exception of reading #3, Gwen claimed that the voice she heard was her own, a woman’s voice; she wasn’t as prone to experiencing personality voices as the other participants in the study. She described her voice in detail as more monotone than her spoken voice, lower, with a measured cadence. To her, it sounded less questioning, more matter of fact, certain.41 She said, “I still consider myself to have a woman’s voice, though—a woman with a low voice,” a description matching her description of her spoken voice. In a later part of the interview, she went into great detail about this trying to describe her voice when rehearsing language in reading #2. Because she was particularly ambivalent about her perception for this reading, I pressed her about her identification of “her voice” as hers as she completed the form saying, “It sounds like what you are saying is that what you hear is more like your own [outer spoken] voice?” She says, “No, that’s not it.” She clarifies that she is confused because she feels it is her voice because she is producing it— not because it “sounds like her.”

While Gwen’s primary way of experiencing inner speech seemed to be her own voice saying things, she did describe imbuing her voice with some degree of personality, performing the speaker’s words in reading #1. She contrasted her experience of performing the speaker’s words in her own voice with "giving the voice back to the writer,” something she claimed to experience when she really identified with the speaker in the text. Interestingly, though, the one place where she did hear inner speech in a voice other than her own during the interview was

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41 From the psycholinguistics angle, these terms could describe an experience of voice with diminished intonation, pitch, and emphasis—lacking the supra-segmental features present in her outer spoken language.
in reading #3, when she read the characters speaking in vernacular. She theorized that she heard the vernacular as an "other" voice because it was so foreign to her that she could not empathize.

**Gwen’s experience reading a *National Geographic* article**

In general, Gwen enjoyed theorizing about why she experienced things the way she did, and almost all of her responses to reading #4 consisted of theories she had been developing during the session about parts of speech and how they were impacting her voice. For reading #4, Gwen chose to read an article from *National Geographic* about mahogany trees. She was passionate in her enthusiasm for *National Geographic*. It was clear in her response to the pleasure prompt on the form that *National Geographic* represented an ideal text to her:

GWEN: I find pleasure in the language because that’s, because I know it’s *National Geographic* so I already had a preconceived, anything that they put a stamp on I will enjoy. [Laughter] So it’s like the Coke and Pepsi thing, you know?

AIRLIE: Yeah.

GWEN: I’m like, I love Coke and even if it’s branded, the Pepsi’s branded the Coke, I’m like I love this, it’s Coke!

However, here at the end of the session, I had to prompt her to focus on her experience of the text and not be distracted by her theories about the role of parts of speech in mediating that experience, but it turns out that, at the beep, she was engaged in this kind of analysis in her own self-talk inner speech:

GWEN: Well it was the sentence before, “[And] some of the world’s most isolated tribes are in flight from the whine of chain saws.” And then that’s
when I, I almost, I read “whine with chain saws” and then almost went backwards because I wanted to visualize whine, but then I realized that’s when it occurred to me it was chain saws that I was visualizing. So it was the noun chain saws and I think I had said, chain saws, that’s a noun.

Later, though, going through the form, I was able to get her to talk a little about the sound of the text in reading #4. She said she thought that she heard the details of the text more in reading #4, but again in the context of a theory, "I think that they’re such a credible geographic, travel source that whatever they say, I pay closer, or I enjoy more so I’ll, I actually wanted to pay attention to the details instead of not caring. I listened to text . . ."
III. Audible Voice With Text

Reading #1

Dear Mother and Father,

Now that it is all over, what is there to look back upon? The fifteen months in France have been like a book with strange chapters, a book that one reads and casts aside as impossible, but a book that leaves a lasting grip upon the imagination.

I used to watch the small planes as they manoeuvered in the air and felt that I presumed too much when I hoped to fly one myself. Flying became a reality when I learned to fly a clumsy and safe Caudron. After that came the Nieuport school with its three types of training planes, the 23-meter double control, the 18-meter solo, and finally the 16-meter scout plane. And then the work in acrobatics, formation flying, combat practice, and a month’s course in aerial gunnery.

"Training completed and ready for active duty at the front" sounded like a voice in a dream. A few days later I was at the front.

I fly again my first flight over the lines when everything was new, mysterious, and awful. The imprint of that picture will never fade, and I will always see a picture, not of war and destruction but of beauty and peace. There below, far below, is picture after picture slowly passing by, set in thick frames of clouds, colors, and shadows, and white dazzling light. There on my right is Metz, and off to the left lays Nancy, like a jewel set in dark green. One is a German city, the other French. Can it be that the men who inhabit each are bitter enemies and fight to kill?

I was soon to discover that this peace was only the calm before the storm. And when the storm did break in sudden fury on the morning of Sept. 12, I saw my picture of peace shattered and torn.

I live again that eventful day. It is before dawn and the guns pound and hammer the enemy. The whole skyline of the north is luminated by continuous flashes. Now it is dawn and we leave the ground to play our small part in a mighty struggle. Low clouds and a light rain forces low flying, so from our altitude we see a great army in action.

I see again great tanks waddling and lumbering their way toward Montsec with khaki-clad troops hanging thick on their backs and following in the rear. The roads are jammed with troops, pursuer and pursued. Scattered troops run into woods and out as the whole region is spattered with bursting shells. A tank is on its side here, a shattered truck there, horses running madly in their blind flight. The enemy are in absolute confusion by the rapid advance of our own troops. The fury of the storm did not last long but the story of the St. Mihiel offensive will never be erased.

I see and live again the long weeks of struggle in the Argonne region, where dodging 'archies' became a routine duty, bombing raids a daily occurrence, and strafing enemy troops a dangerous but ordinary work.

I can hear the machine guns rattling down from the ground as they desperately try to rake us from the air as we swoop down and pour deadly streams of lead into masses of troops. A single bullet in the motor, a pierced gas tank and a burst of flame, a broken wire or a broken feed line and the game is over—lost.

I can hear the archies as they burst uncomfortably close. I can feel the plane as a bursting shell upsets it and starts it spinning, but a quick movement of the controls rights it and on I fly. A burst of black smoke on my right, flying splinters, crumpled wings. The archies have scored another victory—another dear friend gone west.

Over and over I live a terrible moment. Glancing quickly behind I see the sinister silhouette of two Hun planes diving directly at me from above. I am alone and escape seems impossible. One is now almost on top of me and as I make a quick turn be fires at close range. I see again the streaks of fire. Phosphorus fumes of the incendiary bullets fill the cockpit full of that sickening odor and with a damaged motor I fight the fight over and again for my life.

I fly again with great formations of bombers in their daylight raids and take my place above with the other scout planes as we sweep the sky for the enemy. The enemy appears and puts up a stubborn fight. One, two, perhaps more, flaming planes crash to the ground, friend and foe, and the bombers return, their mission accomplished.
1. Paula

At the beep, Paula was reading a point in the passage where the plane was hit by gunfire. She was surprised to realize that, immersed in this moment, she had been feeling movement: “And I, I felt the little, the disorientation of having his plane be hit. Like I felt a little off movement, you know, that, the, the off balance-ness physically.” Later, when completing the form, she spoke more about her visceral connection with the speaker in response to the question about presence:

PAULA: I felt some sense of a person. Not, not always because he was talking a lot about the things he was seeing rather than stuff about his person inside but some sense of a person.

AIRLIE: So you, you experienced it most when he was kind of narrating?

PAULA: . . . I felt his personality most when he was addressing his parents.

Now when he slipped into just describing, I didn’t get as clear a sense of him as a person.

AIRLIE: Okay.

PAULA: But I could sense his sensations.

She described the voice she hears as having accent and personality and also mentioned some details she used to construct that voice:

I heard the young man’s voice. He sounded like a genteel young man and, you know, I don’t know if he has an English accent or an American accent, but a very genteel kind of tenor accent, you know? . . . a voice from a different time period. Both because of the date and because of the way that he speaks in an elegant kind of restrained way, “dear mother and father,” you know? “A book that leaves a lasting grip upon the imagination.” You know, a guy running from Vietnam wouldn’t sound like that.
2. Maja

At the beep, she responded to my prompt:

MAJA: So I'm just in hearing, I think I'm hearing like a slightly male voice this time because again it's a, it's a letter that somebody wrote, so, and I'm assuming it's a man [laughter] because he's talking about being in the war.

AIRLIE: So are you hearing that it's a man? Like do you hear it, do you, sound?

MAJA: It's not a deep sound. I think I'm, I'm imagining and seeing the man.

AIRLIE: Okay.

MAJA: And I'm seeing what he's writing about, so, so I'm not, I didn't hear like a deep voice.

AIRLIE: So you're imagining the man. So tell me what he looks like.

MAJA: He looks blond. [Laughter] I don't know. I don't know, just like young and, you know, short hair and boyish, like a young soldier would look in those times.

3. Nancy

At the beep, Nancy reported, "Well I was reading, I was definitely, you know, hearing the words and, I was, you know, feeling, you know, emotion reading it . . ." At this point, Nancy went back to reread to check if she was hearing angst in the voice. She reported:

NANCY: It wasn't my voice. It was his voice.

I: So it was a he?

NANCY: Yeah, well at first I thought it was a girl, but I hadn't looked at the date and then I quickly realized it wasn't a girl. [Laughter] It had to be a guy.

And—

AIRLIE: So then you heard it as a guy?
NANCY: I heard it as a guy, yes. I, you know, a young guy, not real young, but, you know, twenty, nineteen, something like that. I, you know, I heard, you know, sort of like suppressed emotion in the, in the voice, you know? Because at first it starts out fairly innocuous and, you know, but it’s like there’s something else there. There’s something underneath. That’s what, you know, I was, I was feeling it but I don’t think I was feeling it if I wasn’t hearing it.

4. Tom

At the beep, he was immersed in vivid imagery including moving tanks: "I was picturing in my mind him in the low flying formation and seeing all of the activity that was going on below." He described it being like a movie with the images in the background and his sense of the voice in the foreground, like a background narrator in a film: "It’s like kind of very soft, faded, the sounds [of the tanks] are soft, faded in the background and you hear him reading his letter aloud to his parents, like in the foreground." He felt a sense of immersion with the character, like he was in his body, experiencing what he was experiencing. His imagery was vivid and complex, including smell and movement. He connected the smell with a memory of traveling in Europe, what France might smell like. He said the sound of the narrator was very clear and vivid. When I asked him about the voice, he described switching from hearing a female voice, at first, to a male voice—once he realized the context. He described the voice in terms of immersion in a sense of character or personality: "someone younger than me but someone much more experienced than me in life . . . I could feel a lot of emotion in the voice." He felt the voice had a lot of inflection. He felt a sense of
being present, a voyeur, witnessing the scene. However, he did not feel a sense that the speaker was present with him.

5. Mark

What was most striking at the beginning of this was that he was so fully immersed in the scene. He said, "I was just about to be on the front lines of the war." From the tone listening to this, he was joking a little, but it was clear that he was waking up from an intense visual experience:

AIRLIE: Okay, so you were in an image when the beep went off?
MARK: Yeah, yeah, as soon as I got there, it was like, I don’t know, kind of like a lot of brown. Like I imagined just like a dark ground, field, like no grass or anything. It’s like, I don’t know probably like a combination of a number of films and whatever going on up here. But like just whatever, whatever my image of war, trench warfare was came right into my head. And like planes flying over.

AIRLIE: Okay, and think about your experience with the whole piece—
MARK: The whole thing, yeah.

AIRLIE: Did you experience any sense of sound ever or was it all image?
MARK: It was all image. I didn’t really hear anything. Maybe I heard the, the voice. I heard like a voice kind of telling it to me like as I was reading it.

AIRLIE: Uh-huh [affirmative].
MARK: But it wasn’t, there weren’t any like plane sounds or anything going on. It was all visual kind of, I don’t know it’s visualizing planes and stuff. I was seeing like sky like with different kinds of planes.

Later on the form he reported experiencing detailed images with people moving around on the field of war. He experienced a strong sense of presence (3), but not as strong as when he reads autobiographies, which he said he would have
ranked a (4). Whatever he experienced in terms of sound, it was much less
defined to him than the images. He heard the words, and he heard the
"inflections of a voice," but it was "some kind of communicative voice . . .
somewhere in between a voice and not a voice."

6. Skyler

At the beep, Skyler claimed to be reflecting on the reading as a whole,
trying to focus. The character immediately seemed to be a girl to them, and they
were thinking about her and what her voice would be like. Skyler reported not
noticing the detail of the date at the top of the page, something most other
participants had used to assign gender. In general, they ranked all my questions
about sensation with no or low scores on this reading. This included Sound (1),
which they ranked as slightly less than hearing something, but more than
nothing, and Image (0), which they did not elaborate on. The highest score on
any item on the form was under resolution (2) where Skyler described the girl’s
voice as "it kind of felt a little emotional from the beginning just like nostalgic or
something." In another place, they called it "sweet, like a journal." They seemed
tuned in to the style and found it amusing because it seemed stilted, not like
language someone would say in a normal conversation. I was struck with the fact
that, when prompted to elaborate, Skyler tried to explain this sense of written
style using a movie image: "It kind of reminds me of how like, you know, like old
footage is very fast and it looks like everyone is walking really fast. But that’s not.
I think it’s just like something of the footage, you know what I mean?" I didn’t
initially, but with some elaboration, I got that Skyler meant it seemed old-fashioned and unreal.

7. Gwen

At the beep, Gwen was hearing the words in her mind. In looking back at the text, she said she had sensed something like the editing experience that she had described during the armchair interview:

GWEN: I felt in the second paragraph, maneuvered was spelled wrong but then I sensed, so it raised a flag for me and then I felt that that was obviously probably a British spelling. And then also and then I confirmed it in that same paragraph with meter and so I had kind of paused there and was mentally, I guess just going again with a feeling like it’s okay. It’s okay to keep on reading because that is, that is correct. And then I went back to reading. So when I had stopped at those points, there was no words and I was sensing if things were correct. And then when I felt that things were okay, I kept on speaking out loud. I really, in this piece, I didn't get too many visual pictures. I, I have lived in Europe for a couple of years and so I had a somewhat inner picture of what flying over that land would feel like and I, and that was kind of, kind of a, a really barely visual, visual that I had gotten as I was reading where, you know, the words weren’t, weren’t really doing anything. But I was kind of thinking of thinking of being nostalgic for Europe’s, imagining what it would be like to fly over the land.

