THE THEORY OF COGNITIVE RESONANCE
AS A FOUNDATION FOR DIALECTICAL HERMENEUTICS

by

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ABSTRACT

This thesis is a search for the roots of literary criticism in human nature. It defines literature as the artful practice of language in any mode, and determines language to be artful either when an author produces language in a recognized artistic format or an auditor perceives the use of language as edifying. This thesis distinguishes language as a uniquely human feature emerging with technology at the time when hominid ancestors emerged as bipedal. It describes how individuals acquire language and develop linguistic skills. Based on the anthropological and linguistic evidence, it proposes the theory of cognitive resonance to suggest that neural processes compare similarities and differences between utterances perceived and existing knowledge to generate new knowledge, which can subsequently be used to process further utterances. Cognitive resonance is a physical, brain-based process facilitated by neural wave energy stimulated by perceiving language – verbal thought, speech, writing, or manual signaling – in the form of wave energy. This thesis finds that texts to be studied as literature are transmitted from author to auditor by way of physical media that separate them so that the auditor alone processes the perceived text as inner speech. Finally, this thesis identifies rhetoric and hermeneutics as complementary linguistic practices supported by the theory cognitive resonance for expression and understanding.
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CHAPTER 1. INTRODUCTION: THE ROOTS OF LITERARY CRITICISM

Stanley Kubrick’s *2001: A Space Odyssey* (1968) opens with a hominid, probably *australopithecus afarensis*, standing erect and celebrating advantage in battle by tossing into the air the large bone he had used as a weapon. Perhaps Kubrick wanted to show the separation of hominids from other primates through technology, but at whatever point that separation began, its fulfillment was eventually realized, not just in technology or weaponry, but in something far more deadly, far more human, and far more divine: language. Today, on the precipice of an era some dare call post-human, much of our understanding of what language is and of its realization in those artistic forms called literature seems morassed in myth and metaphysics. This thesis takes a more radical approach, seeking the roots of literary criticism in the foundations of human nature.

This study will use the term *literature* to mean the artful practice of language and *language* in the sense expressed by Steven Pinker in *The Language Instinct* (1995) as the ability “to shape events in each other’s brains with exquisite precision” (15). Granted, these are broad definitions and purposefully so, because both language and literature cover a broad expanse of human experience. Pinker goes on to describe language as “a complex, specialized skill which develops in the child spontaneously, without awareness of its underlying logic, is qualitatively the same in every individual, and is distinct from more general abilities to process information or behave intelligently” (18). Language and
literature are cognitive experiences, and they manifest themselves in sensuously physical phenomena.

This thesis pursues an understanding of the physical and cognitive activity that makes language happen in order to uncover and embrace a workable theory of literature. It asserts that the imaginative use of language is a physical human function, like sleeping, eating, and sex, and as such is fundamental to our well being as corporal entities. This is not romantic hyperbole; rather it is the direction this inquiry will take to link literature, as an artful practice of language, to cognition by approaching language as a brain-based faculty.

This project began with a line from Christopher Alexander’s declaration in *A Timeless Way of Building* (1979) that we, each of us, has “created his own language for himself, in his own brain” (342). How did Alexander know that? As initially encountered, *that each of us has created his own language* was a declaration rather than a conclusion, because Alexander offered no citations, attributions, or further explanation. Alexander himself is an architect, and this particular book offers a philosophical approach to architecture in human proportions. Before jumping to the conclusion that *A Timeless Way of Building* is outside the scope of language studies, however, know that Alexander called the companion volume *A Pattern Language* (1977) and that the concept of architecture as language infuses his work. Subsequent research suggested the possibility that architecture could be a language having its own generative grammar comparable to the language of words that make up literature, but this thesis is not about architecture.
The idea of language as personal invention compelled a drive to find answers to fundamental question about what language is while simultaneously it raised other questions. For example, if language is original to each individual, does this defeat the idea of social construction? If language is speech, can profoundly deaf infants, hearing no models, invent language? What is the role of modeling in generating language skills? Does thought come from language or is it something else altogether? Is language communication and if so might other communicating species have language and can they create literature? These questions, the questions they generate, and whatever answers might be found could lead to a comprehensive theory of literature and literary criticism anchored in the nature of language. At least finding a better understanding of what language is and where it comes from could put one closer and more knowledgeably in touch with the nature of literature.

The argument this thesis makes is that literature and critical theory are uniquely human endeavors that cannot be understood without first understanding the brain-based human nature that supports them. This chapter will provide a general foundation to the thesis by discussing the parameters of the study and dealing with some language issues that may raise barriers to clearly expressing the thesis, the research, and its outcomes.

In the final analysis, much of literary criticism comes down to a “Mt. Everest” approach. Although proffered as a “public service” in support of readers, one might suspect that literary criticism is written and published because as critics we can do it “because it is there.”¹ As much as some may titter over the Romanticism of the title of Helen Vendler’s MLA inaugural address borrowed from Wordsworth’s The Prelude
(reprinted in David Richter’s *Falling into Theory* (1994)), the probable cause for most, if not all, criticism might be reduced to “What we have loved, / Others will love, and we will teach them how” [emphasis added] (27). Despite the cynicism that motivates these observations, the practice of literary criticism does perform very useful services. But in Vendler’s terms, what is it really that we will teach them? If literature is the artful practice of language, what is language? How does it work? How does language become literature? These are difficult questions because every human has language, and as the next chapter will show, language is an essential aspect of humanity and literature is often its highest art.

In attempting to move among the often-conflicting positions that constitute critical theory, one is reminded of the legend of the six blind men and the elephant. When asked to describe the beast, each offered a different impression depending on where he touched it. The one who caught hold of its tail described the elephant as like a rope. The one who touched its leg said that it was like a tree. The one who touched its side thought it like a wall, and so on. In the different versions of the legend, the similes differ slightly, but the story remains the same. Among the individual descriptions offered, none accurately described the elephant. In fact, what each of these six blind men described individually is very much unlike an elephant, but these segments can come closer to resembling an elephant if one were to find a way to consolidate the six individual impressions.

Everyone who professes literature as creator, critic, or teacher stands in the midst of the mystery of language and literature, and from this interior perspective, it is difficult
to assess its vastness or its fullness. One literary tradition seems to have been that we do
know what language is and that literature is something that we, as educated readers,
recognize when we see it. The Western literary tradition from Aristotle forward might be
summarized by Sir Philip Sidney in *The Defense of Poesy* (1595/1970): “Poesy therefore,
is an art of imitation, for so Aristotle terms it in the word *mimesis* [. . .] a speaking picture
with this end, to teach and delight” (11) Much of the delight of literature was usually a
matter of style. Then in the twentieth century, literary criticism shifted focus from a
generally conceived stylistics to questions of interpretation or meaning. Combining the
traditional view with current literary trends, one might ask if the purpose for seeking
meaning is to teach and delight? Regardless of its purpose, how does literature make
meaning? This is one of the questions asked by this inquiry, and it looks for answers in
those mental faculties where learning, delight, and language all take place.

One of the daunting obstacles to a clear and concise exposition of the theory of
cognitive resonance arises from the multiple layers, different dimensions, and
paradoxical phenomena that constitute language. The most significant paradox is that of
the private/public or individual/social aspects of language. This whole thesis will try to
recognize and reconcile the multiplicity of language phenomena in the hope of clearing a
path to explore the psycholinguistic underpinnings of cognitive resonance and the impact
of cognitive resonance on literature.

One of the obstacles to understanding language is raised by language itself in its
abundance of homonyms, words that sound alike and may even have the same spelling
but have different meanings. Regardless of mode – spoken, manually signed, or written –
a word is the smallest whole unit of meaning in language. Although phonemes, as units for meaning, may be smaller particles of language than words, the category of phoneme includes units that can only be used in combination with other phonemes, such as the s sound that denotes plurality in English. Steven Pinker observed in *The Language Instinct* (1995) that many words have multiple meanings, but that true synonyms occur rarely (156-57). Words with multiple meanings, even those with the same etymological roots, can be considered homonyms, and homonyms that sometimes appear without distinguishing modifiers in the writings of theoreticians, critics, or their interpreters can lead to misreadings. For example, the word *writing* as it is used in Gayatri Chakravorty Spivak’s translation of Jacques Derrida’s *Of Grammatology* (1976) might possibly be a direct translation of the French words *écrit, l’écrit, écriture, l’écriture,* or *écrivant,* or even possibly other words not directly translatable from the French lexicon into *writing.* The differences between these words may be merely nuanced, but those nuances could be significant.2

Language, writing, and literature are not synonyms and are far from monolithic concepts. This chapter hopes to demonstrate that they consist of often overlapping, multifaceted or many-layered phenomena. The word *phenomena* was carefully chosen because not only are language, writing, and literature perceptible by the senses, it is only in the biologically physical realm that we ultimately come to terms with them. Even text, in the sense of markings visibly inscribed or dyed on a surface, is meaningless without the biological interaction that constitutes reading. Like a tree falling in a forest generating wave forms that can be interpreted as sound only when perceived by an ear
directly or through an external ear-like instrument, text, in the sense of marks on a surface that reflect light waves or a tactile pattern as in Braille, can be interpreted as language only when perceived by an eye connected to a brain capable of making such interpretations. This analogy can be extended to more complex audiovisual media where the text is recorded chemically on film or digitally on electronic media to be presented as images and sound through an appropriate playback device.

Attempting to write criticism and critical theory is further complicated by recent lexical shifts. Terms such as a *text*, *theory*, and *discourse*, among others, take on significantly different auras and meanings depending on the particular set of theoretical or political lenses through which they are projected or viewed. For the most part, these shifts move towards expanding the meanings of these terms to the point of creating new homonyms. In light of such lexical shifts, the writer must exert special care to make clear in what sense these terms are used with the expectation that the reader will respect that usage. Too often, these terms seem to be used in interchangeable senses without such clarification increasing the challenge to understand and make meaning.