In responding to the prompt about the degree of resolution of the voice when reading the personal letter in reading #1, she put 0, totally flat.

I: Uh-huh [affirmative]. So did you have any sense of like who was like the, the author of the words? Like—
GWEN: When I’m reading it, I am, yeah. That’s an interesting, I, I guess I am. I’m speaking the words in my mind and in the special way, okay, that’s how I’m empathizing [with] the reader because I’m speaking the words and something inside me takes on the role of the actor. So it’s not really how I’m emphasizing it, it’s how they are . . . but I have more of a monotone but I’m reading it in the way that they’re writing it so I’m, it’s kind of like that.

AIRLIE: Yeah, yeah.

GWEN: I’m taking on their voice but not, I’m taking on the way they’re writing it but I’m still saying everything the same in my head.

AIRLIE: Oh, you’re still saying, like you’re still hearing it as your own voice saying those things?

GWEN: Ah, yes.

AIRLIE: Okay.

GWEN: Yep.

Later in this discussion, she contrasted this experience with one of "giving the voice back to the writer," something she didn’t experience in this reading:

GWEN: Well, you know, it makes me think in that particular example, I didn’t feel an instant connection to the piece but if it was, that was biographical, it was a letter.

AIRLIE: Uh-huh [affirmative].

GWEN: Or autobiographical, or if that’s what you consider letters, but if it was an autobiographical piece of say, you know, a woman in a situation that I’ve been in, maybe I would have given the voice back to the writer and then maybe of her, her voice, easier than and you, than my own.

AIRLIE: Yeah, no, that’s—

GWEN: So I felt more, I felt less connected so I kept it in my voice.

AIRLIE: Yeah.
GWEN: But in pieces that I enjoy reading, then, yeah, it does almost seem like that they are speaking to me through my words a little bit better.
works. Firth (1935, 'The technique of semantics') used the metaphor of a spectrum: the linguist's task was to split up meaning in the way that light can be split up into a spectrum. The analyst is able to split up light in this way because of the physical nature of the light rays; but there are also conditions, like a rainbow or a thin film of oil, under which the spectral pattern will appear of its own accord. And we can think of analogous conditions in language, where the usually hidden organization is revealed — for example in forms of verbal art, and in various language games. The bands of colour within the spectrum are not clearly bounded, and this indeterminacy is part of the force of the metaphor: phonology can be thought of as one band, but it is not located within clearly defined limits.

In European linguistics, phonology had first evolved as a historical concept: the language family could be established by tracing speech sounds backwards through time. Saussure formulated a synchronic linguistics in which the speech sounds of a language were represented as a phonological system. Among Saussure's successors, Trubetzkoy developed an abstract model in terms of phonemes and archiphonemes: the system was maintained in equilibrium with sets of contrasting features sharing out the total functional load. Hjelmslev stressed the parallelism between the expression plane and the content plane, and defined the system in terms of paradigmatic and syntagmatic relations; Martinet interpreted the stratal organization as a 'double articulation' with phonology as 'functional phonetics'. Firth added theoretical depth to the paradigmatic and syntagmatic axes with his concepts of system and structure, and in working out these concepts in phonology he developed his distinctive model of 'prosodic' phonology (1948, 'Sounds and prosodies'). This was in sharp contrast to the American structuralist view of phonology, which was grounded in the concept of the phoneme — and usually called, simply, 'phonemics'. For Firth, phonological features were abstract systemic constructs associated with stretches of speech that could be of any extent; furthermore these might be identified not only within the phonological level (such as a syllable) but also at the level of grammar and lexis (e.g. a word).

Systemic functional phonology is based closely on Firth's prosodic theory; but it has had a significant input also from other sources. Before studying with Firth, Halliday had been trained in traditional Chinese phonological theory, under two leading Chinese scholars Luo Changpei and Wang Li. Chinese phonology was based on the analysis of the Chinese syllable into two aspects, an onset and a rhyme; it was an entirely abstract theory, with no labelled categories and no phonetic representations (Halliday 1981, 'The origin and early development of Chinese phonological theory'). Chinese scholars had also set up a prosodic system of four syllabic tones: level, rising, falling and stopped. There were no phoneme-like segments of any kind. After some centuries of indigenous evolution, Chinese phonology came to be influenced by linguistic scholarship from India. Indian phonology was strikingly different, being based on very accurate phonetic observation and explicit descriptions. These of course were derived from Sanskrit, and so did not fit the phonological system of Chinese; but the Chinese scholars adapted the phonetic categories, and used some of them to classify the syllables prosodically, with every syllable assigned to one of four 'grades' on the basis of the prosodic colouring of the setting.
1. Paula

Just at the beep, Paula was getting a drink and, perhaps, having an unkind thought about the nature of academic prose. Her first comment was: "I'm sorry to be harsh on academic writing."

Though, she might have also been referencing the last thing she had said aloud before starting, which was: “My eyes hurt just looking at this.” However, she did her best to describe everything that was going on in her mind. She said that she had found the content to be interesting, but then she hit jargon that she couldn’t understand and "lost my grounding." So, at the moment of the beep, she described herself no longer trying to read for content and stalling out.

Interestingly, in that moment, her experience shifted to visual:

P: I guess I was just sensing the complex pattern of the letters visually.
I: Okay.
P: As a, as a kind of spiky interesting visual field without meaning that I could really get a grip on . . .

And orally, it seems somewhat good flow to me as a paragraph of very technical prose. The sentences seemed satisfying somewhat in their length and pauses and stuff like that. It, it wasn’t impossible to read in, in purely a syntactical sense. It's just I didn’t understand most of what he was saying.
I: Right, right.
P: So it was like an abstract sound and visual experience by the time I got down to "hidden organization." [Laughter] I was like, okay, whatever.

When prompted by the form to try to describe her experience of sound during the reading, she said, "It was too impersonal to feel an authorial voice in that." She said it sounded like her sounding it aloud to herself, though she did not
experience that sounding it out voice as her voice. Briefly, she considered that it sounded as if it were written by a man, but then she described it as an abstract, ungendered voice, "I don’t experience as gendered. I just experience it as though . . . that’s only because I assume that most academic books are written by men. So, no, it, I didn’t want to make any assumptions. This sounded like me reading a text aloud to myself." In the end, she coded it as "Distinct voices of two different genders" and "sounded like I was producing or speaking it."

2. Maja

At the beep, Maja said:

P: So this one was my voice. Yeah, I hear myself reading it in my head.
I: Okay. And, and what was that like reading it?
P: It just, just like I would, just like I would read it out loud, which is, I mean I, or just like somebody would speak with, you know, a, with intonation and pausing and so just like real speech.

She did refer to this text as a "dry" text and later in the interview indicated that she probably wouldn’t read it for pleasure.

3. Tom

Tom has taken classes in linguistics at UMass, and at the beep, he was trying to remember something about Chinese phonology, an idea referenced in the text where he stopped. So, he remembers the words that were in his mind at the beep trying to remember, and this was (presumably) his own voice thinking. He also had an image in his mind of Chinese letters on an ancient parchment, again vivid visual detail corresponding to the material he had been reading. When I asked him about whether he heard the sound of language somewhere in
his reading, he said it was like reading a textbook. Elsewhere, he said it struck him as being an old style, like from out of the fifties. When I pressed him to describe what that sounded like to him, he said:

TOM: It's pretty just, you know, someone, some author just telling you facts and just explaining and, but this was, it was kind of like a textbook, but not because it was kind of a . . . I don't know. It was . . . kind of generic . . . just this . . . linguistic scholar. It was just writing about, you know, his research or—

AIRLIE: if you can think of the sound, can you get an idea of when or when you might have heard sound?

TOM: It was like when I was hearing sound while I was reading, over the whole course of reading or right before the beep?

AIRLIE: Anywhere in there.

TOM: It was just this vague sound. It wasn't as present. It was more detached.

Later, he ranked the sound as a (2) saying it was distant, kind of in and out. In general, his numbers in going through the form were low, though in other readings he frequently marked 3’s and 4’s.

4. Nancy

In this reading, Nancy reported listening to a genderless voice as it read to her. However, when we got to the question on the form about whether the voice was muted or fully resolved, it was clear that she still was experiencing a sense of a full personality communicating with her.

NANCY: You know, it wasn't strongly one way or another. I didn't hear any intonations . . . it was sort of like a very factual, which you don't find any more, but newsreader, you know? I think it was a fully resolved voice. I mean [there]
wasn’t [any] irony or warmth in there but more of a sort of like a conviction or, you know?

I: So you still felt you could hear like a kind of whole personality?

P: Yeah, like, you know, this was important to someone, you know?

5. Mark

Mark responded really positively to this reading. He didn’t know all the words, so he couldn’t follow it exactly, but he got a sense of the spectrum (the one visual image in the excerpt) and, it seems, he was kind of happily riffing thinking his own ideas connecting the idea of the spectrum with language and, possibly, music. When I asked what made it pleasurable, he said:

I don’t know. I was learning the ideas, I was taking in, I was taking in new information. I didn’t necessarily take it all in. I didn’t even know the context for where a lot of it was just coming from but it was like, I was like interested in the thing. I don’t know it’s [related] to this whole subject that we’re doing right now so it’s, it’s cool. It’s cool reading about that stuff.

When prompted on the form, he reported two images: the spectrum and some kind of scale for equilibrium: "Like, I liked, I especially like the bit on like a spectrum that kind of carried, I carried that the whole time when I was reading the idea of the spectrum." However, he insisted that this passage was about the ideas and not sound or image.

When I prompted him to see if he recalled any experience of sound. He said:

"I was reading it and kind of making sense but . . . no, there wasn’t much sound going on . . . there was no scenes or anything going on." Realizing that he seemed
to be thinking about sound in scenes or in his imagination, I prompted him to think about the sound of words:

AIRLIE: Did you, do you have any memory of hearing the sound of the words?
MARK: Not really, no, I'm not really any literal sound.
AIRLIE: Okay.
MARK: Some, a little, like a little bit, like maybe just barely.

My sense is that he really didn't hear much of anything. Shortly after this, when completing the first question on the form, he said he might have heard a sound like being read to, "going on for a little bit," but clearly the sound of the language was not a dominant experience. When asked whether his sense of the sound of the voice was his own voice or another, he described a kind of layered experience where he experienced the voice of the text as an outside voice coming in and his focus was on his voice thinking about the content in his inner world:

Someone else. It was definitely someone else because, because when I was there, I was thinking about other things on top of it so it was like I don't know. It was like something else had taken over and then I was analyzing it out here in my own world.

6. Skyler

At the beep, Skyler reported being distracted, thinking about their experience in a linguistics class and reported experiencing two memory-like images when reading: a person reading and their linguistics class and teacher. In general, Skyler ranked this reading with similarly low scores to reading #1 and mentioned that they thought the scores would be similar. Imagery (2) was the highest score. When answering the question about sound (1), Skyler said: "So I
heard it like briefly at the beginning . . . And then after that, it kind of just became an image of someone like reading from a book."

Skyler reported a slight experience of movement (1), and when prompted to explain, they described what I might call the register of the words. Skyler reported the hard, sterile, technical linguistics jargon as creating some sense of pressure or resistance that they classified as movement or pressure. However, when I asked if this resistance was due to difficulty reading the words in their mind, this was the response:

SKYLER: I just, I don’t think I like hear them.
AIRLIE: Okay.
SKYLER: Like I’m definitely aware of them but I don’t hear them.

Later, when I worked with Skyler to try to flesh out the experience of a voice being present and then fading out:

SKYLER: Yeah, because I think just having the idea of like a man like standing at a podium reading and then, I mean, it was, it wasn’t quite like, like the voice of like an audiobook, but it was almost like that.
AIRLIE: So when you say it’s like the, in other words does it, it gave you that feeling of like you were listening to an audiobook or it gave you the experience of hearing like an audiobook?
SKYLER: It was more like an, like an image of the voice. Like I knew what the voice kind of sounded like, but I wasn’t reading in that voice the whole time. So like maybe like I heard it for like a sentence a little bit vaguely and then that just [lent] the rest of the piece, like the character of the voice.

7. Gwen
At the beep, Gwen reported that she had kind of stalled out and was daydreaming about the text. She reported her inner experience with layered precision as she described an inner prompt to encourage herself to keep moving:

GWEN: Because I found the first paragraph really disorienting because it launches into this metaphor and then from there I started, I continued to read because it’s kind of like I, I got a, a something like a verbal prompt that’s like keep on going, like push, you know? It’s like stay on track, but that was more of a feeling, stay on track.

AIRLIE: Uh-huh [affirmative].

GWEN: So I sensed I had to keep going and that maybe I’d, I’d keep, I’d understand if I kept on going. And then I let myself read another sentence and then I kind of felt like a little bit frustrated that sometimes with this type of writing, it becomes so complex, it’s like couldn’t there be an easier way? Could there be an easier way to write it? And so then from there, when I was feeling that frustration it was, it was more of a feeling and then I kind of had shaped those words in my brain about the frustration. So I kind of shaped words, but I didn’t say it to myself but I had kind of shaped that feeling into words.

AIRLIE: Uh-huh [affirmative].

GWEN: So they were like almost like I was reading the words silently in my brain about how I was frustrated. And I didn’t get that far. I was right around here . . .

In responding to the prompt on the form about detail for reading #2, she spoke about shifting her perception of inner speech to help her process the difficult material:

GWEN: . . . it was lacking some [detail] because I was trying to put more emphasis in my voice because sometimes when I emphasize things, I do
change the inner voice sometimes in order for me to get a different feeling from it. So I wasn't getting it on the first time, so I was kind of like, okay, maybe I'm reading this differently and trying, or if I read it differently, maybe I'll get it more. So that part, I was changing the inner voice . . .

AIRLIE: Okay.

She described her wrestling with the material in reading #2:

GWEN: —and [if] I could sit here for as long as I wanted to, the more that I read, the first paragraph, I would be reading to get a stronger and stronger visual impression.

AIRLIE: Uh-huh [affirmative].

GWEN: So I didn't, I didn't see it or understand it or feel it. I, I knew I would have to go back and continue to expose myself to the ideas in order to get a picture so I could understand what was going on.
NOTE: Paula and Nancy skipped this reading for lack of time.
3. Maja

At the beep, Maja was reading the dialogue. At first she resisted reading the vernacular aloud, but was willing when I prompted her:

MAJA: So I was reading the dialogue so this time it was a man’s voice saying, you know, what he was saying.
AIRLIE: And where were you at?
MAJA: I was right here, yeah, this last line of dialogue.
AIRLIE: Okay, so you’ve got to read it out loud though, can you?
MAJA: Yeah, sure, “But I wants to look and see Janie. Maybe it’s some kind of work for me to help do.” [Laughter]
AIRLIE: And, and so, so you heard a man’s voice?
MAJA: Uh-huh [affirmative].
AIRLIE: Was it the same voice all the way through this, starting at the beginning?
MAJA: No, so in the beginning the, so the first paragraph, first paragraph was me.
AIRLIE: Okay.
P: It was me like reading the narration and then, and then as soon as the dialog started, it, I just, I heard a clear man’s voice kind of scratchy, rough.
AIRLIE: Okay and then, and the, are the, were there any other voices in there?
MAJA: Yeah and then the woman’s voice too so in the dialogue especially I heard, and I, I think it’s because the way that this is written with this, you know, and not dialect but—
AIRLIE: Yeah—
MAJA: Yeah, I guess so, with, it just, it makes it really easy to, to hear the voices differently. Do you know what I mean?
AIRLIE: Uh-huh [affirmative].
MAJA: Because if it were just in, in regular language I think for me then I, I hear those, not less clearly but just the, it’s harder for me to describe what they, yeah I guess I do hear them less clearly . . .

We discussed the term “vernacular” and later, when going through the forms, Maja discussed why she only scored this (2) for pleasure. She found that the extra work involved in decoding the vernacular took away from her enjoyment: "So if you, you have to focus on what the meaning is instead of on the, it’s again that sense of devoting more, more brain space to, to decoding almost, you know, than to just being able to, you know, just immerse myself in the beauty of the language."

4. Tom

Tom found reading the vernacular to be difficult. At the moment of the beep, he said he was in the middle of trying to understand what the characters were saying. He connected this struggle with the sensation of listening to people speak Spanish, a language he has some fluency with, affirming that it was like listening to a foreign language, and stated that he would find Spanish easier to understand. When asked how he was using sound to decipher the dialogue, he said: "I was trying to picture just, just two, two guys just talking. As with sound, it’s, it was kind of vague. I didn’t really know what was going on." When I asked him to compare the early part of the passage with the dialogue, he said the earlier part sounded "European" and the later part sounded like Southern or Western language from one hundred years ago. So, even though he couldn't decipher the meaning easily, he had some sense of the time and place of the dialect. When we moved to the form, he ranked sound (4):
P: So I, the thing is I heard sound. I think this was kind of like the, I heard more intonation than, than sound.
I: Than, than words?
P: Than words.
I: Okay.

At some point during the session, he referred to intonation as "the pitch of the voice."

The degree to which his, previously vivid, imagination was dampened in this reading was striking. He didn’t experience any clear imagery (2) or movement (1). In our discussion, he used the form as a guide in ranking smell as (.5) connected again to his memory of Europe, a sense of damp and dirt—which did go along with the meaning of the passage. He didn’t find the passage particularly pleasurable (1), but what pleasure he found in it came from a sense of authenticity:

P: More like kind of, you know, like kind of this, even though I could only just really get [inaudible] like intonation of what they’re saying, it’s kind of authentic.
I: Okay.
P: That’s, but it was not very pleasurable because it was difficult to actually know what they were saying.

He recognized his discomfort with this passage as being similar to a sense of discomfort he’d experienced reading another work that was all written in vernacular. When we moved to the resolution question, then, he ranked resolution (3):
P: Okay, it was like a real voice as if spoken aloud. So, the, the meaning, like shades of meaning I get. I’m going to give it a three because, you know, it’s, I could hear, I could hear the meaning and it felt like it was spoken aloud but it was a little bit clouded. So I think that kind of goes with the difficulty to understand but, and also like the fact that it’s kind of set in a time period that was—

AIRLIE: Yeah, from the twenties or thirties, yeah.

P: Yeah. So far removed from my experiences.

5. Mark

Mark’s experience with reading #3 was dominated by a sense of frustration with the vernacular. At the beep, he was engaged with the dialogue:

P: I was noticing that what was the intended effect of like using chopped up language to like get the point across if they have an accent was like really like slowing me down trying to, it didn’t sound like them having a southern accent. Like it would have been better if they had said, if they had written like what is, what it actually looks like properly and said in a southern accent, like describing it. Yeah, like it was like I got the point that they were going for the southern accent, but since I was having to read it, it was like not in a southern accent. It was just slow and like I was trying to figure out what they were saying but not like . . . it wasn’t coming quick like a southern accent. It wasn’t, it wasn’t, I don’t know.

I: It wasn’t—

P: It wasn’t lining up with what a southern accent is to me in my head because of the, because of the writing, because of the way it was spelled and everything.
In this reading, he reported a strong awareness of sound (4) and image (4), and he found it pleasant—up "until it was slowing me down." When we got to the question about presence on the form, he elaborated on this:

P: Yeah, it felt, in, in the beginning, I definitely felt like that the, the narrator or whoever I could feel that presence and I could even, even when I first started and I felt like I was like really at that conversation like with those people.
I: Yeah.
P: But like I don’t know it was once it, it had gotten too much. Just, just over and just constantly having to take in new words and this is like not, my brain is not having it. [Laughter]

In terms of the quality of the voice, he experienced all of this text as being read in the voice of someone else; initially he was listening to a woman's voice during the narration. However, during the vernacular dialogue, he experienced two different "other" voices with indeterminate gender, and he wasn't sure if he was producing or listening to those voices. He claimed to hear them almost as if they were fully resolved voices (3), but it took so much work to get there for the vernacular (there is a long part of the interview where he described this process in detail) that by the time he had the sound, the resolution, he had lost all sense of the emotion.

6. Skyler

At the beep, Skyler reported getting lost and taking more time to read the dialogue, "because of the accent and then like when I have to struggle to read something, I, it becomes more visual, like visually seeing the words and then I lose track of like what I’m reading. I just have to read it slower so I just, kind of
taking my time with reading." Skyler was familiar with the book and thought they might have listened to it as an audiobook when in high school. Whatever the reason, Skyler reported, "I feel like I, I had an idea of like what [Zora Neal Hurston] sounds like and I was hearing her voice as the narrator . . . which is like female. And then hearing the dialogue which I just imagined those character’s voices.”

Skyler reported hearing the subsequent dialogue as two characters with the same voice: "But it, also wasn’t constant. Just, it just like came in and out. I don’t know where the sound went when it wasn’t people talking."

I asked Skyler to say more about their earlier comment that things went visual when trying to process the vernacular, and they responded: "Like I’ll just stop and like look at the 'yuh want tuh go.' I’ll look at the words that are differently spelled, like I’ll look at the actual shape of them. And it becomes choppy, like I’ll go word to word to word whereas usually I would skim more. And I hear it but because I’m reading from word to word, it’s like, it’s slow.”

Skyler went on to explain that the sound of the language was "on and off," choppy. Skyler experienced a few images, like the horse, that they thought may have been connected with a memory from having read the book before. We discussed Skyler’s use of audiobooks, and they estimated that they probably listened to half the books assigned in that English class.

7. Gwen

At the beep, Gwen was also reading dialogue. However, she had gone far ahead of where anyone else in the study went and was in the middle of the
second column, a scene where the narrator had just described the approach of white soldiers and dialogue had just started up between Teacake and the soldiers. She heard her voice when reading the narration and Teacake's voice as a distinct "other." She reported that she could hear the sound of the language more clearly in this reading. She described a shift between what she called "her voice" and the "character voice":

P: Uh-huh [affirmative]. So there was a shift in my voice there and his, in his own language did it. And then, and then also I had audibly said to myself at one point, I had stopped reading and there was an, and I had said, what is this? Like have I read this before? But it was more like what is this? So that was another verbal thing I said to myself and then I was getting the way that the adjectives were being used, I was able to get clearer visuals so I actually was seeing something happening, hearing a different voice than my own. So this text took me out of, you know, it, it evoked more a visual and a different person speaking.

She theorized that her experience of a "different" voice was due to the fact that the dialect was so foreign to her that she couldn't empathize with the character. Gwen described the role of the parts of speech in prompting her experience. This is a theme that continued for her in the next reading:

So it was the verbs that were actually making me envision things and they were like directives that I was using to create the images so when I saw the word "standing" I felt someone stand, I saw someone standing and looking, he saw two men coming towards him so I was visualizing, and I didn’t really visualize the two men coming but I could see someone standing with rifles on their shoulders so I got a sense of, of some men who had rifles on their shoulders. So it was kind of, it's not really clear imagery. It’s more of like, it’s
more of like being in a fog and then just seeing kind of these things and then connecting them.

Gwen seemed to experience a kind of voyeuristic immersion in this scene. The imagery was quite vivid to her, and her description of standing gives the sense that she was both connecting (empathizing?) with the movement and watching it as an outside observer. I asked her to compare the sense of presence that she experienced with these characters with her experience writing a letter to a friend:

P: It, well, no, if I could do like that, that was, it was definitely like I was watching something occur even if I didn’t understand who these people were or what they were doing.
I: Uh-huh [affirmative].
P: So I guess that they were present, they were there.
I: Yeah, yeah.
P: So, I saw them, sort of.
I: But not in the same sense as you experienced with your friend when you were writing the letter?
P: It was, oh, actually no, that’s about the same.
I: Oh, yeah?
P: I think so. But I, I would say, it’s about the same but it, the friend is shaded with more nuances so, they feel extra present because I know so much about them and their life and I don’t know, but it’s, but it is on my mind screen though the same, no it’s a little bit, here’s the friend and here’s the characters but they’re, they showed up though.

[Here, she used her hands to indicate that one friend seemed "closer visually" and the character had less detail, but they were both present.]
IV. Participants inner experience when writing a letter to a friend.

1. Paula

Dear R.,

Thanks for your latest letter with the new poems and drawings. Sorry it's taken me so long to send the art paper you requested. I've been busy sending my novel to contests and preparing for my poetry book launch, which went well despite not having the books from the printer! I would love to send you a signed copy, but I don't know if the guards will let it through. Can you receive packages addressed from “<her company>" or should I send through Amazon only?

During the concrete interview, just at the moment of the beep, Paula was in an evaluative mode: "I was wondering if my sentences had too many, this or that, this and that. So I was listening back through the sentence I was writing and thinking, should I put a comma there, should I make that two sentences?" She described a multilayered writing experience:

But, you know, so I was hearing it, I wasn’t really looking up when I was typing. I was typing it and sort of hearing it in my mind. But then I’ll sort of look and listen at the same time when I look back over it and see if it sounds syntactically interesting.

She claimed that when she is writing a letter, she is focused on something she calls feeling tone:
PAULA: Yeah, my focus is on, my, I always hear the sound of the words but depending on what kind of thing I'm writing, I'm listening for different things. And in this kind of letter, in a letter to a friend, I'm maybe listening for, you know, variety and syntax and also for, you know, sufficiently more friendly of voice, whatever tone of voice that I'm going for that it doesn't sound too stiff the way printed. Writing can sound stiff versus talking to someone.

AIRLIE: Okay. So trying to get it to sound conversational?

PAULA: Right. To sound, you know, to, to match the feeling tone of the letters that we write to each other basically.

Going through the form, Paula reported experiencing images of the things she was writing about. She also emphasized that pleasure in language is an important part of her writing experience: "If it doesn't feel pleasurable, I'm not doing it right." She experienced a sense of presence (3) when writing the letter. She said if she’d had her friend’s letter in front of her, she would have marked (4).
2. Maja

Hello L.! So this will make your eyes bleed 😒 We were assessing a fourth grade recently and so I had a chance to look around this teacher's classroom. Everything was wond

When writing, Maja clearly heard her own voice and did not report experiencing images. On the background survey, she wrote, “When I was typing this letter, I could hear my voice reading the words right along. I didn’t see images in my mind this time, I just heard myself.” Maja is also writing a novel. During the interview, she described her writing process. In reflecting on that process, she felt like she brainstormed ideas in her own voice and heard her own voice when typing the text of the novel. However, when she rereads what she has written, she said she thinks that she hears the characters’ voices, particularly when writing dialogue.

During the armchair interview, she made a distinction between rehearsing language in her mind ahead of time and hearing the words as she is typing. These seem to be two clearly distinguishable experiences for her. She said she hears what she is saying, as if she is saying it aloud, as she types. She claimed to be a fast typist, but experiences inner speech when writing as being like speaking aloud, but slower, because her fingers can’t type at the speed of speech.
3. Nancy

Dear C.,

I am in a study on voice in reading and writing. It is very interesting. I never really thought about the voices I heard or if I heard voices.

When writing, Nancy reported hearing her own voice fully resolved. When completing the form, she realized that she was aware of more detail in her voice when writing than when reading. With her highly developed sense of voices and personality, Nancy was the only person in the study who reported experiencing the sound of more than once voice that she identified as herself as she wrote. This discussion came during an armchair discussion about her journaling and therapy practices. She has used writing in the past in a therapeutic way and she described a practice she did that she called “internal dialoguing”:

AIRLIE: So tell me a little more about, so like, like, you, like kind of a conversation in the writing?

NANCY: Yeah, it’ll be like two parts of me talking to each other in the writing and, and they definitely sound different in my head.

AIRLIE: Uh-huh [affirmative].