Many difficulties arise from the presence of multiple canons of narrowly focused critical approaches, each absorbed in the specificity of their work so as to be unaware of other elements or aspects of study that may impinge on their theories. Classical criticism arising out of poetics and rhetoric seem more focused on the technique and affect of language than on language itself. As biological phenomena, language, writing, and literature do not acquiesce to Platonic idealism or Western metaphysics. Western philologists, who seem racially invested in proving some kind of linguistic superiority in
their etymological quest for an urchlanguage avoided the notion that language is sensual. Despite having established solid roots in twentieth-century linguistic and philosophical study, Saussurian semiology seems to present more problems than enlightenment. In accepting Derrida’s critique of Saussure’s defining writing as secondary (sign of a sign), the methods provided for by Saussurian semiology are less than a complete treatment of language. Simultaneously, the semiology practiced by such constructionists as Roland Barthes seems to engage what appear to be “extralinguistic” phenomena: the signification of phenomena ranging from photographs to religious dress to the spectacle of wrestling embraces modes of expression that seem to go beyond language or extends the definition of language by such breadth that its study may be unsuitably applied to literature. In this light, Gayatri Chakravorty Spivak, may be asking the wrong question in “Can the Subaltern Speak?” (1988), because her famous essay is a hermeneutic of gesture, an interpretation of motivation for ambiguous signs that cannot easily be questioned. The strategies offered by deconstruction seem to be reflective processes worked on or played at on the semantic level. These philosophies, disciplines, or approaches to language and literature seem to manifest a one sidedness whose arguments tend to shut out other possibilities, erecting barriers to understanding rather than illuminating a larger field of inquiry. Although each seems incomplete in itself, none is wrong, and all may contribute in one way or another to a multidimensional understanding of language, writing, and literature. Where possible, this thesis will try to find connections that may help to include otherwise disparate critical practices.
In casting a wide net to capture a comprehensive understanding of literature as a natural human phenomenon, this inquiry will use science in a way that explains how the brain creates and uses language and literature. This approach to science will be from the perspective of conceptual integration, an idea promoted by Leda Cosmides, John Tooby, and Jerome H. Barkow in The Adapted Mind (1992). “A conceptually integrated theory is one framed so that it is compatible with data and theory from other relevant fields” (4). The Adapted Mind, subtitled Evolutionary Psychology and the Generation of Culture, applies findings from the natural sciences, primarily biology, to the social sciences, because human beings are biological creatures and their biology impacts their psychological and social behavior theories. Any theory of language and literature that draws on brain-based phenomena the way that cognitive resonance does must also be compatible with the biology and psychology that describe the brain and its functions.

This thesis does not use the concept of conceptual integration or conceptual blending as developed by Mark Turner. Turner’s use of conceptual integration is a later adoption, first appearing in 1998 as the title of an article in Cognitive Science co-authored with Giles Fauconnier called “Conceptual Integration Networks” (1998). Conceptual blending is a diagrammatic analysis of how the mind constructs a new concept by comparing two existing concepts. It has become a significant movement in the cognitive sciences and draws extensively on George Lakoff’s work in metaphor. Superficially, the idea looks a lot like cognitive resonance; the difference between blending and cognitive resonance has to do with the support of psycholinguistics and brain biology which cognitive resonance draws upon. Without the support of
psycholinguistics and brain biology, both blending and cognitive resonance are reduced to metaphor with scant evidentiary support for their theoretical validity. Blending, at least for this project, does not provide the fundamental support sought. The presence of blending expressed as conceptual integration as a field of inquiry in cognitive sciences further points up the abiding conflict of words that have multiple meanings.

This study will use science to provide evidence in support of its thesis because such science is available, and literature can include all human experience, real and imagined. One of Sir Philip Sidney’s arguments in *The Defence of Poesie* was that the poet’s work encompasses all knowledge:

> Now does the peerless poet perform both [the work of the philosopher and the historian], for whatsoever the philosopher says should be done, he gives a perfect picture of it by some one, by whom he presupposes it was done, so as he couples the general notion with the particular example. (17)

Literature as art may be seen as larger and more encompassing than science in the sense that it is not constrained by scientific method per se and can be supported by less rigorous, more rhetorical evidentiary processes. Although science and technology have their own methods and constraints different from art, as part of the totality of human experience science and technology are available to the uses of art. For the next several chapters, this thesis will use psycholinguistics and anthropology to show how language is a uniquely human phenomenon that enables the production of literature as a social or cultural artifact. Because this thesis draws on science to help describe human growth and behavior, those uses must be compatible with the current scientific discourse in these
fields, including judiciously applying theoretical positions that may be under contention. Hence, this thesis is committed to doctrine of conceptual integration as promulgated by Cosmides, Tooby, and Barkow not as promulgated by Mark Turner. The use of psycholinguistics was chosen over other aspects of linguistics because it deals with language as a brain-based facility. Getting the question of language biologically right is critical to demonstrating how language and therefore literature are both natural and human.\(^5\)

The problem of a narrow focus, which either excludes or contradicts otherwise valid position, has dogged the development of this thesis from the start. Narrow focus risks the fallacy of one sidedness, a Jainist concept that will be explained momentarily. However, the attempt to pursue a more inclusive approach that embraces art and science as well as the spectrum of theoretical approaches runs the risk of leaping from position to position without settling in anywhere. In fact, it is this latter situation that has interrupted progress along the way.

The concept of one sidedness, or rather its avoidance, is the philosophical core of the Jainist religious tradition of India. It is expressed as *anekantavad* or *non-one-sidedness* according A. L. Sancheti and M. M. Bhandari’s chapter, “The Central Philosophy of Jainism - Anekantavad” in the web text *The First Steps to Jainism* (1994). The legend of the six blind men who encounter the elephant comes from Jainist teaching to illustrate the problem of one sidedness. The doctrine of *anekantavad* expresses the belief that any single position on a subject is likely to fall into error by not taking into account other positions or by attempting to discredit other positions. The doctrine is
based on an appreciation of manifold reality. The curious fact that \textit{anekantavad} is a negative expression (\textit{an} is the Hindi prefix for \textit{not}) suggests a moral imperative to avoid dogma, to avoid rejecting opposing or contrary positions, and thereby to seek the truth that may inhabit all positions. The spirit of \textit{anekantavad} is reflective of the spirit of “good will to understand” central to Hans-Georg Gadamer’s hermeneutics which is discussed in Chapter Six. Without insisting on the need to cover divers fields and pursue multiple theories and viewpoints, both embracing and rejecting them simultaneously, it will be impossible to surmount the barriers to understanding the plenitude of language, writing, and literature.

One of the points that has emerged from this study is that there are no monolithic elements to literature: an act of literature is not just one thing – a text, a writing, a reading, an interpretation, a performance, a critical evaluation, etc. – or one thing alone. Furthermore, perceptions of literature or the literary qualities of a text will shift with each rereading of a text. This idea of shifting perceptions is a core tenet of \textit{cognitive resonance} and is consistent with current hermeneutical doctrine including deconstruction. Furthermore, because literature always entails the use of language to read, to analyze, and to discuss texts under study, there is nothing \textit{outside} of language available to deal with literature.\textsuperscript{6} Criticism itself often becomes literature in the sense that it generates texts of its own, but the practice of criticism also tends to equip other literary texts with additional interpretive ornamentation that might not otherwise be obvious or available to some readers on face value. The theory of cognitive resonance will explore how literary
perceptions, interpretations, and criticisms come to pass at the linguistic roots of literature.
CHAPTER 2. THE ROOTS OF LANGUAGE AND LITERATURE

This chapter will provide a general foundation to the subject by linking language to literature as essential features of human nature. Literature itself is a strange word. Although it is etymologically rooted in the Latin word for letters in the alphabetic sense, it is applied to what some have called oral texts as well, that is texts that are not written or otherwise transcribed. Walter Ong raised this issue in Orality & Literacy (1982), complaining about the lack of a “comparably satisfactory term or concept to refer to a purely oral heritage” developed in those millennia “before writing” (10-11). This thesis will argue that language in all its modalities arose from the same evolutionary forces.

Oral literature is highly elusive, because one cannot study literature in any mode except through a written text or recorded transcription. One cannot call up an Homeric bard to recite authentically and on demand those classic epics to satisfy our needs as students of literature; one cannot easily call up a singer or teller of recent folk tales for the purpose of study, either. So those elements of literature rooted in oral traditions have been and must be reduced to a written or recorded transcription available for study and analysis. For the most part recitation in the oral tradition is really a performance, a form of acting, rather than an act of literature. Even if one attempted to create a criticism of freshly recited oral material, that criticism would likely be expressed in writing, and it would probably include some lines of text recalled by the critic from the recitation. At
the point where the oral performance is transcribed as writing, its quality as oral work
would have been irretrievably compromised. This reflection on orality leads to the
conclusion that there is no literature without a recorded text, that is a physical
representation of the oral performance. This need to transcribe oral performances to
writing may be yet another way to interpret Jacques Derrida from Of Grammatology: “il
n’y a pas de hors-texte” (158). This need for a text to make the study of literature
possible implies a physical exteriority: texts exist outside the body.

To expand on the idea of literature as the artful practice of language, we must
consider how the English usage of the word literature encompasses all texts that express
observations, thoughts, or works of imagination and that generally exclude technical
information: mathematics, scientific reports, instructions, acts of legislation, etc. We say
“generally exclude,” because items in these nominally excluded categories can
conceivably be approached as literature when their expression is particularly edifying or
enlightening in terms of use of language, style, or imaginative expression. Thus, even at
its broadest conception, literature shows a potential to overlap genres that might not
otherwise be considered literary. We can expand this definition of literature even further
by reflecting on Quintilian’s statement “Eloquentia vis est bene dicendi” rendered by
Walter Ong in Ramus, Method, and the Decay of Dialogue (1958) as “Eloquence is the
power of expressing oneself well.” Ong indicated that “Dicendi cannot be translated
‘speaking,’ since it does not exclude writing” (271). The John Selby Watson translation
of Institutes of Oratory in The Rhetorical Tradition (1990) shows that the Quintilian text
expressly used eloquence as a synonym for rhetoric (322). This thesis will deal more at
length with the relationship of literature and rhetoric in later chapters. For now let it suffice that this working definition of literature can include texts that were created as acts of eloquence but not necessarily all those created as acts of persuasion such as legal briefs, academic and scientific papers, or commercial white papers.

At the risk of over simplification, the obvious way to determine whether a text is literature is to consider its format and genre: a work that was written in the format of a literary genre—a poem, a novel, an essay, an epic—is clearly a work of literature. Its creator set it out to be, among other things, an artful practice of language, that is an act of imagination well expressed. Those texts whose formats may not seem clearly to belong within a specific literary genre may be considered literary if the authors or creators offer them as artful practices of language. Whether these or any work actually succeed artistically is a totally different question.