NANCY: Because a lot, sometimes it’ll be the child part, a child part and an adult part and, you know, they’re both me but they sound different. They’re, you know, they’re different parts of me and the emotion behind them is different and the, the, just a feeling, the feelings are different to me in each of the voices.
Later in the interview, she described the way she coaches herself when she is journaling, singing to herself in her mind to keep going. She noted: “I have a lot of internal dialogue.”
Dear X,

How is your semester going? I know that we’ve only spoken a couple times

At the beep, Tom was deeply immersed in an image, a moment in time that he had spent with the friend he was writing to. This was a vivid, complex image that was primarily visual, but also included movement and sound when prompted. When I prompted him about sound, he mentioned that the image also included the sensation and sound of wind in the trees. I ask him to think back to when he was typing. I asked, when he was typing, did he hear the sound of the words? He responded with the statement that the sky was cloudy . . . He said there was another image, one where he was passing this same friend on a bike and they greeted each other. In that case, he remembered the weather: "Yeah, the wind, it was, it was, you know, beginning of the semester, it was cold, you know, it was miserable, but, but yeah. It was, it was much more, it was much more just a visual image that I felt, so . . ." Later during the image prompt, he explained the role of this imagery. He said, "So I did see clear, vivid images in my mind. I think that’s kind of how I think I think of images. It’s just like I, I kind of think I’m quite visual. It’s like my, like I like to picture things before I put them down."

He was so immersed in the scene he had developed that I decided to move on to the form to try to see if there was any experience of linguistic sound in his
mind while writing. When going through the form, he ranked the clarity of sound as (4) prompting further discussion. I tried to get him to disambiguate between sounds that were part of his rich imagery and linguistic sounds:

TOM: Yeah, okay, well I, I did clearly hear it and it wasn’t, what I heard was not, you know, anything linguistic. It was wind, it was the sound of his voice, so.

AIRLIE: And, oh, and the sound of his voice?

TOM: Yeah, when he talks. Just like, because, you know, it’s like you know how like you know he was someone is by the way they talk.

AIRLIE: Yeah. So it was like a sense of recognition?

TOM: Yeah.

AIRLIE: Or like the, the tones or something like that?

TOM: Yeah, yeah.

However, later, as we were going through the form, he remembered sometimes hearing language he was listening to and sometimes hearing language that he was producing. When I questioned this, given his earlier response, he said he heard his own voice when rehearsing the language he wanted to write:

TOM: I heard my voice vaguely as I was like trying to find the words to, to say.

AIRLIE: Okay, so talk just a little bit about that, yeah.

TOM: It’s mainly just me like trying to, I’m trying to put together these thoughts so that I could, whenever I write to people, like in, in letter form, I try to be as concise as possible. But it takes time for me to do that and so I try to do that but, you know, like I, I said before, I’m not satisfied like how I, and actually like pressed backspace several times over the course of the writing experiment because I’m like, oh, no, that’s not what I wanted to say. I wanted to say this –
AIRLIE: So, but in this, in, I just want you to speak just a little bit about the voice in your mind, like the, the voice that you hear is your voice?

TOM: Yeah.

AIRLIE: How does, how do you experience that?

TOM: My own voice, it's, it's unsure. It's, it's there, it's definitely there but it's just unsure. It's just me repeating the same thing over and over again. It's just each time was a little bit better than the last but it's, it's kind of like the thing, think before you talk type of deal.

AIRLIE: Uh-huh [affirmative].

TOM: Or, or say like you have something very difficult to say to someone and you want to like word it the right way.

AIRLIE: Yeah, yeah.

TOM: Except this is in writing and it's not something difficult but it's just, just because it's in writing, I need to word it the right way.

AIRLIE: Right and so you're rehearsing the language.

TOM: Yeah, it's, it's, I think that's a good way, it's rehearsed.

... 

AIRLIE: Like I'm trying to, because mostly it sounds like your experience was not this voice, but like, but it was there on and off you say?

TOM: Yeah, it was kind my voice. It was my voice. It was my voice. It's just, I don't know.

AIRLIE: Well, I guess what I'd like is on this part if you're comfortable trying to do it, answering this section from the little bit that you can hang on to about that.

TOM: Okay.

AIRLIE: But then tell me how, if it's impossible.

TOM: Yeah.
AIRLIE: Or tell me if this is forcing your experience into something that you didn't actually experience.

TOM: Well, I am going to say the voice in my head sounded like me. Like, let me explain. The voice in writing, when writing, the actual writing, the voice was me. But like in order—

AIRLIE: Like typing?

TOM: Yeah, the actual typing, the voice was me. But to get enough information for me to start writing, I heard my friend H.’s voice.

AIRLIE: Right, right.

TOM: But he wasn’t actually a part of my writing. It was like I needed to have all these inputs first before I wrote and when I finally started writing it was, it was me.

AIRLIE: Uh-huh [affirmative].

...  

TOM: I think I would say sometimes I sounded like I was listening and producing it just because of the whole rehearsed thing.
5. Mark

Dear C.,

Whats up man, hows Berkeee. That place is crazy. I can't believe you're going there. When are you coming home, I want to hang out. We should jam soon. I've been playing a lot of guitar and you need to give me some free lessons. How is your

So, at the moment of the beep, he was at a pause, a place where he was trying to decide where to go next: "Yeah, it was like, what now, what now?"

When I asked him to back up a little and think about when he had been drafting, he said the words were flowing out and he said he heard a voice, like he was speaking to his friend directly, and he wasn't reviewing or editing in any way:

AIRLIE: So just like you're kind of flowing out?
MARK: Yeah.
AIRLIE: And you kept talking about you were speaking to him, so like—
MARK: Yeah, it was like I was talking to him directly. It wasn’t, I don’t know. I guess I, there wasn’t any kind of analysis going on of what I was writing. I wasn’t worried about the word or how they flowed together or like even if I spelt the words right at all. I wasn’t worried about my grammar.

He described the process of drafting really clearly:

AIRLIE: Okay. And so in terms of the sound during, in your mind, during the writing process, like did you hear anything?
MARK: I guess I heard my voice.
Airlie: Yeah.

Mark: It was, yeah, it was like whatever I was thinking, I thought everything I wrote was a thought that I had had and like it was about like, it took me about as much time to, to get the sentence out as it does to get the whole thought out. It was like, I'll think the whole thing and I'll, I'll catch up with the, with the writing and then once I finish typing it, I'll have a new thought.

Airlie: Okay.

Mark: And then write that thought and then have a new thought and write that.

The ambiguity and lack of resolution Mark experienced when reading did not seem to be the case when Mark wrote. He reported hearing some detail (and reported that he could recall hearing more other times when writing), clear sound (4), and resolution (4):

Yeah, actually it was like, it was almost like I was saying it out loud like enthusiastically.

He also experienced imagery (4); he visualized his friend and thought of them hanging out. He also reported a sense of presence (2):

Mark: I did feel as though like when my brain went to, to where I was writing, I was writing to him so he was, had to be present in some way.

Airlie: And is that, because earlier you were talking about the sense of connection, is that kind of what you mean?

Mark: Yeah, yeah, I definitely felt like I was reaching out directly to this person. Like I'm going to go call him up and be like, did you just feel me thinking about you?
6. Skyler

Dear X,

I've spent the last couple weeks making a list in my mind of the things you've done wrong. I know you can tell at least vaguely that I'm making this list because you know me really well. Let me get started. You were running out the door and were in a rush, so you threw your yogurt WITH the spoon in the garbage? Who does that?

During the armchair interview, Skyler described writing as being their most vivid experience of audible voice:

SKYLER: I have more sound than when reading. Like I feel like I might actually have a voice in my head that's kind of saying sentences, like very slowly and like editing myself while I'm talking but, and then I also read aloud when I'm writing.

At the beep, Skyler was laughing and claimed they were considering three possible ways of expressing something all at the same time:

SKYLER: I was thinking about how to like say three things at once without forgetting anything and trying to choose like what to write, like which of the three things to write.

AIRLIE: So like three ways of phrasing one idea or three topics or like three, like?

SKYLER: Three ways of saying the same thing.

AIRLIE: Okay. And how would you describe the way you hold that information, like—
SKYLER: I feel like, like I said before, I don’t think in sentences. I think in fragments. And it’s almost like those fragments are images and I know right away like at the same time, like I have a very clear in my mind and then I have to figure out how to express it. It’s, it’s more like I think in like feelings or like, like little movements that are very abstract, like it’s, like I don’t know it’s hard to talk about because I don’t think I, I don’t think it’s like purely visual but it’s also not sound. It’s just something else…it’s kind of spatial.

Later, I prompted Skyler, asking if at any point when writing did they hear sound? They responded:

SKYLER: Did I hear anything? No, I don’t think so.

AIRLIE: Okay, so hold on—

SKYLER: Hold on, that’s not true, that’s not true.

AIRLIE: Well, now you’re reading back. [At this point, Skyler started rereading what they wrote.]

SKYLER: Because I’m just trying, I’m trying to remind myself of how I was thinking. I mean I, I heard like my voice more than when I do when I’m reading. But it comes and goes, so.

AIRLIE: So as you’re looking at what you wrote now, would you say any place that you think was louder than the other or like more, more accessible than the other?

SKYLER: There was at the beginning like when I started writing, like the first words I was kind of writing.

Skyler also reported image (3). The context seemed to be the image Skyler used to prompt what they were writing about:

SKYLER: I had like a few different images that I can remember. It was, it was almost like a, like a snapshot or like a photograph more clearly than when I was reading.
AIRLIE: And images of like the person you were writing or some experience or like what, what were the images?

SKYLER: So I was writing about how my roommate and friend, she was like in a rush and she just threw her spoon in the garbage. And so I had an image of the yogurt and the spoon in the garbage that I that I took out of the garbage. So there’s that. And it was just like in my kitchen, the trash can. And then I had an image of myself earlier today thinking because like I’ve wanted to write something about this. So I had an image of myself earlier just on a walk thinking about how I wanted to do this. And it was almost like a, like above my head like watching myself walk. And then the other images were of my friend reacting to me and me like being able to tell that she kind of knows how I feel.

AIRLIE: So it’s like an image of her responding to what you were writing?

SKYLER: Her responding to like just our interactions. So all the images were things that actually happened.

AIRLIE: Okay, so but in the past.

SKYLER: Things I saw, yeah.
7. Gwen

Hi L.,
I’m in an inner voice study right now and get to write you a letter. How’s things up on the Gap? It’s early Spring out there in Big Sur and more people must be coming up to camp. Is this going to be your last year there or not? You said you wanted to leave the Gap and travel, but I wonder if I’ll ever get to see that happen. The last time we spoke you said

At the beep, Gwen’s first response about her inner experience when writing was that of an image of the place, Big Sur, where her friend lives. She didn’t mention sound in her description of her inner writing experience at all without prompting:

GWEN: Umm, visual, a sense of place, a visual because, he lives in this really unique canyon, six miles in the, up this canyon on this mountaintop over Big Sur. So it’s really picturesque there. So I was thinking visual, I was thinking emotional, emotional prompts about motivation when you provide someone with motivation. So they were like emotional positivity I was trying to project, emotional habitual mostly.

When prompted by the form, Gwen reported hearing “her voice” when she writes, but she said she didn’t pay much attention to ”her voice,” saying:

GWEN: I did, I did hear something. I was, I guess I didn’t pay this much attention to it but—

AIRLIE: So if you can imagine just before the beep went off.
GWEN: Right, I am, I’m saying a sentence and then writing it down. But I’m not thinking farther than that sentence. Once I hit the period, then I think of something and my, I guess I am saying the words in my head. So I did hear something. I always pick the little bit [scoring] because it’s not really that loud. It feels like it’s a, it feels like a radio on a low volume.

She described her experience of presence when writing her friend as “a mind-control conversation where you’re not saying anything.”
CHAPTER 5

BROAD THEMES AND DISCUSSION

Audible Voice Revisited

In this penultimate chapter, I’d like to return to the inspiration for this work. Elbow broke the concept of voice in writing into five categories in his attempt to help the Composition community sort through its confusion about the meaning of voice in writing. At the end of this study, it is clear that audible voice in writing can be a prominent feature of the inner experience of silent reading, one that is shaped both by the text and by the inner landscape of the reader. The two main categories of audible voice experienced by my participants relate in interesting ways to Elbow’s categories, connecting this work with historic debates about voice in the field. The diversity of my participants’ experiences also makes a bridge between composition’s old debates about voice in writing and contemporary discussions of neurodiversity, such as Margaret Price’s work in disability studies. In this section, I will categorize some of the experiences of audible voice I observed in this study. Then, I will discuss the range represented in my seven participants’ experiences of audible voice, their scores on the Implicit Prosody Quiz, and the VISQ questionnaire.

Types of Audible Voice
The two main categories of audible voice reported are what I’m going to call "identity" and "personality" voices. These categories were partially determined by the follow-up question that asked participants:

When reading the text, the voice in my head sounded like:

(*) me

(*) someone else

(*) some passages sounded like me and some like someone else

(*) I can’t tell

However, although structured by the form, throughout the course of the interviews and negotiations with participants, it seemed like these were two distinct kinds of experience that had features in common among participants. Participants experienced them in response to the same kind of readings and they seemed to represent discrete categories of experience. All participants experienced both of the main categories at some point during the interview. I created a third category of voice to describe an experience that was reported using language like "vague" or "abstract" by several participants. However, when I went back to do the final scoring, I realized that this "vague" category also included a final distinct type that reflected a mix or blending of the "identity voice" and the "personality voices." For lack of a better term, I’m calling this collection of experiences "uncategorizable voices" for now.

Identity Voice:

MARK: Yeah, I was hearing the words like being read by me I guess, just my own, my own inner voice. It wasn’t, I didn’t feel someone else’s voice really. It was like my own thing.

AIRLIE: But, but you heard, you heard them being read?
MARK: Yeah, it was like I heard myself reading through the, each, each thing. But I don’t know, something about like the instructions, reading the instructions is definitely different from reading the actual passages. I don’t know. Maybe just the way that I’m looking at them.

GWEN: Cool, I became aware that when I had to read the directions to something, I was saying it in my head. I could, I could hear myself saying the directions to be clear. And then most of the reading, I wasn’t really, I was just kind of, um, I don’t know what was going on there when I was reading . . . I guess when I’m reading things, it’s not as loud, it’s not as loud if I am saying it out loud. But it was different because the actual articles, it was like a really small muted voice if I did hear anything.

MAJA: So this one was my voice. Yeah, I hear myself reading it in my head.

AIRLIE: Okay. And, and what was that like reading it?

MAJA: It just, just like I would, just like I would read it out loud, which is, I mean I, or just like somebody would speak with, you know, a, with intonation and pausing and so just like real speech.

A typical report of what I’m calling the "identity voice" of my participants would be "I heard myself speaking the words aloud in my head." The participant was usually quite clear that this was their voice. When prompted, most participants—in their own unique way—described knowing the identity of the voice quite deeply. Participants, when asked about this voice, at times had strong emotional responses related to identity, particularly gender identity. This could be clear and affirming, "It sounded like me—a man," or inhabiting a space of
insecurity, "It sounded like me, my voice, a voice that doesn't sound like a woman's voice because it's too deep." Skyler, an Agender person, reported feeling like crying when they heard their own voice aloud, and that sharing came in the context of this kind of conversation.\(^43\)

The experience of an "identity voice" was strikingly consistent in a study where diversity in experience seemed to be the dominant theme. All participants reported experiencing their "identity voice" when reading the instructions and problems on the IP Quiz. All participants reported hearing it when writing. Specifically, all participants heard themselves saying the words as they typed. When writing, several participants noted that they heard their voice quite clearly, with more complete resolution, as if they were saying it aloud. Another time participants reported hearing an "identity voice" was when they were rehearsing language when focused on the sound—for instance, when trying to sound out difficult words on reading #2 or rehearsing language when writing. The fact that participants seem to hear their "identity voice" more clearly and that it was often associated with focused attention or rehearsal is interesting when thinking about theories of inner speech, particularly flexible abstraction.

The broad pattern (with a few exceptions) was that participants experienced their "identity voice" when reading the problems on the IP Quiz and when writing. For the most part, they experienced an unknown category of voice

\(^{43}\) This connection between gender identity and the inner experience of the "identity voice" also might give some insight into the fact that a study about the experience of audible voice in writing attracted an Agender and a transgender person out of nine people interviewed. Skyler reported an active discussion exploring the experience of inner speech on a gender-oriented blog catering to the genderqueer community. For an example of this kind of discussion, see: "Inner Voice?" Empty Closets - General Chit Chat forum. 2014. Web.
or personality voice in every other reading. The main exception to this rule was
Gwen who primarily experienced all of the readings as being read in her own
voice. Maja experienced reading #2 in her identity voice. Reading #3 was
particularly interesting because the text included a narrator and two distinct
characters whose dialog was written in African American vernacular. Maja and
Gwen experienced the narrator as their identity voice in reading #3. Skyler,
recognizing the text, experienced the narrator as Zora Neal Hurson's voice (the
author\textsuperscript{44}). All participants who read reading #3, including Gwen, experienced the
text of the dialog as personality voices.

"Personality Voices"

PAULA (reading #1): When I started, at the beginning, I heard the young
man's voice. He sounded like a genteel young man and, you know, I don’t
know if he has an English accent or an American accent, but a very genteel
kind of tenor accent, you know? I sound, a voice from a different time period.
Both because of the date and because of the way that he speaks in an
elegant kind of restrained way, "dear mother and father," you know? "A book
that leaves a lasting grip upon the imagination." You know, a guy running
from Vietnam wouldn't sound like that.

~---~

NANCY: Um, well I was hearing the words and I was definitely hearing them
in what I consider to be Andy's voice. This is the one time that I, because first

\textsuperscript{44} Although there are some recordings of Zora Neal Hurston's voice, she did not make a recording of this
book. Therefore, the voice Skyler heard could not be Zora's actual voice. However, Skyler suggested that
they might have gotten this voice from an audio book version, and they had assumed that the narrator they
heard was the author. For a really good read about the cultural context of voice and the problem of recorded
voices, I highly recommend Pascoe's, \textit{The Sarah Siddons Audio Files: Romanticism and the Lost Voice} (Pascoe).
of all because I've read it, second of all because I'm so close to dogs and everything. And I've been in shelters that I can imagine, I have a vision in my head of a shelter and cages and, you know?

AIRLIE: Yeah. What does Andy’s voice sound like?

NANCY: Sardonic I think would be like a good word. [Laughter] You know, he’s very intelligent but he’s also, you know, he says it in here but, you know, he’s going into a shelter and he hates to go into the shelters. He, you know, and I actually hate the exact same thing. So I understand that completely and so he’s dreading it, you know, and, but he’s, he’s very self-[deprecating] and so I just, you know, it’s when I start reading it I enjoy his voice. You know? I enjoy what he writes and the way he thinks and it makes sense to me.

~---~

MAJA (reading #3): It was me like reading the narration and then, and then as soon as the dialogue started, it, I just, I heard a clear man’s voice kind of scratchy, rough.

AIRLIE: Okay and then . . . were there any other voices in there?

MAJA: Yeah and then the woman’s voice too so in the dialogue especially I heard, and I, I think it’s because the way that this is written with this, you know, and not dialect but—

AIRLIE: Yeah—

MAJA: Yeah, I guess so, with, it just, it makes it really easy to, to hear the voices differently. Do you know what I mean?

AIRLIE: Uh-huh [affirmative].

MAJA: Because if it were just in, in regular language I think for me then I, I hear those, not less clearly but just the, it’s harder for me to describe what they, yeah I guess I do hear them less clearly . . .
The experience of a distinct personality other than oneself reading or speaking the words of the text in one's mind, what I am calling "personality voice," seems to be a close match with Elbow's category of "dramatic voice" in writing. In addition, in this study, there were several instances where participants had a memory of hearing a voice aloud that they could bring into their experience of the text. This experience of the reader summoning and identifying a known voice in a text brings an interesting twist to Elbow's discussion of "distinctive" or "recognizable voice." Because this experience of recognizing a voice is relevant to discussions within composition and touched on in a variety of empirical studies in Psycholinguistics, I will develop this topic more in a subsection below.

During the study, I frequently thought of Elbow's comment about a reader's inclination to project a personality onto a text as I heard participants describe this voice (Elbow Landmark Essays on Voice and Writing xxviii). In the context of this study, the personality voice was always experienced as "other," though the experience of dialogic journaling reported by Nancy in her armchair interview (described in her profile) would have been an exception to this, if I had observed it during the concrete interview.

One of the aspects of this voice that I found confusing and kept wrestling with my participants about during our negotiations was that the personality voice did not always seem to include words, much less phonetic detail. This perplexity was confounded by the ineffectiveness of my form questions about resolution and detail. However, it seemed as if the degree of resolution of this
"personality" voice was far more variable than the "identity" voice. It ranged from Paula's experience that was close to hearing a live person speaking complete with emotional overtones, sarcasm, and regional accent to Skyler's "image of a voice." The discussion where Skyler shared this idea of an image of a voice was in response to reading #2, and it illustrates many interesting aspects of the experience of a personality voice in the text, so I will summarize it here.

The conversation opens with Skyler elaborating on their earlier description of the voice feeling like it was coming from the person in their image of a man standing at a podium reading a book:

SKYLER: So just because it was that nondescript voice, I think the voice still had character and the character was that, it was like sterile and nondescript.

AIRLIE: Yeah, and that totally makes sense.

At this point, after several interviews, I had been sensing that these personality voices were not always linguistic. In other words, sometimes they seemed more like impressions of a personality or character without the conscious awareness of the sound of the words. Also, at times, people reported hearing intonation or inflection, but seemed unclear about whether they heard the words or not. So, in this discussion, I tried this theory out on Skyler and asked if they thought their experience was like fully resolved spoken language (in this case I use the sound of listening to an audiobook) or if they simply had the impression of a personality created by listening to an audiobook:

SKYLER: Yeah, because I think just having the idea of like a man like standing at a podium reading and then, I mean, it was, it wasn't quite like, like the voice of like an audiobook, but it was almost like that.
AIRLIE: So when you say it’s like the, in other words, [it gave] you that feeling of like you were listening to an audiobook or it gave you the experience of hearing like an audiobook?

SKYLER: It was more like an, like an image of the voice. Like I knew what the voice kind of sounded like but I wasn’t reading in that voice the whole time. So like maybe like I heard it for like a sentence a little bit vaguely and then that just [lent] the rest of the piece, like the character of the voice.

AIRLIE: Okay, okay, no, this is making sense. It really is. So, so it’s almost like kind of like you get started, you get oriented, you hear like this is the voice that this is in—

SKYLER: Yeah.

AIRLIE: —and then it’s not real, like then it just flavors everything?

SKYLER: Yeah, yeah.

It is worth noting that, aside from Skyler, only Nancy reported experiencing a clear personality voice in reading #2. Nancy reported experiencing a personality voice in everything except the IP Quiz problems.

IMMERSION VS. SLIPPING AWAY

In addition to this quality of being an impression of a character or a known person other than themselves, personality voices faded in and out as participants became immersed in the content or their attention was drawn to other things. Several readers described a sensation of immersion, of “being” the speaker, experiencing the sensations of the speaker. Tom’s response to the movement prompt in reading #1 is a good example of this.

TOM: Um, well it, I was just kind of like, I think, I guess I feel like I, as if I was, or if like say my brain was like trapped in this body and then I had to experience everything that he experienced. That’s like just kind of, kind of like
the movement of the plane and, you know, when you’re on planes, you’re
going to feel a lot of different, just accelerations in different directions and I, I
think that was kind of like the pressure aspect of it. So, so it was just in a
moment.

There was also a different kind of immersion, one of a voyeuristic experience of
being totally immersed in the scene as an onlooker. Tom theorized that simplicity
in language enabled him to become immersed in a scene, and he cited reading #1
as the kind of simple language that had this effect.

It was difficult to distinguish an experience of immersion from an
experience of the sound of the voice slipping away. Mostly, I made this call based
on affect. If participants enjoyed the sense of immersion or actively sought it out,
then I considered the loss of sound to be immersion. Here is an example from
Paula in reading #1.

I, I paid more attention to hearing his voice in the beginning so I could see
who is this person and then I stopped really hearing his voice so much as just
trying to see through his eyes and feel through his feelings. So I had more in
it rather than listening to him talk about it.

If there was a sense of passivity, frustration, or loss, then I considered the
experience to be one of slippery inner speech, which I will discuss more in the
next section. Here is an example from Skyler.

SKYLER: Yeah, like I was listening to it, but only in the very beginning and
then it went away.

AIRLIE: And then it went away? And then the voice just went—

SKYLER: Like disappeared.

FORMING THE VOICE: PERSONALITY VOICE AS A WORKING HYPOTHESIS
I am particularly intrigued by Skyler’s experience of the personality voice as "an image of a voice" because it seems as if both visual images and personality voices are a kind of working hypothesis created during the process of reading. Hurlburt, in *Describing Inner Experience*, describes Melanie creating an image as she reads and then modifying the details of that image when the content of the text provides more information about the scene. He offers the example that Melanie might have imagined a soldier wearing a helmet when she was first introduced to the character, but later, when the text mentioned that the soldier was wearing a beret, Melanie would replace the helmet with a beret in the scene she created in her mind while reading (101). Similarly, in this study focused on audible voice, several participants reported editing their experience of voice as the text went along. I coded this kind of report as "Forming the Voice" when doing the analysis.

While the "identity voice" seemed to be there from the start, participants described forming a kind of hypothetical personality voice quickly from generic information, hints in the text, and their own personal experience. The fact that I left the 1918 date in the text turned out to be a critical hint in reading #1. For instance, Paula and Nancy noticed the date and mentioned it as playing a role in experiencing the personality voice as a male soldier. Skyler mentioned that they hadn’t noticed the date and they experienced the text as being in a woman or girl’s voice, citing the kind of nostalgic, journaling style. Maja mentioned realizing it was set in a war as influencing her perception of the voice as a male soldier. Tom described hearing the voice initially as a girl’s voice then editing it to
become a male voice when he realized the context from other cues. Here is an example of a discussion Tom and I had about this process:

TOM: I’ll say distinct. The voices of two different genders because at first I thought it was a woman.

AIRLIE: Right, right.

TOM: And then I realized it wasn’t, well this is based off assumption because if the letter was written in 1918, you know, you’d expect the soldiers to male.

AIRLIE: You would.

TOM: So, yeah.

AIRLIE: That’s a completely, that’s not a horrible assumption. That’s like a very reasonable assumption. [Laughter]

TOM: Yeah.

AIRLIE: Yeah, so it was kind of, and you described it as kind of a clicking, like—

TOM: Yeah.

AIRLIE: —so it’s like your mind’s trying to figure out—

TOM: Yeah.

AIRLIE: —what to assign to it?

TOM: Yeah.

AIRLIE: And then once it settles on something then it stayed?

TOM: Yeah.

AIRLIE: Did it stay like constant then once you got the—

TOM: Yes, yes, it, once I realized what it was about, I was like, okay, as I’m doing this, I know what’s going on now, so.

AIRLIE: And can you tell me a little bit about the voice you heard?

TOM: Um, I felt the voice was, it was, it was a male. It was someone younger than me but someone much more experienced than me in life.

AIRLIE: And how did, how did that come across in terms of sound?
P: Of sound? I could feel a lot of emotion in the voice. I, I think that’s pretty much it...

Some participants reported a conscious engagement in determining the personality voice. For instance, Paula resisted her initial experience of reading #2 as a male voice, aware that she had made a gender call based on the assumption that this was male writing. Her awareness of gender stereotypes led her to consciously fight her initially unconscious assignment. Here Mark reflects on the fact that the text of reading #4 doesn’t give him a hint about the gender to assign to the voice.

AIRLIE: It sounded like someone else.
MARK: Yeah, it was, it wasn’t me there. It was just like a voice.
[He selected: “a voice that did not seem to be a man or a woman”]
MARK: And it was Terry Franklin so, no help there either. And the name doesn’t give me any clue yeah.

This process of forming the voice seemed to be pretty unstable in the beginning as people imagined different scenarios for the words they were experiencing. Eventually, though, most participants seemed to settle on a voice that reflected their understanding of the context of the text. The different results of this process are evident in the Audible Voice in Context section, where you can easily compare the different genders and qualities of voice that people projected into the same text.