The search for additional support to define the notion of literature produced little of use to this thesis. For example, the third edition of Karl Beckson and Arthur Ganz’s dictionary, *Literary Terms* (1989) only supports the format-based descriptions offered above (145-46). *The Columbia Dictionary of Modern Literary and Cultural Criticism* (1995) only offers the Marxist concept of “Literary Mode of Production” (171-72), which is totally unsuitable for the needs of this thesis. The most compelling support comes from Thomas McLaughlin’s “Introduction” to the second edition of *Critical Terms for Literary Study* (1995):

The essays in this text on such terms as “writing,” “figurative language,” and “narration” raise questions that apply to literature but also to other
forms of writing as well, and therefore suggest that literary writing does not enjoy a privileged status within the arena of discourse. Figurative language does not happen only in poetry, and narrative does not happen only in novels. [. . .] And if these features of discourse do not respect any putative boundary between literature and other forms of writing, neither do the political and worldly concerns of writing. (6)

Thus, the notion of literature and the literary is ambiguous.

In addition to aspects of the text itself, another way to determine whether a text is literary is to consider the purpose of the reader, the student, or the critic in approaching the text. This has nothing to do with the author or creator. Regardless of whether the creator offered the text in a literary format or requested that the text be accepted as literary, the reader’s purpose in approaching the text might render it literary. Whenever a reader approaches a text as art or his/her purpose might be to be edified or delighted by its use of language, then the text can be consider literary. When the reader’s purpose is to extract other kinds of information, but the act of reading uncovers or generates edification and delight in the practice of language in the text, then the text can probably be considered literary at that time for that activity.

The constraint in this thesis that limits the definition of literature to the artful practice of language is necessary to prevent our consideration of literature from spilling over into other aesthetic practices such as painting, music, dance, or indeed, architecture. Roland Barthes, for example, may have been overgenerous in what he considered to be a text for study. The spectacle of wrestling that Barthes discusses in Mythologies (1972) as
something to be read clearly has a narrative component and the participants are so deeply imbibed with significance that they might readily be signs or representations of types. But when the narrative of a particular wrestling match is expressed in a text, without the reader’s having the immediate experience of witnessing the performance, there really is not a whole lot left of the wrestling match to study. The story emerging from a wrestling match like much of grand opera, for another example, is slight and banal. Wrestling, like opera, dance, and other performed spectacles, is not a practice of language per se and therefore falls outside the question of literature as defined here. What remains, however, is Barthes’ essay about wrestling, which clearly is literary but is not wrestling.

The definition *artful practice of language* then raises the question of language itself. Language presents difficulties for study due to its complexities. It manifests itself in multiple modes – speech, manual signing, and graphically in the form of writing or printing. Printing technology, although derived from writing, operates differently from writing, and as will be shown momentarily represents a significant change in cultural advancement, possibly more significant than the emergence of linear writing. Not all of these linguistic modes are available to literature, as we have traditionally known it. For example, manual signing is not readily available to a written or printed literature except through translation from a literary language into a manually signed performance or from manual signing into a literary language for transcription.

Regardless of mode, the paradox of dual ownership further complicates the study of language. It is owned by each individual by right of invention as will be demonstrated in the next chapter. Language is also socially owned by the cultural group that its
particular use defines. Thus an important aspect of understanding language, and by extension literature, is this duality: language is individually created and socially owned and protected. It is the creativity of the individual that produces literature and which shapes and advances language and literature as social artifacts.

Steven Pinker in *The Language Instinct* described language as the ability “to shape events in each other’s brains with exquisite precision” (15). He distinguished language from other utterances or other acts of communication in three ways: language is infinite, digital, and compositional. It is infinite in that it draws upon its discrete combinatorial system or syntax to enable the complex rearrangements of words into utterances or sentences without limit. Words themselves can be created instantly through the imaginative combination of semantically rich sounds (phonemes) and can be understood by others when they draw on their own imaginative faculties. It is digital because it is composed of discrete elements that can be imaginatively rearranged rather than merely changing or adjusting the shape, form, or intensity of a signal along an analog continuum. It is compositional because “each of the infinite combinations has a different meaning predictable from the meaning of its parts and the rules and principles arranging them” (335). These distinctions make language more than just communication and far richer than signification alone. The next chapter on the ontogeny of language will expand on the distinction between communication, which is also available to other species, and language, which is unique to humanity.

Accepting the definition of literature as the artful practice of language and accepting that to become the object of study a literary text must be recorded in some
medium, it will be instructive to consider the relationship of writing to literature and language. One significant, although largely ignored, resource in which this relationship between writing and language was developed is André Leroi-Gourhan’s *Gesture and Speech* (1993).³ This work is one of the three texts Derrida cited as “offering the opportunity” (323 Preface n 1) to sketch “in broad outlines a theoretical matrix” which is *Of Grammatology* Part I “Writing Before the Letter” (lxxxix). That is the section in *Of Grammatology* where Derrida argued for a theory of writing free from speech and occurring at a time and place before the appearance of linear writing. The other two texts Derrida cited are both inaccessible and seem to be of limited value to this discussion. *Gesture and Speech* was originally published in French in 1964 as *Le Geste et la parole*, but the text was not translated into English until 1993. The anthropologist Randall White noted in his “Introduction” to the English translation that although a work of its age is expected to show some shortcomings, it still provides a theoretical foundation that shows how language, writing, and technology had emerged and evolved as a result of the human becoming the erect primate (xxii-xxiii). The primary shortcomings of *Gesture and Speech* have to do with estimating the age of prehistoric art and the absence of information about early hominids that predate what Leroi-Gourhan estimated as the time of the emergence of the human by some 70 millennia. In both cases, the development of technology for accurate dating and the discovery of the earlier fossil remains did not occur until after the original publication of *Le Geste et la parole* in 1964. Those subsequent discoveries that more accurately identify the fossil record do not materially affect Leroi-Gourhan’s core findings or falsify his theoretical foundations.⁴
On the contrary, they reinforce his premise that the human emerged as the erect bipedal primate with forelimbs liberated from locomotion, mouth liberated from grasping and gathering, and head positioned atop the spinal column.

Leroi-Gourhan chronicled how graphism (the use of graphic symbols) and language may have evolved together in a mutually complementary fashion for more than 30,000 years before the emergence of the Sumerian system of linear writing in the third millennium BCE (188-210). Leroi-Gourhan was careful to distinguish graphism from writing and deliberately avoided calling graphism writing or, indeed, applying the term writing to any graphic expression that occurred before the advent of linear writing.

Walter Ong chose to deal only with linear writing per se in *Orality and Literacy*, and stated that “to count any semiotic mark as writing trivializes its meaning” (84). It is possible that Ong’s comment was directed at the first section of Jacques Derrida’s “Writing before the Letter” in *Of Grammatology* although Ong’s text does not state so directly. As will be developed in the balance of this chapter, Ong’s orality/literacy dichotomy seems to miss the point developed in Leroi-Gourhan regarding the unity of language expressed through the complementary relationship of graphism and speech than as one mode supplementing the other. The introduction of linear graphism or writing changed this relationship, when the linear graphic mode of language would come to represent the spoken mode rather than to complement it. The relationships between graphism and speech were far more complex and dynamic than as described by Ong, and so the last part of this chapter will try to describe that complexity and those dynamics by reading Leroi-Gourhan in light of contemporary psycholinguistics.
On the other hand, Derrida’s concept of *arche-writing* cannot be easily accounted for as a physical or biological phenomenon because of Derrida’s antithesis to *presence*. Where he developed the concept of *arche-writing* as nonphonetic writing, he said that it “describes relations and not apellations [sic]” (26):

> Arche-writing, at first the possibility of the spoken word, then of the “graphie” in the narrow sense, the birthplace of “usurpation,” denounced from Plato to Saussure, this trace is the opening of the first exteriority in general, the enigmatic relationship of the living to its other and of the inside to the outside: spacing (70).

This thesis is limited to language and writing as phenomena, otherwise termed by Derrida as “the vulgar concept of writing”(56). To satisfy this limitation, language in any modality requires a presence, substance, or what Derrida called *ousia* (97) regardless of how briefly ephemeral the manifestation of the presence of language might be. In terms of this thesis, language and writing do not have to be phonetic presentations or representations, although they could be. Moreover, the concept of *play* in the Derridan sense is not inconsistent with this thesis and is available for analytical purposes just as the concept of signification is available – both play and signification are available but not essential. Plunging deeper into Derridan deconstruction, however, this thesis encounters a *pons asinorum*, the bridge that asses will not pass, in the form of Derrida’s use of binary oppositions and its seeming to privilege the member that Derrida had deemed repressed in the Western logocentric tradition. Even if one member of the dyad had previously been repressed, how does reversing that relationship improve understanding?
One of the areas in which Derrida employed this strategy was in his concept of *writing before the letter*, which draws heavily on Leroi-Gourhan’s concepts of graphism and *mythography* (contrasted to *mythology*). To that extent, graphism and *mythography* will be more effectively and authentically dealt with by referring directly to Leroi-Gourhan rather than filtered through Derrida.\(^7\)

In trying to come to terms with the relationships of writing to language, one must be cautious about deconstructing current forms of those words in English derived from Greek roots such as *graphein* and *skariphos*. The former is the root for words that contain *graph-* and *gram-* and the latter the root for words such as *script* and *scripture* in English (*écrit*, etc. in French). Although such etymologies may color our understanding of the derived words, they do not in themselves provide sufficient evidence for what constitutes the practice under discussion. Current language usage and the invention of new words, such as those derived by compounding phonemes such as *telegraph* or *phonograph*, separate current usage from etymological roots.

Derrida’s writings complicate the discussion by expanding the meaning of *writing* to include pre-linear graphic expression and introducing the concept of *logocentricity*. His use of *logocentricity* sometimes refers to phoneticism, but it seems really to refer to something much larger: Derrida’s concern with Western philosophy’s embracing the notion of transcendental signification. Where logocentrism implies transcendental signification, this thesis rejects such concepts, but where logocentrism means word-based language, then the subject of this study is logocentric, because the language under study is constituted of words although not necessarily phonetic. Sign language, for example, is
a nonphonetic language of words. These word-based languages contrast to languages
that support modes of expression that are not word-based, such as symbolic languages or
mathematical expression. For the purpose of this thesis, we must arbitrarily limit the
concept of writing to linear representations of spoken languages, because languages
without speech cannot be represented by linear writing except in translation. Not only
will this be consistent with Ong and Leroi-Gourhan, it will also enable a more productive
discussion of the complementary evolution of language with speech and graphics,
including non-linear graphic expression.