I think one important take home from this study is to see such vivid examples of how people’s assumption about the speaker of a text shapes how they read the text and how that assumption is based on very little information.
This has tremendous implications for the field of composition given our task of reading hundreds of undergraduate texts. Who we think is speaking to us in the text makes all the difference about how we weigh and process what that text is saying to us. As the next section indicates, if we know our students from in-person interactions in the classroom, then most likely the voice we hear will be the actual spoken voice of our students. However, if we teach online and have never heard their spoken voice, what features of the text or the personal information we know about them will we use to form the voice we hear?

KNOWN VOICES

One of the interesting and important experiences of voice reported in this study is the experience of using a known voice to form the personality voice. There is a collection of empirical work from a variety of fields that documents the fact that people will project a voice they have heard into a text if they are told that a person they have heard speak is the author of the text. These studies suggest that these projected, known voices can reflect the gender, pace, and regional accent of the speaker (Kurby, Magliano and Rapp; Alexander and Nygaard; Abramson; Filik and Barber).

This study had several examples of participants assigning known voices to the texts they were reading. The most involved (and confusing) example of this in this study was Skyler’s experience of assigning Kayne West’s voice to the Not-Husband in Durbin’s E! Entertainment. Another noteworthy example was Skyler’s possible assignment of character voices from an audiobook they’d listened to of Their Eyes Were Watching God. Just because you know the author,
though, does not necessarily mean that you will assign the author’s voice to something they have written. In reflecting on the poem she read for reading #4, Paula notes that, although she has met the author in person and feels a sense of connection with her when reading her poem, the voice she hears in this poem is not the author:

PAULA: I have met [her] in person and [her spoken] voice sounds very different from her poetic voice. She has this little girly voice which was very strange to hear when I met her.

AIRLIE: So do you find that, that as you read it that you still like hear the voice you first heard or do you—

PAULA: Yes, I don’t hear it in her real voice because her real voice doesn’t sound muscular and tough and pretty and bloody enough to, as her poetry voice and she’s this fay little woman with like giant bug-eye glasses and this little girly voice. She’s like a thirty-year-old genius and she doesn’t, her real voice doesn’t sound like her poetry voice.

Nancy wins the prize for projecting known personalities into text. During the armchair interview, we became involved in a discussion of knitting patterns because I was curious about whether Nancy experienced her use of the patterns visually or if she read them aloud in her mind. She told me that many knitting patterns were written by celebrities in the knitting community who had their own podcasts: “So if I've heard someone speak and I remember it, I'll hear it in their voice or I'll hear it in as I imagine their voice would sound. And that's, I [don't] give it a lot of thought . . . just do it, you know?”

This interplay of memories of live voices from lived experience and the features of the text remind me of Frost’s concept of sentence sounds (Barry 61).
It suggests that the distinctiveness of a written voice may be more closely related to an inner landscape shaped by the lived experience of the reader who brings their recognition to it than an outgrowth of the stylistic features of a text. At least in the context of an inner landscape that is prone to projecting personality into everything, like Nancy’s, even a knitting pattern can hold the sound of a human voice.

**Uncategorizable Voices**

**MAJA (reading#1):** The quality of voice, so, I guess that it definitely wasn’t like a deep male voice and it was almost like if I hadn’t had the picture in my mind of the soldier, it might have been a neutral voice. So it, it was kind of in, in between male and female if that makes sense. [Laughter]

**AIRLIE:** That totally makes sense.

**MAJA:** But it, it didn’t, it didn’t sound as much like me as, as it would have if were just a, like a third-person narrative . . .

There was a third category of voice described using similar language by several participants that might represent a grab bag of cognitive realities. When coding, I subdivided experiences of voice in this third category into "Vague" and "Mixed." Here is a description that might have inspired the name of the "Vague" category from Tom’s description of the voice he heard when reading the limericks in the post-IP Quiz interview:

**AIRLIE:** So the, so the, that’s interesting, but in terms of the sound, were you able to hear differences or like in difficulty or like?

**TOM:** Just like this very, very vague voice. Just this very vague generic voice. Not anything near like the readings in the beginning, but I mean it was like someone talking, it wasn’t like, you know, just, okay, just this kind of unknown
person and it’s not someone who I really know at all. It’s just, it’s just there.

It’s not really something I, the voice isn’t strong. It’s just—

AIRLIE: There’s a, just a voice there?

TOM: Yeah.

Here is an example of "mixed voice" from Mark.

MARK: Yeah, it was kind of like this, in between, like—

AIRLIE: Some sounded like you and some like someone else?

MARK: Yeah, it was kind of like, it was like morphed together almost. It wasn’t like one, then the other. It was kind of like it was me but I don’t know. It was—

AIRLIE: Again, this is like a dreamlike kind of thing so—

MARK: —it was some, some like me, yeah.

AIRLIE: —it’s okay to say it was a mix. It was—

MARK: It was a mix, yeah, cool.

The distinction I made between the two was that vague or abstract voices were experiences that seemed distant, hard for the participants to access, and were often without gender. Mixed or blended voices on the other hand may have been ambiguous in some ways, but seemed to be clearly perceived by the participants and clearly described as a mix of the participant’s "identity voice" and traits that I have come to associate with a "personality voice." Mixed or blended voices didn’t seem as difficult for participants to describe or access.

Given the fuzziness of the category in general and its reliance on the vocabulary of the participants to describe it, maybe all that can be said here is that these categories of audible voice seem to exist and need more careful exploration to flesh them out. However, the texts that generated them might suggest a way forward. For example, there were no experiences of vague voice in
reading #1. However, Paula, Tom, Mark, Gwen, and possibly Skyler experienced a "vague" voice in reading #2. Mixed-voice, on the other hand, was reported by Paula, Maja, Mark, and Gwen in reading #1. These clusters suggest that the features of these texts (roughly "unvoiced" and "voiced") had a strong influence in the category of audible voice experienced by the participants.

One possibility is that "vague voice" represents the reader's experience when a voice is "other," but without personality, not generating the kind of experience present with the personality voice. Still another is that vague voice is a personality voice with attention removed, volume on low. When thinking about explanations for the mixed or blended voices, it could be that they are the same phenomenon as personality voices, but described through the lens of particular inner landscapes. Gwen's response to the resolution prompt about reading #1 comes to mind.

AIRLIE: Uh-huh [affirmative]. So did you have any sense of like who was like the, the author of the words? Like—

GWEN When I'm reading it, I am, yeah. That's an interesting, I, I guess I am. I'm speaking the words in my mind and in the special way, okay, that's how I'm empathizing the reader because I'm speaking the words and something inside me takes on the role of the actor. So it's not really how I'm emphasizing it, it's how they are. So, but the, but my, but I have more of a monotone but I'm reading it in the way that they're writing it so I'm, it's kind of like that.

AIRLIE: Yeah, yeah.

GWEN I'm taking on their voice but not, I'm taking on the way they're writing it but I'm still saying everything the same in my head.
AIRLIE: Oh, you’re still saying, like you’re still hearing it as your own voice saying those things?

GWEN Ah, yes.

AIRLIE: Okay.

GWEN Yep

**Other Forms of Inner Speech**

One of the most interesting observations in this study was the ease with which participants seemed to be able to distinguish different kinds of inner speech in their inner experience. Participants had no trouble distinguishing audible voice from other internal conversation, observation, and commentary. Here is an example from Gwen. Note that in this brief excerpt from the post-IP Quiz interview, she describes the audible voice of the text of the quiz problems, an inner commentary about the text, and one or two nonverbal sensations.

GWEN: . . . I was hearing myself read those out loud and then I was, how would I describe that? I guess I was . . . really, semi-audibly saying to myself this needs to be written better, like, you can’t understand who’s doing [what] and, and a few of them you couldn’t understand who was doing the direction. And then I was dealing [with] a sense of doubt like shouldn’t I be able to figure this out? And then I was like, well, and so I was going through that kind of little, like, like visceral struggle.

The range represented in Gwen’s comment potentially reflects three of the four types of inner experience described by Hurlburt as representing the categories of inner experience found in a "neurotypical" population of participants: verbal, visual (imagery), unsymbolized thought, and feeling. This kind of overlay of distinct voices and sensations in inner experience is not atypical in Hurlburt’s
research. In fact, he reported this kind of multiphase experience as characteristic of people whose inner experience was neurotypical relative to the Asperger’s-diagnosed patients in the study he was comparing them to (Hurlburt, Happe and Frith). In his study, he found that the three participants with Asperger’s presented in this paper were notable in that they only reported experiencing images in their inner experience or no inner experience at all, a sense of complete immersion in the present moment. The experience of no inner reflection, a state of pure being in the moment perception, was a sensation rarely described by the neurotypical people in his study.

**Ear Readers vs. Eye Readers Revisited**

While this study was undertaken in an exploratory spirit, at the beginning of any journey there is some anticipation of the things that the traveler hopes to see. In this case, I’d been intrigued by Frost’s notion of ear readers and eye readers. From my earlier interviews, I knew there was some variation in the way people experienced inner speech when reading and writing, and that some people reported not hearing inner speech at all. I was curious to see how my participants might fit into these categories.

My participants do not fit into such neat boxes. However, their experience represents a continuum that could be construed as reflecting a more visual or auditory experience of the texts, though I think that "visual" in this dichotomy is too simple for what I observed, and I did not focus on visual imagery in this study. However, it turns out that inner experiences of "condensed inner speech" might be a more accurate description of the opposite of auditory. I will begin this
section by sharing the data that supports the relationships I observed. Then I will go into a detailed discussion and present more details about this trend.

The trend in my participants' experiences.

What I observed during the interviews that made me suspect some kind of relationship is not a single trait. It was a cluster of characteristics that seem to relate or hold together in some way. (In using the word trait, I realize that I am thinking as an evolutionary biologist might when using a cluster of traits to define a species.) At the end of the study, when I scored the IP Quizes and ordered the participants according to their scores, I realized that these trait clusters formed a kind of spectrum that, unexpectedly, correlated with participants' IP Quiz scores and their reports of condensed inner speech on the VISQ. At this point, having completed the analysis, the two extremes of this spectrum represent participants whose attention seemed to gravitate toward the sound of inner speech and people who seem to find the sound of inner speech difficult to hold on to in their conscious awareness. There are many nuances to this that I will explore in the discussion at the end of this section, but first I'd like to present the evidence.

I began noticing this trend toward the end of the interviews. Therefore, even in the first analysis, I was thinking of Waddington's inner landscape and labeled some regions of the transcripts with these observations in mind; I had labels like attraction, resistance, and steering that referred to attraction or resistance to the sound of inner speech. “Steering” referred to statements where
the participant described consciously trying to shift their attention from sound to image or from image to sound.

When I completed the first analysis, I realized that participants’ reports of success or challenge in academic reading and writing endeavors also went along with the trend in the IP Quiz scores. When I did the final analysis, I decided to solidify this observation by scoring my participants’ reports of particular experiences, along with the types of voice, in order to substantiate this trend. The experience of what I described as a "vague voice" went along with this trend. Other categories I scored that I thought might be part of this cluster were Love, Challenge, Attraction, Resistance, FarQuiet, and Steering. “FarQuiet” referred to statements describing the experience of inner speech as far away or low volume. “Love” had to do with whether participants reported enjoying sound-crafted language like poetry or the sound of written language. “Challenge” had to do with whether participants reported difficulty with reading or writing in their academic or creative endeavors.

A few times during the study, qualities of the text seemed to trigger a state of zoning out or stalling out in the language-processing process. Paula, so tuned to the sound of language, stalled out in reading #2—the piece I selected because it seemed most able to kill a sense of sound in the language. However, before I paint too simple a picture, I should also mention that Gwen and possibly Mark also stalled-out on this reading. Skyler stalled out when reading the vernacular in #3, a reading selected in part because, to comprehend it, readers must immerse themselves in the sound of the language. Instances of stalling out
were a kind of surrender when the participant basically found it almost impossible to continue and was not able to get much sense of sound, meaning, or image from the text. The particular texts and the people they overwhelmed seemed intriguing in the context of the broader trends in this study.

Participants were complex. For instance, Skyler reported love of literature (though they commented that they preferred prose poetry). They reported significant challenges with reading poetry and other literature, but claimed that the extra effort was worth it. They also reported using audio books to help them with reading in school. In the end, though, even though individual participants might be a mix of traits, the overall trend was clear, and I created two large categories that I felt captured the essence of what I saw. I called these categories Sound Attracted and Sound Slippery.

At this point, it is important to emphasize that this was a study with less than ten participants. The only reason that I am reporting a general trend at all is because it was so striking and potentially meaningful. At this scale, it can really just be understood as a murky glimpse into a possible pattern, one that feels more solid on the edges of the range and murky in the middle. Given this, if I had to categorize my participants accordingly, they would be Sound Attracted: Paula, Maja; Mixed: Nancy, Mark, and Skyler; and Sound Slippery: Tom and Gwen. This is the rough pattern I see in the qualitative data.

THE CLUSTER OF QUALITATIVE CHARACTERISTICS VARY ACCORDING TO THE IP QUIZ SCORES.
Though this was a pilot instrument, the IP Quiz appears to be a meaningful measure of my participants’ ability to perceive implicit prosody. The difference in the perception of implicit prosody when reading measured by the quiz was repeatedly corroborated by my participants’ reports of their experiences taking the quiz and their subsequent experience of audible voice during the interviews. The ranking from sound attracted to sound slippery is a rough description of a range of qualitative traits that I observed in my participants, and this ranking closely maps to the scores participants received on the IP Quiz—with Tom a notable exception. Participants listed in order of their IP Quiz scores are: Paula, Maja, Tom, Nancy, Mark, Skyler, Gwen.

**THERE IS A STRONG CORRELATION BETWEEN THE IP QUIZ SCORES OF MY PARTICIPANTS AND THEIR CONDENSED INNER SPEECH VISQ SCORES.**

It is not surprising that there were common patterns of outer and inner experience among individuals whose IP Quiz scores suggest similar abilities to perceive implicit prosody. However, the observation that there is a strong correlation between the condensed inner speech VISQ score and the IP Quiz scores is potentially less intuitive and not something I structured this study to support. First, I refer you to the background section where I discussed the fact that condensed inner speech is considered by Charles Fernyhough to represent the most internalized form of inner speech. In his model, there is a progression from fully elaborated verbal expression in inner speech to a kind of fragmentary short-hand, eventually progressing to what Vygotsky called "thinking in pure meaning." The four questions on the VISQ survey assessing the participants' level
of condensed inner speech asked participants to score the extent to which their
day-to-day inner speech reflected these kinds of qualities. The first question on
the questionnaire is a good example: "I think to myself in words using brief
phrases and single words rather than full sentences." So, a participant with a high
condensed inner speech factor score might be said to have inner experience
trending in the non-verbal direction and a person with a low condensed inner-
speech factor score might be expected to have inner speech that is closer to the
way they might write a sentence, with fully formed sentences and thought as
verbal expression, possibly dialog. (I will abbreviate this as condensed VISQ
score for the rest of this work.)

With a total of nine data points (for this section I can include data from
the two interviews that I did not include in the final analysis), the statistics I can
use are limited. However, a strong correlation does not need fancy statistics; it
simply needs the graph in Fig. 5.1 to illustrate the relationship.
As you can see in Fig. 5.1, with the exception of Tom (we'll consider Tom shortly), there is a clear inverse relationship between the IP Quiz scores and the condensed inner speech factor measured by the VISQ questionnaire. Because my participants were selected for diversity and do not reflect the distribution of traits in the wider population, it is impossible to predict whether this relationship would hold true in the wider population. However, within this study, this relationship is meaningful, and it suggests that there is a relationship between the ability of my participants to perceive implicit prosody on the quiz and their self-reports of reduced or fragmented inner speech in everyday experience. Again, it makes sense that these two experiences might be related, but this relationship is one that has not been described before. If I order my
participants according to their condensed VISQ scores, the sequence goes: Paula, Maja, Nancy, Mark, Skyler, Tom, Gwen.

SUMMARY OF GENERAL TRENDS.

The fact that three sources of information show a similar pattern and that this pattern makes some intuitive sense made me feel like it was important to report these general trends in my dissertation. The data suggest that there could be a relationship worth exploring between a person’s ability to perceive aspects of implicit prosody in a focused task (as measured by our quiz), the ease with which a person is able to pay attention to or perceive the sound of written language in inner speech when reading silently, and the experience of shorthand or, potentially, non-verbal thought in daily life. If this kind of relationship holds true in a larger, more representative sample of the population, it could have significant implications for composition-rhetoric. Therefore, I would like to dive in a little deeper here before I move on.

First, I will share a little more about the VISQ factors and why I choose to highlight the condensed inner speech factor in this analysis. Thinking back to the literature review at the beginning of this thesis, condensed inner speech refers to a category of inner speech proposed by Vygotsky to represent a stage of socio-cognitive development where a person’s inner language has developed to where they no longer need to express their thoughts in words, but rather are capable of experiencing a kind of pure thought that does not require verbalization. The developmental evidence for this is contested, but the notion that there are people whose inner experience tends towards some form of non-verbal thought seems
well established. The specific VISQ questions designed by McCarthy-Jones and Fernyhough to detect condensed inner speech were:

- I think to myself in words using brief phrases and single words rather than full sentences.
- I think to myself in words using full sentences.
- My thinking in words is shortened compared to my normal out-loud speech. For example, rather than saying to myself things like "I need to go to the shops," I will just say "shops" to myself in my head.
- If I were to write down my thoughts on paper, they would read like a normal grammatical sentence.

The other three factors were: the Dialogic factor which was intended to reflect the degree to which a person’s inner speech contained, "an ongoing interplay between different internalized perspectives"; The Evaluative factor which was designed to reflect the extent to which the participant engaged in a kind of evaluative or motivational self-talk indicating a degree of self awareness; and the Other factor which was designed to reflect the degree to which the participant experienced "other" voices in their typical inner speech (1587).

When I first realized the correlation in the data illustrated in Fig. 5.1, I took this data to Michael Lavine, a statistician and friend, who finds my work interesting and has helped me think through statistical quandaries in previous projects. We spoke at length about what I could and could not say about trends from this data. At first, I only looked at the condensed inner speech VISQ factor because the relationship had been obvious to me just looking at the numbers. It

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45 Grey highlight indicates questions that were reverse scored.
also seemed intuitive that a person who reported condensed inner speech in their daily inner experience might also be less able to perceive aspects of inner speech when reading silently. In the course of my conversation with Michael, though, we decided to graph all of the VISQ factors against the IP Quiz data just to be able to say that we were not biasing the support for the theory we were forming by not looking to see if there were other less obvious or intuitive relationships in the data.

Michael graphed the IP Quiz scores against all of the VISQ factors, and this combined graph is included in Appendix L. This graph shows a correlation (-0.765) between the IP Quiz scores and the Condensed factor score. There was a slight correlation between the IP Quiz score and the Evaluative factor score (.541). None of the other comparisons showed a strong relationship (<.2). The graph did show a similarly strong relationship within my group of participants (.78) between the Evaluative factor scores and the Dialogic factor scores. However, it is difficult to think of how a potential correlation between these two VISQ factors would be meaningful in this study.

WHAT ABOUT TOM?

Table 5.1: Summary of general trends in the data.

<table>
<thead>
<tr>
<th>Qualitative</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paula</td>
<td>Paula</td>
<td>Maja</td>
<td>Nancy</td>
<td>Mark</td>
<td>Skyler</td>
<td>Tom</td>
<td>Gwen</td>
</tr>
<tr>
<td>Condensed VISQ Score</td>
<td>Paula</td>
<td>Maja</td>
<td>Nancy</td>
<td>Mark</td>
<td>Skyler</td>
<td>Tom</td>
<td>Gwen</td>
</tr>
<tr>
<td>IP Quiz Score</td>
<td>Paula</td>
<td>Maja</td>
<td><strong>Tom</strong></td>
<td>Nancy</td>
<td>Mark</td>
<td>Skyler</td>
<td>Gwen</td>
</tr>
</tbody>
</table>
In discussing any general trend in this study, Tom is the notable exception to the rule. However, if we play the believing game\(^{46}\) for a moment and look at Table 5.1, it is striking to me that, if I moved Tom from position 3 to position 6 in the IP Quiz score row, the sequence of participants in all three rows could line up. If that were the case, the trend I have been describing is pretty solid. Playing the doubting game, I could argue that I really only have three categories in the qualitative row based on my scoring, and I just played a shell game in those categories to make my point. However, the relationship between the IP Score and Condensed VISQ score remains compelling even if we were to argue away my qualitative data. While I don’t think my categories of Speech Attracted and Speech Slippery are rock solid, I do think they mean something, particularly at the edges of this range.

If we go with the assumption that the slippery experiences of inner speech in the qualitative data go along with a high condensed inner speech score, then Tom’s VISQ score makes sense, but somehow he was able to achieve a higher IP Quiz score than might be expected. Any guesses about this would be pure conjecture, but I think it is worth playing around with this issue if only for the sake of problematizing the scenario I have described and illustrating some of the complexities.

Tom’s training and ability as a musician combined with his intense, detailed visual imagery suggest that he has habits of thought in his inner landscape that might work to tilt his attention back toward an awareness of

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\(^{46}\) In this game playing, I am referencing Peter Elbow’s work: (Elbow “The Believing Game or Methodological Believing”).
sound. Also, it turns out that Tom is a big fan of chocolate-covered coffee beans. I offered these to him when he came in because he seemed sleepy, and over the course of the armchair interview he ate ten to twenty of them (a caffeine load equal to several cups of coffee in the space of an hour). He actually took the bag with him when he left, so it seems likely that he was highly caffeinated when he sat down to take the IP Quiz. This may seem out of left field, but if the ability to perceive implicit prosody is related to attention, caffeine (similar to Adderall) can have a strong impact on focus and attention.

**Discussion**

Our current understanding of the reading process, as presented in Rayner et al. and Dehaene's more popularized *Reading in the Brain*, suggests that there are two pathways for processing text: (1) a visual path where we "sight read" and recognize words as a visual pattern without needing to sound them out and (2) an auditory path, one where we sound out individual phonemes and listen to the words as a way to access their lexical meaning. According to Dehaene, there is evidence that both pathways are active simultaneously (Dehaene 26).

The fact that pathways exist is one thing. But whether or how the presence of those pathways translates to inner experience is a black box. As I shared in my discussion of the inner landscape, Wallace Chafe uses vision as an analogy for conscious experience. So, using his terms, my participants’ awareness of sound might be described as being part of their active awareness (focal), semiactive awareness (peripheral), or inactive.
Chafe also mentions a phenomenon known as echoic memory, which suggests that the memory of sound lingers and can be recalled for a brief period of time, even if it was not in the conscious awareness of the listener. Therefore, it could be possible for my prompting at the beep to enable a participant to summon a memory of sound that had not, prior to that moment, been in their conscious awareness.

**Steering the Ship**

Given the hypothesis I suggest above, Paula's highly skilled use of her own inner resources gives insight into both the inner experience landscape she might be working with and the potential for readers to consciously direct the ship of their attention. For Paula, an unusually fast reader with an extremely low condensed inner speech score, everything is whizzing by—driven by the sound of the language, sound that she hears clearly, effortlessly. Sound-crafted language captures her attention and draws her in. She can choose to stop and savor sound that she enjoys in language. However, she has a vivid visual imagination as well. To access it, she describes needing to be patient and take the time to slow down and build up the visual image. She is clearly capable of savoring both, but one kind of perception comes relatively effortlessly, unbidden, and one takes conscious steering of her attention to access. Unfortunately, she was ill and didn’t have the energy to do the vernacular reading on the day of her interview. But my hypothesis would be that she would enjoy the
vernacular, that it would facilitate vivid imagery in her imagination, and that she would not find it overly difficult or annoying.

It is interesting to me that the other participant I scored as steering in this study was Gwen, the participant on the opposite extreme from Paula in the rough spectrum of experience suggested by the data. Gwen describes the opposite path. She describes being immersed in her awareness of the content and using that awareness to steer her attention into the sound of the language. Both Paula and Gwen had high standard deviations in their reading speed indicating that they modified their reading style according to the text.

**Reading and Writing Challenges**

While I did not design the study to assess this, I have a sense after speaking with my participants that there could be a connection between reports of: (a) difficulty reading, (b) trouble in school, and (c) taking time off during college and the presence of high condensed inner speech VISQ scores (low IP Quiz values). Gwen, Mark, Tom, and Skyler reported significant challenges with reading, writing, or both, and they had the four highest condensed inner speech scores. There were no reports of challenges with reading, writing, or school from any of the other three participants. Given the small numbers and structure of this study, this is only conjecture. Correlation is not causation. There is probably also an even stronger correlation between people looking for work on Craigslist and challenges with school. However, given the pedagogical implications for reading and writing, it is a conjecture that merits further exploration.
CHAPTER 6

CONCLUSION

In the final pages of this dissertation, I will leave a few notes for other researchers interested in building on this method or replicating what I have done. Then, I will address what I think this study offers the field of composition in terms of its theory and practice.

Strengths and Weaknesses of This Protocol

In general, I think the study accomplished its primary goal. The care I’ve taken in my method seems to have produced meaningful results. The descriptions of my participants’ experience have many qualities that support their validity. If the concern coming into a study on inner experience was that my preconceived theories about inner speech would shape what I found, this is probably still a concern. My assumption coming in was that people would have diverse experiences of inner speech that reflect their unique inner landscape and that people would experience audible voice differently when reading different kinds of texts. I certainly found this to be true, and I shaped my presentation of the data to reflect this.

If I had come into this study anticipating that everyone would have the same experience, how would the interviews have gone? Would I have encouraged every statement the participants made that supported rather than went against my categories and expectations? Would I have downplayed the
differences and encouraged a more uniform view? Possibly, but it would have been difficult to argue that Paula’s and Gwen’s experiences of inner speech were the same. It is possible to argue that bias towards diversity is still bias. But, I think it is clear that, when conducting an exploratory study, the most valid approach is one that allows for the unexpected.

There were unexpected outcomes in this study. I thought that the VISQ data was not likely to be useful, and I almost left the questions out of the background survey. However, at the end of the study, the VISQ data are critical to one of the important outcomes. Unexpected results in a study, particularly a study where the concern is with investigator bias, seem like a sign of an effective methodology. Another positive sign is that some of the inner experiences of reading described by my participants are similar in kind to experiences described by some of Hurlburt’s participants in his DES experience sampling studies. In *Describing Inner Experience?* Hurlburt has a subsection titled: "Little is known about the phenomenology of reading," where he describes Melanie’s apparent instant immersion in detailed image when she reads. He comments to his coauthor: "Other people (like you, Eric, as I recall from your sampling) speak the words they are reading to themselves in inner speech. Yet others apparently simply read, comprehending the meaning without images or speech" (101).

In my study, Paula, Maja, and Nancy experienced audible voice as Eric did. Tom experienced something more like Melanie, and Gwen seemed more like his unnamed source. Reproducibility of something as difficult to describe as inner experience is intriguing, though my forms framing the study with many of his
categories certainly biased that outcome. Despite this misgiving, the similarity suggests that the writing data, a novel contribution of this study, might at least be comparable to descriptions from Hurlburt’s studies, studies that were cited as being useful to the inner speech research community in both Perfetti and Fernyhough’s reviews.

I think I was successful in creating a co-explorer atmosphere during the interviews. Within that atmosphere, the use of a form to give structure and vocabulary to participants while balancing the imposed structure with the freedom to negotiate seemed to work well. All participants negotiated parts of the form with me, and those conversations were what gave me insight into experiences that I could not have imagined or described otherwise. The fact that all participants indicated that they would like to come to the party I proposed to have when I completed the final summaries seems like a strong indicator that I succeeded in creating an atmosphere of co-exploration.

**Serious Concerns to Minor Hiccups: Things to Consider for Future Studies**

**Rereading**

A serious methodological concern came from my observation that participants frequently reread the text while trying to describe their inner experience during the first response. I did not have a step in the protocol where I clicked off the text image. Therefore, some of the experience they reported may have been re-created while rereading during the concrete interview. If so, it was still silent reading and participants reported that this helped them remember their experience. Remembered experience is a tricky thing. It is hard to decide
whether this completely invalidates the results or helped them. For now, I will simply report that this occurred in many cases and that the results of the study include this methodological unknown.