The core of Leroi-Gourhan’s theory has it that one line of primates emerged as
human at the evolutionary point where they became bipedal. At this point when they
were able to stand and walk on two feet, their forelimbs were freed for grasping tasks
including food gathering and their mouths were thus liberated for other purposes
including speech. The development of the brain followed, rather than the other way
around (passim). “In the development of the brain the relationship between face and
hand remained as close as ever: Tools for the hand, language for the face, are twin poles
of the same apparatus” (19).

Upon observing that we lack direct means to study language before writing,
Leroi-Gourhan makes the case for linking technology and writing as reflective acts
unique to humans. The great apes’ ability to use several dozen vocal signals or to put
several sticks together to pull a banana down from a tree are spontaneous responses to
stimuli and are spontaneously abandoned once the stimulus has passed. Tool making
among the early hominids, on the other hand, required operations that anticipated future
use. He suggested a parallel difference between ape signal and human word in that the concept expressed by a word has a permanence comparable to that of the tool. Because of this relatedness between hand and mouth, gesture and speech, Leroi-Gourhan theorized that language before writing must have kept pace developmentally with technology. Hence, we may surmise that at any paleontological stage, language had reached a level of sophistication comparable to that of the tools found in the fossil record (113-16).

Leroi-Gourhan further theorized that

Two languages, both springing from the same source, came into existence at the two poles of the operating field – the language of hearing, which is linked with the development of the sound-coordinating areas, and the language of sight, which in turn is connected to the development of the gestures-coordinating areas, the gestures being translated into graphic symbols. (194)

In relation to language, Leroi-Gourhan consistently wrote of gestures as above that they had been translated into graphic symbols. Nowhere in his text is the idea of physical gesture expressed as language. This is understandable, because sign language did not enter the field of linguistics until the last decade or so with the work of Ursula Bellugi and her colleagues. Moreover, as there can be no record of language before linear writing, there can be absolutely no record of manually signed language before photography: signing does not easily translate directly into graphics except photographically or with meticulous representational illustrations. However, from what
we have since learned about natural signed languages (to be developed more fully in the next chapter), one might surmise that manual gestures inflected with motion, facial expressions, and body position could have participated in the development of spoken languages. The speculation that graphic symbols might be the recorded representations of rhythmic manual and body gestures would be consistent with Leroi-Gourhan’s theory relating graphism to spoken language. Nonetheless, the problem of accessing paleontological manual signing and verbalization remain the same: such ephemeral expressions leave no trace unless they were rendered graphically as incisions in stone and bone or stains on material surfaces durable enough to withstand the ravages of time.

As sparse and as incomplete as the fossil record may be, as the practice of graphic symbolism moved forward into recorded history, we do have ample evidence that it existed somewhat independently of phonetic language. The content of graphic symbolism provides additional dimensions to what phonetic language can express only in time. One of the results of this additional dimensionality, especially but not exclusively among cultures that did not develop a linear system of writing, are rich systems of symbolic relationships that express their mythological way of thinking. Leroi-Gourhan wanted to contrast what he called “mytho-graphy,” a multidimensional construct based upon manual expression, to “mytho-logy” as its counterpart in the verbal realm. Such mythographic modes of expression are essentially radial and hence resist phonetization, because writing that represents speech is linear. Radial graphism can be seen historically in much figurative art, especially religious representation. Radial expression also prevails today in science as algebraic notation and to express formulae in organic chemistry. In
these cases, the symbolic expression speaks for itself and phonetic expression is used only as commentary. Leroi-Gourhan observed that radial expression “reappears in advertising which appeals to deep, infraverbal, states of mental behavior” (194-96), an observation explored at length and corroborated in the writings of Marshall McLuhan collected in The Essential McLuhan (1996).

Graphic and phonetic expression (and possibly manual gestures) can be considered complementary modes of expression. Based on Leroi-Gourhan’s theory, one might make a strong case for the role of graphism, especially the use of mythograms or ideograms, within the oral tradition expressed in Ong’s theory. Graphics might be considered as memory aids for oral expression, and oral expression might have arisen as commentary to the graphics. Whatever their relationship, the symbiosis between these modes of expression leaves it quite ambiguous as to whether one mode predominated over the other until the advent of linear writing.

Ong observed that “The most remarkable fact about the alphabet no doubt is that it was invented only once” (1982 89). What may be challenged in this observation lies in the fact that the so-called invention of the alphabet was a gradual process that took place over a period of about two millennia, thus it may not have been an invention so much as an evolutionary process. The Sumerian scripts, which predated alphabetic writing, were not the only forms of early phoneticized writing. The fossil record shows phoneticized scripts emerging among the Mayans and Aztecs, the Egyptians, the peoples of India, and the Chinese (Leroi-Gourhan 200-210). Except for the development of the alphabet where graphic symbols were eventually simplified and reduced to digital
representations of sounds with no other graphic content, the other writing systems followed an evolutionary path in which the graphic symbols retained their mythographic characteristics. The digital alphabetical graphic system most closely supported the digital phonetic system, which is speech. A case might be made that manually signed languages, in which the expression is gestural and therefore closer to graphic, are in themselves more about relationships than about names.

Most of the early mythographic scripts died out. The Chinese system survived as a hybrid system to provide monosyllabic phonetic representation through the use of richly significant graphic symbolism. To form a new graphic representation of a polysyllabic word in the Chinese system requires combining the graphic representations of the constituent monosyllabic sounds like in a rebus. A word like *rampage*, for example, might be represented by the symbol for “ram” combined with the symbol for “page” (204). The resulting written concept fairly accurately depicts the sound of the word through the use of graphic symbols that may have nothing to do with the meaning of the sound represented. Because the symbols themselves offer no indication of their phonation, the success of this system has to be supported by oral tradition.

Although the Chinese system is phonetic, it is not abstractly phonetic as alphabetic systems are. Thus, it is limited in its applications to other languages. In Japan, the adaptation of Chinese writing is supported by a limited set of symbols with purely phonetic signification. In Korea, *Hangul*, a totally alphabetical script developed in the fifteenth century by royal decree was devised to replace *Han*, the Chinese-based script then in use. *Hangul* never caught on for literary purposes until the twentieth
century and even then its literary use is limited (Ong 1982 92-93). Although the Chinese script seems impractical for conveying narrowly precise concepts, which alphabetic scripts do so well, its ability to convey the rich fullness of relationships and contradictions associated with a concept is peerless. As such, it achieves that rare balance in graphic expression of representing mathematical and biological concepts well enough while also creating meaningful image groups rich in relationships.

Leroi-Gourhan’s first two major divisions – *Technics and Language* and *Memory and Rhythms* – support our ability to negotiate a position that is not Ong or Derrida but embraces both. Ong’s concept of an oral literature that predated writing and which writing subsequently appropriated may focus too absolutely on a literature of precision. That alphabetic writing is capable of rendering narrow thoughts with precision is one of its characteristics, but we might question whether the literature so transcribed necessarily expresses precise thoughts. The imaginative discourse that constitutes literature tends to be more ambiguous, less precise. Derrida’s concept of *arche-writing* describes a graphic mode of relationships rather than of name; he described it as being available to language before linear writing. As such, the concept seems to embrace a universality that extends beyond the European-Mediterranean cultures and includes graphic systems that are not linear. To negotiate our new position, it is necessary to deal with the concepts of social memory and the emergence of ethnicity.

Species-related memory in its broadest sense constitutes the repository of traditions transmitted across generations and essential for the survival and development of the group over time. This type of memory appears most commonly among simpler life
forms as instinct. Individual memory constitutes that part of the nervous system that serves as the repository of lived experience. In addition, more complex life forms have social memory, which like species memory also constitutes the repository of traditions of the group. “In animals, this memory – peculiar to every species – is based on a highly complex instinctual apparatus, whereas in anthropoids the memory of each ethnic group rests on the no less complex apparatus of language” (Leroi-Gourhan 220).9 Because social memory is so predominant in humans, it supplants species memory to the point that the social group becomes the source of self-identity. Derrida picked up on this observation in Of Grammatology (83-84) which Leroi-Gourhan expressed so clearly in Gesture and Speech: “Ethnocentrism is in fact what best defines the prescientific vision of the human being. In many human groups ‘men’ is the only word that the members use to designate their ethnic group” (5).

Both individual and species memory reside within the individual, the latter in the neurological sequences that are repeated consistently from generation to generation. Ethnic memory is external. It is embodied in the cultural artifacts that define an ethnic group, including its legends and literature. This externalization of memory liberated culture from the glacial drift of natural selection, enabling an explosion of social and cultural achievement.

The whole of our evolution has been oriented toward placing outside ourselves what in the rest of the animal world is achieved inside by species adaptation. The most striking material fact is certainly the "freeing" of tools, but the fundamental fact is really the freeing of the
word and our unique ability to transfer our memory to a social organism outside ourselves. (235)

Leroi-Gourhan found it difficult to draw a distinction between oral traditions and written transmissions in the West and in China. He found among all literate societies, that is societies with linear writing, that the main body of knowledge was buried in their oral practices and in technology. Those portions of knowledge that did get set down in writing over the centuries consisted of the upper parts of knowledge only, that is the arcana that belonged to the learned classes or specialists, and those portions of knowledge remained relatively unchanged over time. Moreover, he found that the contents of written materials were to be memorized, possibly for life or at least sufficiently memorized to enable one to navigate through the manuscripts or tablets.

This all changed with the introduction of the printing press, i.e., the marriage of writing with mass production. Printed matter quickly outstripped the range of traditional subjects, and readers could not possible register the contents of this enormous collective memory to which they had gained access. In addition, printed texts frequently confronted their users with new material (261).

Rereading Ong in light of Leroi-Gourhan may force us to revise some of our thinking regarding language and literacy. The historic record does support the idea that linear writing had great influence over what is perceived as literature, but writing per se appears to have had little influence on the development of language in general. Ong cited statistics regarding the paucity of written language compared to oral traditions:
Indeed, language is so overwhelmingly oral that of all the many thousands of languages – possibly tens of thousands – spoken in the course of human history only around 106 have ever been committed to writing to a degree sufficient to have produced literature, and most have never been written at all. Of the some 3000 languages spoken that exist today only some 78 have a literature. (1982  7)\textsuperscript{10}

Regardless of how precise these statistics may be, they raise a question about the impact of writing on the emerging literary cultures of human societies. Ought we not to expect that the practice of writing would have a consolidating effect over the development of languages per se? On face value, it would seem that a case might be made that writing was a class-based practice supporting a cultural or intellectual enterprise that did not include or engage the population at large. This would be consistent with Leroi-Gourhan’s findings that writing emerged only in agricultural societies, and along with the emergence of linear script, those societies became stratified, organizing themselves into classes based primarily on types of work performed (145-85). We can surmise that written text production would have been limited to those elite classes whose knowledge, wealth, or power afforded the skill and leisure to read and write.

At that point in language development primarily in the West, following the development of alphabetic scripts (ca. 1500 BCE), instead of progressing together as complements to each other, writing as a representation of speech became separated from natural language development. The next chapter will support this hypothesis by showing how the individual person acquires natural language, and how the acquisition of reading
and writing is different from natural language skills. Meanwhile, Ong provided us with an historic example of how some chirographic languages separated themselves from the development of natural languages in the case of the socially dispersed learned languages.

In *Ramus, Method, and the Decay of Dialogue*, Ong underscored the importance of Latin in the medieval and Renaissance universities, in the Church, and at the great courts of Europe. “Latin existed [. . .] as the accepted frame of reference and the instrument of thought and sensibility for nearly everyone whom we should style an ‘intellectual’ today” (10). Latin, as the prevalent learned language of the West in which not only philosophy and science but also high literature was written, contrasted sharply with the development of folk literature among the non-reading speakers of socially concentrated natural languages or mother tongues. Of course, we expect to find sparse direct evidence of these vernaculars or mother tongues that arose and developed during the two millennia that shaped the West for the same reason that there is no direct evidence of language before writing. We should also expect, however, that the art and artifacts of those majorities without writing provided both mythography and *aide-memoires* for their verbal legacies – poetry, tales, and myths.

In *Orality and Literacy* Ong wrote more at length about learned languages, listing Rabbinic Hebrew, Classical Arabic, Sanskrit, Classical Chinese, and possibly Byzantine Greek in addition to Latin (112-15). More than the languages of study, science, and the law, these were also the languages of scripture and religious contemplation for Christianity (both western and eastern), Islam, Judaism, and the various belief systems
arising out of Hinduism and Buddhism. They became the exclusive languages of written text. As writing became more developed and institutionalized until the rise of nation states, these few languages were the only ones committed to writing. Simultaneously, the underlying phonetic languages represented by this writing ceased to develop:

Devoid of baby-talk, insulated from the earliest life of childhood where language has its deepest psychic roots, a first language to none of its users, [. . .] always written the same way, Learned Latin was a striking exemplification of the power of writing for isolating discourse and of the unparalleled productivity of such isolation. (113)

This thesis will not attempt to unravel the questions of side-by-side development of folk and formal literatures supported by the side-by-side persistence of natural and learned languages. It does suggest, however, that at the time of its disintegration, Latin had become an artificial language no longer nourished by the ontogenetic processes that sustain language across the generations. The very qualities that supported these learned languages – chirographically (rather than orally) controlled, sexually discriminative learning, applied to a common intellectual heritage – eventually became too much of a burden for them. Latin had to succumb to the competition from imaginatively rich vernaculars that were rapidly becoming national languages in England, France, and Spain and among the principalities of Germany and Italy.

For the better part of two millennia, Learned Latin provided the underpinning to a stable European cultural memory. Its practice lasted well into the eighteenth century – Giambattista Vico’s major works were all written in Latin. One might well consider the
period between the fifteenth and nineteenth centuries as intellectually amphibian, with
critical works written and published in both Latin and the vernacular. One might stake
out this amphibian period in English literature as beginning with Sydney’s *Defense of
Poesie* (1580-81) and culminating in Wordsworth’s *Lyrical Ballads* (1798). Awareness
of the overarching role of learned Latin might shed a new light on Wordsworth’s purpose
for “selection of language really used by men” (424). If learned Europeans were not
altogether certain of their social, cultural, and national identities, they had a fairly good
idea about eternal verities and what was truly important to them. The collapse of Latin,
and with it rhetoric (Ong 1958 passim), probably contributed more to today’s conflicted
problems of literature and literary criticism than one realizes. Perhaps the learned
languages, at least Latin in the West, were displaced by vernaculars as national languages
not because of the introduction of printing technology, but coincidental with it.

Supported by an explosion of new and available texts made possible by mass printing
production and news of a brave new world to their west, European imaginations were
suddenly inflamed by all kinds of new possibilities. As a result, what once appeared as a
stable, almost rigid, cultural memory encased in Learned Latin, was no longer stable. It
is under this condition of lost stability with which the study of literature has struggled for
the past four centuries, a condition that might be understood more clearly by
understanding the complement to the social aspects of language: its ontogeny within each
individual human.
CHAPTER 3. THE ONTOGENY OF LANGUAGE

The previous chapter touched on theoretical positions regarding the evolutionary development of language of the human species and history of language and writing as regards Western Europe. It does not pretend to cover subject entirely, but in connecting language to writing and literature, it provides an introduction to the social side of the duality of language. This chapter will focus on the individual side: how each individual creates personal language out of the social language encountered in childhood. The language thus created will, in turn, refresh the stock of language owned by the culture into which the child is born or adopted. This dynamic process may be imagined as *ouroboros*, the serpent that swallows its own tail in a circle of always becoming.

Literature contributes to that circle of always becoming in ways that will become clearer in the next chapter. Meanwhile, this chapter will show how language is the product of a unique faculty of the brain that drives itself to create language during the linguistically productive years from birth to puberty. The developing infant cannot help but to create his or her own language out of the language he or she experiences during childhood. Finally, it will show that language thus created can be applied to conceptual thinking. All of these developmentally rich activities and experiences lay a foundation for creating and performing literature.
The *American Heritage Dictionary* 3rd edition (1992) defines *ontogeny* as “the origin and development of an individual organism from embryo to adult” (1266). It may seem strange to think of language as an *organism*, but the language faculties of the brain as well as the organs of speech and gesture do undergo significant changes before puberty that affect the acquisition of language. The term *ontogeny* is used throughout the psycholinguistic literature to focus on how the language faculty develops within the individual. To that extent, ontogeny is a proper term to use here.

Literature does, among other things, express thought linguistically. Language and thought, however, are separate cognitive activities seated in different modules of the brain and as such have their own unique ontogenies; this idea of separate modules touches on other areas of cognition such as vision, music, and socialization. In *Patterns of the Mind* (1994), Ray Jackendoff wrote about human nature as having multiple “innate brain specializations or modules, each of which confers on us certain kinds of cognitive powers,” some of which he listed as language, visual skills, concrete and abstract thought, and social functionality (218-19). In *The Language Instinct*, Steven Pinker described the complexity of the language module and included among its many separate parts syntax, morphology, phonology, speech perception, parsing, and learning, many of which involve separate systems for combining and structuring specific stimuli (335). Jackendoff has developed an extensive theory of parallel architecture introduced in *The Architecture of the Language Faculty* (1996) and updated and expanded upon in detail in *Foundations of Language* (2002). Jackendoff’s parallel architecture is an especially exciting development because it resolves some of the unsettled issues originally raised.
about Noam Chomsky’s theory of generative grammar and reconciles some of the subsequent psycholinguistic theories that grew out of Chomsky during the past four decades. It even offers a pathway to natural selection, a step that Chomsky could not take because of too many unanswered questions. In other words, Jackendoff’s theory on the level of ontogeny fits well with Leroi-Gourhan on the level of phylogeny. Pinker and Jackendoff belong to a growing community of psycholinguists whose interrelated work consistently supports the concept of the language module derived from Noam Chomsky’s pioneering work in generative grammar. This community and their work as well as that of other psycholinguistic work will be cited extensively in this chapter.

Sorting through contemporary psycholinguistics and cognitive studies is challenging for several reasons. One reason is that many current studies in language and cognition seemed to have artificial intelligence as their goal; their purpose is far removed from literature. Another reason is that much of the material is narrowly focused, often to the exclusion of the larger conceptually integrated field of psycholinguistics. These kinds of problems render the work in artificial intelligence and the narrowly focused research unsatisfactory for purposes of this inquiry.

General areas of the brain have been mapped and brain activities have been localized through MRI and other technologies. Although these brain mappings are available only at a relatively low resolution, or what Pinker called “very gross anatomy,” it seems quite clear that human language is processed in areas of the brain that are special to humans: in the perisylvian region of the cerebral cortex (313). Humans and other animals do make communicating sounds that emanate from an older structure of the brain
in the subcortex. This region is heavily involved in the emotions and the human vocalizations they control, which include sobbing, moaning, laughing, and shouting in pain or surprise. The involuntary vocal tics symptomatic of Tourette’s Syndrome emanate from this region. These vocalizations are not language because they fail to meet the three distinguishing characteristics of language: they are not infinite, not digital, and not compositional (335).

One of the premises of this thesis is that language and literature are uniquely human. Leroi-Gourhan’s theory, as discussed in the previous chapter, makes a strong case that technics and language are the uniquely human outcomes of the liberation of hands and mouth when the species emerged as bipedal. Today, a portion of the scientific community has been trying to make a case for ape language, arraying their arguments heavily in the popular press. Although apes and other species can recognize signs and use them to communicate, what they are doing is not language because it lacks those distinguishing characteristics: infinite, digital, and compositional. Those who want to define language as the ability to create and exchange words can mount an argument for animal language, but this thesis argues that language requires more than word formation alone. This thesis also defines literature as the artful practice of language only in this fuller sense; a literature of word exchange only would be quite spare.¹

What Pinker called the *language instinct* refers to that set of innate organizing principles imbedded in the brain. These principles were first described by Chomsky and constitute what has become known generically as generative grammar or as *Universal Grammar* by Ray Jackendoff. The term *grammar* is used here to mean the system of
implicit rules that provide the cognitive mechanism for generating language. It is different from the rules, also called grammar, which define sentence formation in specific languages. The presence of these homonyms whose different meanings are so close may be a cause for unfortunate confusion, but wherever the word grammar appears in this thesis unless specifically stated otherwise, it is used in the psycholinguistic sense not in the sense of instruction in a specific language. Regardless of which specific system of natural language is involved, generative grammar is what enables the child to apply a complex set of language rules in a relatively short time. By age three, a normal child will have a sophisticated command of its language and an amazingly rich vocabulary enabled in no small part by these innate language principles. As Pinker put it, “they are not acquiring dozens or hundreds of rules; they are just setting a few mental switches” (112).