**Timing of the experience sampled**

The timing of the beeper was random and not in tune with discrete phases of reading and writing processes that the participants might experience. For instance, in the first responses to the writing activity, I heard participants describe inner activities that sounded like they might have been interrupted in the midst of invention, felt sense, drafting, revising, evaluation, and rehearsal—all in the first one or two minutes of seven people writing a quick note to a friend. Therefore, randomly accessing this time stretch does not give an easily comparable or unified picture, just random glimpses into a complex process. As I discussed in the section on immersion in chapter 5, I think that the length of time allotted to reading the passage and writing limited the kinds of experiences participants reported and the inferences I might make about process in such a small study.

My sense, in speaking with participants, is that the onset of a reading session is a time of transition. There were several reports of flipping the voice around as the reader got new information from the text. There were hints from participants that, in terms of both reading and writing, there is an experience of "getting in the flow" that was not captured in the brief time frame of this study. Deep "in the flow," I think that the inner experience of my participants might be very different. Even in this frame, several participants described hearing words
at the beginning, a kind of priming the pump, and then awareness of the words receded into the background of their experience or attention.

The melting snowflake

My sense is that the perceptions participants reported during the "first response" were accurate in that they were genuine efforts on the part of my participants to describe what was in their mind at the moment of the beep. As I pressed participants to think backward in time to see if they could report hearing any linguistic sound, I think the accuracy of what they reported might have gone down, but this is a hanging question similar to the question about rereading. When they were fresh in the moment after the beep, they seemed to be able to report considerable and, at times, non-intuitive kinds of details when prompted in this way. However, at some point—usually when in the midst of the form—it was clear in most of the interviews that the mind of the participant had left that sharp awareness of their inner experience and joined me in theorizing and conjecturing about what it was that they had experienced. For future studies, I would make the follow-up form shorter and do more careful prioritizing, keeping the non-intuitive questions like listening vs. producing closer to the beginning.

IP Quiz

The implicit prosody quiz did what I needed it to do in this study, but it is still rudimentary. I need to generate more items, separate the instructions from the problems, and make the script able to respond to key presses and mouse clicks so that the practice passages are more accurate measures of reading speed. Given the results, I think it would increase the resolution of the quiz to decrease
the number of homophone problems and increase the number of problems related to stress and prosodic phrasing. However, all indications are that it described something meaningful in my participants' experience of inner speech, and future work is promising.

**Directions for Future Research**

I plan future studies building on this work. One possibility I am particularly excited about at the end of this study is the potential merging of the inner experience sampling technique I developed in this work with eye-tracking technology and keystroke logging software like INPUTLOG. The three of these together might allow me to trigger the beep during particular moments of interest, moments identified by physical movements, evidence of subvocalization, or eyes passing over particular locations in the text rather than a fixed (or random) time interval. Moments of interest that come to mind after observing participants’ experiences in this study are active typing and Hayes's two types of language bursts during drafting (potentially detectable using INPUTLOG)47 (Hayes).

A natural second stage of this study is one that I had already started planning when I began this project. It would be a study, potentially using the same participants, but rather than focusing on the range of individual inner experiences, I would focus more closely on the impact of genre and particular features of a text like rhetorical figures on the inner experience of the reader.

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47 INPUTLOG is keystroke logging software that can be synchronized with eye-tracking tools and other inputs. See: (Leijten and Van Waes) or the INPUTLOG website (http://www.inputlog.net/).
This would be an important step in exploring the relationship between audible voice and an integrated understanding of style.

An important component of this work and a major project in its own right would be expanding the IP Quiz so that it might be useful as a descriptive, diagnostic tool, potentially used in conjunction with the VISQ questions to better describe diverse inner experiences of text. But, one important question when thinking about a diagnostic tool is a diagnostic tool for what? Clifton and Breen’s work suggests a role for implicit prosody in reading comprehension. This study supports that role. A simple, accurate instrument for assessing people’s perception of implicit prosody might be used as an assessment to help develop exercises for people who would like to increase their perception of audible voice when reading and, in doing so, potentially increase their reading comprehension. However, I want to be careful here not to jump too simply onto an "inner speech is the answer" bandwagon.

So little is understood about the way people experience language. Skyler, who often struggled to hear inner speech, was extremely sensitive to register and style. Clearly they are comprehending a great deal when they read. Would Gwen lose her striking ability to sense the main point if we developed some exercise to anchor her inner experience in the sound of the text? Would she suddenly find herself a slow editor and lose her livelihood?

Rather than thinking of slippery inner speech as a problem to be fixed, I would like to remember that other styles of thinking are also valuable. In my own life, I’ve found that aspects of my personality that are strengths in one context
manifest as weakness in another. Genes associated with bipolar disorder can manifest as devastating illness and creative genius -- sometimes in the same people. It might be more constructive to head into this exploration looking for ways to help people learn to steer their inner experience, to control and balance whatever tendencies are present in their inner landscape. This conscious steering was a feature of both Paula's and Gwen's experience, and I think developing exercises that might help people increase control over their reading and writing processes is an approach that would honor the diverse inner landscapes present in this study.

Finally, equipped with a clearer understanding of the way people experience audible voice and the range of that experience, it is possible to begin exploring the role of inner speech during the writing process. I am particularly curious about the moment described by Fulwiler in his paper "Looking and Listening for My Voice," published in CCC during the rising tide of the voice debates, when he said, "I do not remember sitting down and deliberately deciding to find a certain rhythm or tone or timbre or concreteness—yet I know that as I write and revise I am continually reading back to myself my sentences, to see if they sound right, to see if they are clear to me, and to see if they sound like me—the me I would like to have heard" (Fulwiler 227). It is this process, the rehearsal and evaluation of potential wording, the testing of inner speech against identity and community in the context of the inner landscape that is—I think—the heart of writing, and a moment when many people, for lack of steering skills, may struggle.
Basic and Applied Research for Composition

This dissertation on the phenomenology of audible voice in written text was undertaken in the spirit of scientific exploration and discovery—a motivation and justification that, at least in current times, seems foreign to the culture of mainstream Composition in the United States. However, my recent experience with the Writing Research Across Borders community\textsuperscript{48} and supportive colleagues in the Linguistics and Cognition and Writing SIGs at the 4Cs assure me that there is an audience for this work, and I trust that the audience will grow.

Writing is an underexplored area in cognitive psychology and psycholinguistics in part because it is so complex. The writing process has many components, an uncertain developmental trajectory, a mysterious evolutionary origin—so few stepping-stones to stand on in trying to tackle cognitive, empirical work. I think that researchers whose lives are steeped in writing and teaching writing are best equipped to advance\textsuperscript{49} our understanding of basic writing processes. Composition’s legions of FYC instructors and writing-center tutors, grounded in the literature of our field and the dual perspective of mixed methods, offer the best hope for moving the understanding of writing and the writing process ahead. My hope is that this study will provide a stepping-stone for my own future research and for other writing scholars who enjoy exploring the unknown.

\textsuperscript{48} WRAB conferences are organized by the International Society for the Advancement of Writing Research (http://www.isawr.org/).

\textsuperscript{49} Hopefully, it is clear from my approach in this study that, in my use of this term, I am coming from a post-positivist perspective.
When I first started this project, I tried to explain to a perplexed colleague that I understood this study to be an example of "basic research" for the field of composition. Basic research is a concept from the sciences defined by the NSF as, "systematic study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind" (Board). I believe this study has succeeded in its goal of describing experiences of inner speech when reading and writing, a phenomenon at the core of the writing process.

Once new knowledge and understanding is made available through basic research, scholars can begin to explore the application of this new knowledge. So, in the last few paragraphs of this dissertation, I would like to share my vision of what some of the applied results of this work might look like.

**Implications**

Fig. 6.1 Chart illustrating the increasing prevalence of autism.\(^{50}\)

\(^{50}\) Chart used with permission from Autism Speaks. It is not covered by the CC license. See their website or the CDC for current materials.
The most timely and urgent application of this work, I think, comes from the window it offers into neurodiversity in composition classrooms. In using "neurodiversity" here, I am following Maragaret Price's lead in acknowledging that there is no perfect terminology to use when talking about issues of mental illness or disability. What is important is to understand the context of the term you are using and to be clear about your use (Price). The term "neurodiversity" is most frequently used in the context of discussions of autism: there are neurotypical and neuroatypical individuals. The terms imply a kind of bell curve defining normality, and in one of the most successful campaigns to define one's own terms that I know, the autism community has embraced the value of neurodiversity -- at times using the term "neurotypical" as an insult (Price 295).

My use of the term neurodiversity in this work is broader than its usual use in discussions of autism. Rather than focusing on a single trait, ASD, that exists on a simple bell curve or spectrum where neurotypical and neuroatypical can be easily defined, I am assuming that the genes and experiences that shape the inner landscapes of the human population are multifaceted and multidimensional, that the human population is fundamentally neurodiverse. However, even in the complex space of the inner landscape, there is "neurotypical" and "neuroatypical." A person whose inner landscape is sufficiently outside of the norm experiences frustration and psychosocial disability as they attempt to navigate an, at times, alien world designed with someone else's inner landscape in mind.
Charts, like the one presented in Fig. 6.1 by Autism Speaks, an advocacy group for people and families of people with autism, use the dramatic rise in the prevalence of autism to draw attention to what some have called an epidemic in this potentially devastating condition. As the asterisk in this chart indicates, there is a debate in the community of autism researchers about whether this apparent alarming increase in prevalence is due to a true increase in the incidence of individuals with the symptoms of this condition or, as many have argued, simply a greater awareness of and diagnosis of an extreme variant of a type of inner landscape that has always been present in the normal human population.

This chart, while useful, is five years out of date. Currently, the CDC estimates that around 1:68 children in the US (~1:42) boys are being diagnosed as being on the autism spectrum, a striking increase in prevalence from twenty to thirty years ago\textsuperscript{51}(CDC). This year’s traditional incoming FYC students were born around 1997 and, if diagnosed with ASD, they were probably diagnosed around the millennium -- depending on the severity of their condition. The current prevalence estimate is based on a 2010 survey of autism diagnoses in eight year olds. The eight year olds from that study are currently thirteen and will be arriving in FYC composition classes around the country in about five years -- assuming they are able to get in.

\textsuperscript{51} This estimate is based, in part, on a 2010 survey of autism diagnoses in eight year olds. These eight year olds are currently thirteen and will be arriving in FYC composition classes around the country in about five years.
Regardless of whether the increase in diagnosis represents an epidemiological shift or a tide of rising awareness, spectrum-style thinking is a rising tide that will impact FYC classrooms in increasing numbers in the next few years. Autism is considered a "spectrum disorder," often described with the acronym ASD, because it represents a collection of symptoms that range in expressed intensity from mildly geeky behavior to the complete inability to speak or function. This rising tide of people with the suite of ASD symptoms presumably includes a larger number of people who have aspects of these thought patterns but are not so neurotypical that they seek a diagnosis.

Skyler’s own theory about their unique inner world is the only place in this study where there is an explicit connection between non-verbal inner experience and autism. However, Hurlburt, Happe and Frith’s few case studies using DES with high functioning Asperger’s patients suggest that a lack of diversity or complexity in the inner experience of an individual could be a dominant or, potentially, diagnostic feature of a person with ASD symptoms. In particular, if the study held true in a larger sample, it would predict that an individual with ASD symptoms might have notably reduced or absent inner speech in his or her day-to-day existence (Hurlburt, Happe and Frith).

This study reveals a level of neurodiversity that might be anticipated in the average course load of a composition instructor, or at least a composition

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52 Though, one well-documented fact is that many severely affected people are able to communicate through writing when they cannot communicate through speech.

53 Assuming that a composition instructor teaches four courses with fifteen students or three courses with twenty students/semester; this is roughly sixty students/semester. I had sixty people respond to the survey initially. This sample represents the select few of that total who
instructor teaching a course on voice in writing to a self-selected population of students who went back to community college after being frustrated with the job market. It is important that composition instructors realize that, as scholars who have excelled in reading and writing, we most likely represent one extreme of the potential inner landscapes of our classrooms, and we are creating the environment that all of our students must navigate to succeed. The first step in designing writing pedagogy that truly supports students with diverse ways of thinking is to deeply grasp the notion that not everyone’s inner experience of text matches our own.

With a deep appreciation for neurodiversity in the experience of text, the next step is to learn how to teach students to navigate different kinds of inner landscapes. What exercises or theories might help students develop the executive control they need to steer the ship of their unique reading and writing process? How can we help them learn to navigate the attractors and resistance to text that they find in their own inner landscapes? Can we help students understand their own minds well enough that they can learn to work with texts that work against their cognitive inclinations? Can we develop exercises that help those who do not easily hear the sound of inner speech bring that sound closer? Is a conscious awareness of sound necessary to craft writing with audible voice? There are so many questions.

Along with pedagogical strategies, there is a related need for cognitively informed rhetoric. What styles and genres of writing generate the perception of

made it through to the interview. While people responding to my advertisement were self-selected, I think it is still a reasonable approximation.
audible voice? What do the classical rhetorical figures do in the inner experience of diverse readers? What impact does a personality voice have on a reader's perception of and retention of a text? What does the absence of personality do? When is poetic (sound-crafted) language helpful, valuable? When and to whom does it present a hindrance to understanding? Given a neurodiverse audience, what style of writing would be most accessible to the broadest audience? What styles of writing present cognitive roadblocks? What writing process will help students steer the ship of language in their own inner landscape to create broadly accessible text?

Finally, there is the rich realm of possibility to be explored in cognitive poetics. As Skyler expressed responding to Kate Durbin's work playing with audible voice in *E! Entertainment*, the world of poetry and literature can only be enriched by a greater understanding of the relationship between genre, style, neurodiversity, and audible voice in text.
WORKS CITED


Oppenheim, Gary M. "The Case for Sub-Phonemic Attenuation in Inner Speech." Print.