Because this thesis is about literature and not psycholinguistics, the descriptions and details of the language instinct will be summarized on the following pages.² An important three-way distinction essential for moving this psycholinguistic foundation forward into literature is not expressed all that clearly, if at all, in the psycholinguistic literature because it is unnecessary for their purposes. That distinction separates the innate organizing principles of the language instinct from the personal language systems that children invent and separates these two elements from the social or shared elements of the specific language system of their culture. The inventing of language occurs when the aware infant applies those innate organizing principles to the linguistic environment to which they are exposed. The next several pages will illustrate various aspects of that
exposure. Close and yet so far, the differences between an individual’s personal language created from childhood and the socially shared language of his or her culture contribute to the ambiguities of language and of literature. Thus, the growing child and the learning adult will spend a lifetime reconciling their personal language with their social language in the study of literature as well as in other social and intellectual endeavors.

The human is the speaking animal, and the question of speech as language is complex. For the majority of humans, language is expressed primarily through vocalization so speech might be considered the normal mode of language, although this is not altogether true. The manual sign languages composed of gestures and used by people without speech or hearing are natural languages whose ontogeny proceeds pretty much in the same way as spoken languages. Sign languages are not, however, gestural translations of spoken languages. In tracing the ontogeny of language, speech will be used as the primary mode to illustrate specific developmental steps, but the material will also draw on examples from sign languages.³

Language development begins very early in life, becomes quite intense at about eighteen months, and eventually tapers off at puberty:

Acquisition of a normal language is guaranteed for children up to the age of six, is steadily compromised from then until shortly after puberty, and is rare thereafter. [. . .] The genes, shaped by natural selection, control bodies throughout the life span; designs hang around during the times of life that they are useful, not before or after. (Pinker 293-94)
Pinker went into detail to describe the age-related aspects of language development, aspects that disappear as each successive stage of development is completed. He and others also described the language acquisition capabilities of wolf children found living alone without human society in the wild and adults found in circumstances without the nurture of a language-rich environment. Those who are found after puberty acquire some language skills but never a complete language; those found before puberty usually succeed at language acquisition (290-296). This condition whereby language acquisition capabilities atrophy with age accounts for the focus on youth in this chapter.

Pinker cited research by Jacques Mehler and Peter Jusczyk (apparently from “A precursor to language acquisition in young infants”) that shows how babies indicate a preference for their mother tongue as early as four days and that suggests that the babies might even have picked up the prosody of the spoken language in the womb. By six months babies are able to discriminate phonemes both of their own language as well as those sounds that belong to languages foreign to their culture, something adults cannot do. By seven or eight months, babbling begins using real syllables. Around age one, they lose their universal phonemic facility, concentrating on the sounds specific to their own language; by then they can string babbling syllables together in nonsense utterances that sound like sentences (264-65). These accomplishments may or may not communicate, but they are not yet language because they do not fulfill the three-part definition of language. This babbling is definitely not compositional and may not even be digital, but it is a functional activity that rehearses specific skills that will be applied soon to real language.
During this time and going forward, babies are exposed to a complex language Pinker termed *Motherese*, characterized by its interpretable melodic structure. Motherese may be universal across all language communities. Pinker suggested that Motherese may serve the purpose of setting boundaries to delineate words and sentences and to introduce semantically rich vocal inflections that identify statements, questions, commands, etc., but are not themselves phonemes (279).

When the newborn infant is initially exposed to vocalized language, its vocal apparatus is totally ill suited for speech. The larynx is located too high in its throat, enabling it to drink and breath simultaneously – a far more critical skill than speech at that stage of its young life. Soon its physiology undergoes rapid changes that prepare the infant to use the larynx, tongue, and oral cavity for speech. At about three months, the larynx has lowered into a position relative to the oral cavity that endows the child with a fine speaking instrument (264).

This background on the role of language sounds and the physiological development of the speech apparatus in the ontogeny of spoken language might provide fertile support for Peter F. MacNeilage’s “The Frame/Content Theory of Evolution of Speech Production” (1998). He offered this theory as an explanation for the origin and evolution of language through natural selection. Here and in his shorter paper, “On the Internal Structure of Word Forms” (2000), MacNeilage claimed that the origins of language are to be found in the open-close oscillations of the mouth in chewing, teeth chattering, etc. One of the items of evidence offered is that ontogenetically the first phonemes are those of the labial consonant-verb pairings that occur in babbling (1998,
He supported this theory with a survey of child babbling across 10 different language communities compared with data on proto-words found in the global etymologies published by J. D. Bengston and M. Ruhlen in *On the Origin of Languages* (1994). Although MacNeilage’s theory explains that language is derived from infant vocalization, contrary to Chomsky’s notion of a generative grammar, he took Chomsky to task in this article not for his theory of generative grammar but for not embracing natural selection as the evolutionary process by which language developed in the human.5

Taking MacNeilage’s argument at face value, a case might be made that language and speech are identical. This position ignores the extensive research with deaf infants raised in families where a manual sign language was the primary mode of expression. Laura-Ann Pettito and Paula F. Marentette’s “Babbling in the Manual Mode” (1991) for example, suggested that language development, at least at the babbling stage, is amodal (1495). It occurs equally among infants with speech capability and among those for whom signing is the primary mode. MacNeilage indicated that he was aware of the Petitto-Marentette paper, but he rejected its findings as giving “the spurious impression that an historical shift from signed to spoken language could easily have occurred” (511). Although that specific impression appears nowhere in the article cited or in Petitto’s more extensive “On the Biological Foundations of Human Language” (2000) MacNeilage’s argument fails to take into account the role of gesture in language development. It seems that he has attempted to supplant the theory of generative grammar with his own theory of vocalized speech. The Petitto-Marentette findings are
consistent with Chomsky, Pinker, Jackendoff, and many others. Their position is corroborated by extensive research by others in the field of deaf infant signing, well anthologized in the *The Signs of Language Revisited* (2000) edited by Karen Emmorey and Harlan Lane, and helps to separate modality from the language faculty. Whether language evolved from a speech-based modality, from gestures, from scratching patterns in whatever media were at hand is not at issue here. What is at issue is whether the human child has an innate capacity to organize patterns of stimuli from its environment into a complex and fecund linguistic system. The idea that complex biological faculties, such as language, could come from multiple originating impulses suggests that the evolutionary foundations of language may have more than one source and more than one mode of expression. MacNeilage’s theory might contribute something to the question of how some aspects of spoken language have evolved, but it does not get to that language faculty that appears to operate independent of mode of expression.

The Petitto-Marentette observations of comparable babbling that occurs among hearing and deaf infants at the same stage of development provide additional evidence for an innate language faculty. More compelling demonstrations come from reports of the creolization of sign language cited by Pinker in *The Language Instinct*. Here, creolization means a two-generation process whereby the first generation struggles with a language not its own, producing difficult and often ungrammatical pidgin utterances. The second generation then, applying the organizing power of generative grammar, creates and uses a new and grammatically consistent language on the foundation of the parents’ pidgin.
Pinker’s first example is that of introducing signing to deaf families in Nicaragua as part of the Sandinista education reforms after 1979. The adult generation attempting to use Lenguaje de Signos Nicaragüense, struggled and often created bizarre language structures; youngsters under the age of ten adopted the system to their own use and applied it with relative fluency. The succeeding generation adapted it even further, creating a more fluid and compact language so different from the original that it is now called Idioma de Signos Nicaragüense, evidence of children inventing language. The second example is that of a child called Simon whose deaf parents did not acquire American Sign Language until late adolescence and as a result used it badly. Although Simon, who was also deaf, saw no signing other than the defective expressions used by his parents, he was able to generate a consistently sophisticated manual language. This creolization by a single child offers compelling evidence of the innate ability to create language (36-39).

Taken together, this research suggests among other things that speech is one of several modes of signaling and is not the same as language. Language may be expressed in any of these modes, and it is even possible that writing itself is one of these modes, which is different from speech and signing. In Pinker’s terms, the language instinct enables “the ability to dispatch an infinite number of precisely structured thoughts from head to head by modulating exhaled breath” (362) to this one could add manipulating hand gestures, inscribing tablets of wet clay, or staining sheets of paper with ink. Furthermore, these research findings that show children overcoming physiological,
physical, and environmental barriers to create language also illustrate that language cannot be easily prevented.

Semantics holds the key to dispatching thoughts from head to head. Paul Bloom described the initial developmental semantic breakthrough in *How Children Learn the Meanings of Words* (2000) as occurring sometime between five and ten months when the learning infant associates a specific meaning with a specific stimulus, either sound or visual signal. Measuring this accomplishment precisely is a problem because although the child may associate a particular meaning with a particular sound or gesture, it cannot yet reproduce that word. Acquiring words, that is audible or visual signs to which one assigns meaning and that one can produce either verbally or manually, occurs around age one. The rate at which a child acquires new words begins slowly and builds gradually until about age eight when the pace doubles. Children experience a fecund period of word acquisition between the ages of eight and 16, learning about a dozen new words daily. Then, this verbal growth spurt begins to taper off at age 17, because as the child enters young adulthood, he or she has acquired most of the words available to be learned from their environment. Variations in individual pace, style, and outcomes do occur within this general trend of word acquisition, but for the most part the trend holds true among both speaking and signing children (35-53).

Early in the research project supporting this thesis, Lev Vygotsky’s *Thought and Language* (1986) provided a framework for understanding conceptualization and some developmental aspects of language acquisition. However, Vygotsky left many questions unanswered for which the psycholinguistic work in generative grammar initiated by
Noam Chomsky and brought forward by Pinker, Jackendoff, and others provided answers. In *Reflections on Language* (1975), Chomsky thought it quite interesting to readdress older work in order to recover neglected insights and to determine how to reinterpret and understand questions discussed by earlier authorities in light of current techniques and what has since been understood and accepted as knowledge (79). Reviewing Vygotsky in light of the rich mine of psycholinguistic research that has been published in the last two decades, his pioneering work stands as consistent with the work derived from Noam Chomsky’s generative grammar and from today’s electronic and magnetic imaging technologies. This consistency is vital because Vygotsky’s work supports the core of this project, which will be presented in the next chapter.

It appears that Vygotsky’s groundbreaking work had been passed over by many in the fields of language, cognition, and psycholinguistics. Of the works consulted for this thesis, only Paul Bloom’s *How Children Learn the Meaning of Words* mentions Vygotsky’s *Thought and Language* in its list of references, and even that citation is to the earlier, 1962 abridged translation of *Myshlenie i rech*.

*Myshlenie i rech* was written and originally published in Russian in 1934. MIT Press published two English translations, one in 1962 and another in 1986, and their differences are considerable. Alex Kozulin’s 1986 edition is larger by half than the 1962 translation made by Eugenia Hanfmann and Gertrude Vakar. The Kozulin edition will be cited in this thesis. Kozulin noted in his introduction that *Myshlenie i rech* should be translated as *Thought and Speech*, but that MIT Press preferred to continue using their original English title (lvii). In 1983, before Kozulin’s revised edition was published,
Caryl Emerson wrote in a note to “Outer Word and Inner Speech” (1983) that “a more precise translation [. . .] would be ‘Thinking and Speech’: the thinking is specifically a process and not a product” (261 n 6). The consistency with which Vygotsky insisted on viewing the development of verbal thought, that is conceptualization, as a process is important to cognitive resonance, so Emerson’s title may be even more precise.7

Vygotsky’s achievement was to cut through the plethora of theories and opinions extant at his time and by application of reason and experiment to deliver a clear and comprehensive explanation of how conceptual thinking and language develop as separate faculties in children, each with its own distinct ontogeny. His work is somewhat different from that of the later psycholinguistic research in that his need was to develop theoretical support for learning. There is overlap and consistency in his findings with those of the later psycholinguists in that the ability to use language to generate concepts was age-dependent and was not fully achievable before adolescence. What the literature shows about age-relatedness in language development also validates the appropriateness of Vygotsky’s research with children to determine how concept development proceeds.8

Another aspect of Vygotsky’s work that may partly account for its success is that it was holistic; as a student of art and aesthetics, he refused to constrain his work to psychology or pedagogy. He also drew upon literature and theater for additional insights; Konstantin Stanislavsky’s notes for actors, for example, played a significant part in his conclusions. Thus, Vygotsky’s work facilitates building bridges from psycholinguistics to literature.
One of Vygotsky’s expressed concerns was that the field of psychology was fragmented: it lacked generally accepted practices and a unified body of knowledge, and it was becoming even more fragmented with the publication of each new discovery (13). To get around that problem, the first chapters of *Myshlenie i rech* review and critique what had gone before, especially Jean Piaget’s *The Language and Thought of the Child* (1923). The differences between Piaget and Vygotsky centered on their understanding of communicative or dialogic speech as distinguished from egocentric or inner speech. They were born the same year, but Piaget survived Vygotsky by almost a half century. Although Piaget had heard about Vygotsky, he claimed never to have seen *Myshlenie i rech* until MIT Press began preparations to publish the first English translation and solicited his comments. MIT published Piaget’s *Comments on Vygotsky’s Critical Remarks* (1962) as a pamphlet in conjunction with the 1962 edition. It shows that Piaget’s later work had found answers to many of the questions Vygotsky raised but coincidentally and quite independent of Vygotsky (7-9).

The core axiom in Vygotsky’s work appears quite early in the text: “the unit of verbal thought that is further unanalyzable and retains the properties of the whole can be found in word meaning” (5). In other words, verbal thought is essentially semantic and that meaning is what connects thought with language use. As word thoughts develop, they do not refer to a single object. Rather they refer to a group or class of objects. Words are generalizations and as such reflect reality in ways differently from perception alone. Moreover, speech, in Vygotsky’s terms, has a primarily social function: communication; so, too, do all expressive modes of language. Children achieve
understanding of word meaning only as they develop adequately generalized concepts within which to place the word (3-11).

To support and extend these premises into a more thorough understanding of the genesis of word meaning through abstraction and generalization, Vygotsky undertook a rigorous system of experiments, improved on those designed by Piaget and others and, where necessary, devised his own. These experiments yielded a systematic understanding of how concepts develop as the individual matures. They showed that concept development proceeds in three phases – syncretic images or heaps, thinking in complexes, and finally full conceptualization. Each of these phases includes multiple stages. Of these, thinking in complexes has the largest number of distinct stages including one called pseudoconcepts that serves as a bridge to full conceptual thinking. Once the child progresses beyond syncretic images into thinking in complexes, these developmental phases are no longer sequential, rather they proceed dynamically, and almost in parallel (110-124).

As the child matures and achieves the ability to conceptualize based on his/her own experiences, he or she never abandons thinking in complexes even as a fully mature individual. Rather, mature thinking moves freely between thinking in complexes and conceptual thought as language and communication needs require. An important distinction, however, is that concepts are abstract while thinking in complexes remains rooted in the concrete, relying heavily on material images and deriving meaning from similarities. (135-145)
As speech evolves out of the concrete thought complexes that originally invested words with meaning, seeming contradictions can arise that language can easily deal with without stumbling over them. For example, the Russian word for ink means “blacking.” Nonetheless, Russian deals quite comfortably with, among many others, red, green, and yellow “blacking.” Vygotsky constantly emphasized the dynamic nature of these processes, noting the ceaseless struggle within the developing language between conceptual thought and thinking in complexes, but eventually concept wins out over thought complex, significance wins out over the sign (130-33).

This speaks directly to the arbitrariness of the sign, a concept associated with Saussure but often repeated wherever semantics is broached (Pinker 83). Depending on the mode of expression, a sign can be a sound, gesture, or image that represents a meaning and that generally lacks any connection to the thing it stands for except perhaps vestigially or coincidentally. Thus red blacking in Russian has nothing to do with black, and the English word electricity, derived from the Greek word for amber because when rubbed with silk amber generated static electricity, is today so far removed from amber that the connection is at best remote. Vygotsky observed that “In the contest between the concept and the image that gave birth to the name, the image gradually loses out: it fades from consciousness [. . .] and the original meaning of the word is eventually obliterated” (132).

It is interesting to compare Vygotsky or Jackendoff to works like George Lakoff and Mark Johnson’s Metaphors We Live By (1980). Although Lakoff and Johnson do a masterful job of analyzing metaphor and how it works, when they attempt to develop a
semantic system around the metaphor, their system seems locked into thinking in complexes as opposed to conceptual thought. This is because metaphors are derived from the concrete images and comparisons characteristic of the thinking-in-complexes phase of concept development. Vygotsky showed that there is much more in the relationship of speech to thought than metaphor.

Vygotsky’s approach to Piaget’s theories on egocentrism and the role of instruction in conceptualization yielded a simpler theory that avoided many difficulties while establishing the essentially social foundations of speech. Vygotsky’s departure from Piaget began where he started to recognize how both communicative and egocentric speech are socially derived yet with differing functions. Egocentric speech begins developing when the child starts to transfer social forms of behavior into inner, more personal psychic functions. Vygotsky saw speech development as going not from the self out as Piaget saw it but rather from an essentially social function inward. The earliest speech is social, at first global and multifunctional. That is, a single sound or a few sounds serve many purposes. As speech develops its functions becomes more differentiated. Eventually it reaches a point where this social speech becomes sharply divided into egocentric and communicative or dialogic speech. “Egocentric speech as a separate linguistic form is the highly important genetic link in the transition from vocal to inner speech” (35) and thereby serves as the progenitor of verbal thought.

Another area of exploration undertaken by Vygotsky comparable to his tracing the ontogeny of inner speech out of egocentric speech was drawing the distinction between vocal language and written language. Why do children and even some adults
struggle with writing and reading as they do? Vygotsky showed that writing is a separate
linguistic function, differing both in structure and mode from oral speech. Written
language uses thought and image only. Although punctuation and typographical
emphasis is available to linear writing, it lacks the richly inflective underpinnings that
make oral speech seem so naturally communicative: musicality, expressiveness, and
intonation, not to mention the availability of physical gestures. In learning to write,
Vygotsky observed, “the child must disengage himself from the sensory aspect of speech
and replace words by images of words” (181).

The issue of written text as language takes on a totally new dimension in teaching
deaf users of American Sign Language to read English, as Carol A. Padden and Vicki L.
Hanson do in “Search for the Missing Link: The Development of Skilled Reading in Deaf
Children” (2000). One of the issues they brought up is that native users of American
Sign Language do not speak English, therefore they must learn English as a second
language in order to learn to read. The authors described a variety of strategies for
teaching reading that reflect the phonological nature of English writing including
fingerspelling and mouthing as a complement to lip reading. The point is that several
different processes must be put in play in order for signers to read English (442-44).
Beyond the fact that American Sign Language and English bear no resemblance to each
other and although the alphabet provides phonological representation of the elements of
spoken English, Pinker observed that the challenges of English spelling indicate that
writing is morphemic. “Writing systems do not aim to represent the actual sounds of
Vygotsky’s sixth chapter, “The Development of Scientific Concepts in Childhood,” hypothesized that what he labeled as *scientific concepts* and the development of spontaneous concepts are two different forms of reasoning that follow separate developmental paths that are instrumental to learning and intellectual growth (146-209). In pursuing this line, Vygotsky disagreed with Piaget, whose comments on the English translation showed that he had eventually come around to “complete accord with him” during those years between when Vygotsky first published *Myshlenie i rech* and when it was finally translated into English (9). Vygotsky’s use of the term *scientific* to designate nonspontaneous concepts could be too limiting for contemporary readers of American English. He did not limit its application to just mathematics and the physical sciences, but any field of study in which systematic approaches are developed through formal instruction qualified as dealing with scientific concepts. Perhaps a more productive term for our use might be *nonspecial concepts*.

According to Vygotsky, the development of spontaneous concepts and the development of nonspontaneous concepts are related processes that constantly influence each other. The difference between nonspontaneous and spontaneous concept development becomes apparent by observing how children deal effectively and easily with systematic concepts in science, social studies, or mathematics and how they show real difficulty expressing conceptually those things with which they are most familiar – family, home, etc. Vygotsky showed how these processes were dynamically coupled as
complements working together to develop the capacity for true abstraction and concept formation.

Scientific or nonspontaneous concepts, as delivered through formal instruction, generally start with an initial definition supported by detailed explanations applied systematically in a way that comes down to concrete phenomena. Spontaneous concepts, i.e. those that the individual draws out of personal experience, develop without access to a systematic external structure. Their progress starts with the learner becoming aware of experienced phenomena, and from that base of awareness, concept formation moves upward toward generalization. Vygotsky described this dynamic in symbiotic terms: familiarity with the structure of nonspontaneous or scientific concepts provides learners with models for conceptualization that can be subsequently drawn upon to generate their own personal conceptualization (146-74).

Although Vygotsky did not address the issue of language study under this nonspontaneous/spontaneous distinction, one can still see how the process might apply to the academic study of language and literature. Prescriptive grammar in the sense of rules for sentence structure, vocabulary, composition exercises based on the five-paragraph model, and structured reading strategies identifying the large thematic elements of a text are all modes of teaching nonspontaneous concepts. Their application can provide models upon which students might develop personal theories of reading and to help make them more effective users of language.

This chapter has been a summary of what is known about how the creation of language and the development of concepts are both brain-based human activities. As
such, it provides a foundation for trying to understand what humans do cognitively with
the language they create when they participate in literature. These surveys of the
theoretical foundations of the duality of language, both as personally invented and
culturally shared, as presented in this and the previous chapter facilitate the introduction
of the theory of cognitive resonance in the next chapter.
CHAPTER 4. THE THEORY OF COGNITIVE RESONANCE

The theory of cognitive resonance attempts to move the question from how the individual creates language to how the practice of language makes and uses literature. This is a robust theory of how knowledge is created and learning takes place within discourse, that is within the dynamics of verbal exchange or discussion, and as such it could also have implications outside of literature. The focus of this thesis, however, will be limited to literary discourse only, which is quite broad in and of itself.

Cognitive resonance speaks to a dynamic condition of the mind in the belief that literature as a practice of language, although it has external material representations in the form of physical texts and historic contexts, is enacted only in the mind. The theory of cognitive resonance says that when a person is engaged in discourse – reading, writing, speaking/signing, hearing/interpreting sign language – his or her mind compares what is read, written, heard, said, or signed with knowledge already stored in memory and from that comparison generates new knowledge. Rather than a general theory of knowledge, cognitive resonance is more a theory of imagination and of how imagination creates knowledge. The knowledge thus created is always and necessarily new; it is not what had been already known or what had just been perceived. This process is complex, dynamic, and recursive. For one thing, the knowledge already known and put into play could have originated in any mode of sense perception – touch, smell, vision, etc. – and it
possibly consists of mixed modes. What is already known often comes from that area of
cognition deeper than consciousness, but it could also be present in active consciousness
without having been brought out of the unconscious memory (see Jackendoff 1996, 179-
208). The perceived utterance that puts the already known into play can come from any
discourse: from conversation, from listening, from reading, or even from, for want of a
more precise term, verbal thinking, that is thinking in words. The utterance, then, could
be self-generated in the normal course of speaking, writing, or thinking; this is what
happens when one just listens to oneself. Thus, the new knowledge generated in the
process of cognitive resonance could recursively become a new utterance or, added to the
supply of already known knowledge, could be used to resonate with the next utterance
experienced to keep the process moving. In this way, the dynamics of cognitive
resonance could be highly interactive. One might explore the possible implications of
cognitive resonance within the fullness of the human mind beyond language and
literature – in those faculties that work with visual and plastic arts, with music, with other
phenomena such as performances – but for here and now the focus must be limited to
literature.

The term utterance in this description of cognitive resonance was deliberately
selected over terms such as word, statement, etc. The use of the term picks up on
Mikhail Bakhtin’s use of utterance in his many texts. To exploit the richness of
cognitive resonance as it is applied to literature requires a fuller understanding of the
dialogic nature of discourse as expounded by Bakhtin and which will be expanded upon
in this chapter.
As originally formulated the theory of cognitive resonance was a metaphor for mental processes not yet understood. The term cognitive resonance comes from acoustics. Resonance describes what happens when sound energy strikes a surface that has harmonic sympathies: the surface transforms the energy by propagating a new sound with overtones different from the original sound. Resonant sound is generated by the resonating surface, and as such, it has a slightly different wave structure from the original because its wave characteristics are imparted by the properties of the resonating surface. Resonance is different from echo; echo occurs when sound energy strikes a surface incapable of responsive vibration. Instead of propagating a new sound with different wave characteristics, the echoing surface reflects back the original sound with the same wave structure as the original; it does not add to, augment, or otherwise change those wave characteristics.

The inspiration for the theory of cognitive resonance was Vygotsky’s concept of the *zone of proximal development*. The zone of proximal development is a measurement of the difference between a learner’s measured mental age and any additional accomplishment beyond that limit which the learner is able to achieve when aided by hints and prompts. The zone describes learning in process but not yet completed. To determine the zone of proximal development, a baseline is measured by testing the subject for specific knowledge unaided. The test questions become increasingly advanced until the process reaches a point where the test subject cannot produce any more correct answers. The measurement of that performance is expressed in terms of mental age. After a mental age measurement is taken, the tester continues to ask more
advanced questions but this time provides prompts and hints. With these aids, the test subject may continue to come up with correct answers. The test continues until the test subject, aided by prompts, can no longer answer questions correctly. That second measurement marks the limit of partial knowledge also expressed in terms of mental age. The difference between the second measurement of the upper limit of knowledge and the baseline represents the zone of proximal development, a fertile area in which learning can take place (187).

When one rereads Plato’s *Meno* in light of the concept of the zone of proximal development, one might form a different conclusion from the one offered by Socrates about the accomplishment of Meno’s servant. In the *Meno*, Socrates demonstrated his belief that learning consists of recalling ideas that one already knows and that teaching, per se, does not exist. To demonstrate this, Socrates led one of Meno’s young servants, who had no training in geometry, through the steps involved to determine the length of the side of a square that is double the area of a square of already known dimensions. Although the servant protested that he could do no such thing, Socrates led him through a process of answering very specific questions one by one. In so doing, the servant arrived at the correct answer. In other words, although he did not know the answer unaided, the servant could determine the length of the side of a square that is double the size of a square of already known dimensions when he was prompted by Socrates’ questions. Socrates’ explanation was that during one of those lengthy periods between incarnations the servant’s soul had been exposed to ideal forms, including the form for this geometric problem. As a teacher, all that Socrates had to do was prompt the servant to recall what
he already knew (81c-87c). A simpler explanation consistent with Vygotsky would be that the solution to the problem lies in the servant’s zone of proximal development, so that with sufficient prompts, the servant could find the answer – that is create new knowledge – through dialogue with Socrates. Socrates’ exercise can be compared to Vygotsky’s zone of proximal development to suggest a way that knowledge can be created out of dialogue: utterance answered by utterance. In this instance, knowledge is used in its broadest sense as the state or fact of knowing, what has been perceived or learned, or awareness of or what has been understood through experience. This thesis does not offer proofs of truth or a philosophical theory of knowledge. Having noted that, one can then take Vygotsky’s zone of proximal development to suggest a dynamic cognitive process in which a number of developmental activities can occur, including aesthetic practices such as literature. The insight into the epistemic power of dialogue provided by the Meno was one of the germinating thrusts behind the theory of cognitive resonance.

To understand the theory of cognitive resonance from a different perspective, this thesis turned to Bakhtin to better understand dialogue and dialogics. What was particularly appealing about Bakhtin was the complex fullness with which he explored the concept of dialogue, especially the dynamics that occur at the boundary between speaker and hearer where said words are simultaneously heard words. That boundary occurs at the mental structure called inner speech, a liminal concept that will be developed in more detail later. For the moment it is important to understand that although dialogue implies two or more parties, the speaker could also be simultaneously
the hearer. The speaker and hearer might be using sign language rather than vocalized speech, which means that the parties to the dialogue need not necessarily be speaking or hearing but could be signing and interpreting sign language. In the case of writing, the writer would likely be simultaneously reading and interpreting the text as he or she produced on the page or screen. Reading or interpreting written text, that is a text transcribed in a linear phonetic code, becomes a verbal act at the level of inner speech. This means that although engaged in silent reading, the reader hears the text (or sees the signs for the text if a native user of manual sign language) if only interiorly. This understanding does not conflate the terms speaking, hearing, writing, reading, manual signing, and interpreting manual signs into a single act, but rather the parties engaged in the complex set of dialogic operations that generate language are not limited to a single mode of language at any time. They engage in as many modes as are appropriate for the task at hand. One point stressed in this chapter is that although the stimuli for language are for the most part external, and they do not have to be, the practice of language itself is always internal, that is the dynamics always occur as conscious understanding, i.e., inner speech. If it is true that the practice of language is always internal, that should have a major impact on how one looks at and studies literature as the artful practice of language. This idea will be explored in much greater detail in the next chapter.

Bakhtin may not be unique in the way he addressed some of these issues, but Bakhtin’s writings, including those texts of disputed authorship ascribed to Medvedev, Vološinov, and possibly others of the Bakhtin Circle, contributed initially and significantly to working out the theory of cognitive resonance. The four essays having
the greatest impact on the original development of this theory include two that were translated and excerpted from Valentin Vološinov’s *Marxism and the Philosophy of Language* (1929) and reprinted as “Critique of Saussurian Linguistics” and “Language as Dialogic Interaction” in *The Bakhtin Reader* (1994). Two other later essays attributed directly and solely to Bakhtin are “The Problem of Speech Genres” (1953) and “The Problem of the Text” (1961) translated and reprinted in *Speech Genres and Other Late Essays* (1986).

Vološinov’s *Marxism and the Philosophy of Language* established the principle that the utterance is the actual unit of speech, rather than the word or the sentence (59). This distinction is critical to understanding the practice of language rather than merely attempting to describe its structure. Bakhtin expanded on these concepts in “Speech Genres,” by describing utterances as complete units with absolute beginnings and ends marked by a change of speaker or a relinquishing of the floor to another. Thus, an utterance can be as brief and expressive as a grunt or as lengthy as a speech (71-72).

No utterance stands alone. Rather, it is a link in a chain that looks forward as well as back. The chain of utterances as introduced by Vološinov in *Marxism and the Philosophy of Language* and subsequently expanded upon by Bakhtin in “The Problem of Speech Genres” and “The Problem of the Text” has nothing to do with the chain of signifiers introduced by Saussure and played upon by Derrida. These resources share the common metaphor “chain” but use it in such different ways that no productive comparison can arise between them.
Bakhtin’s disagreement with Saussure and the Russian formalists of his day was a two-fold issue having to do with the actively dialogic nature of language and with the concept of *heteroglossia*. It had nothing to do with chain of utterances versus chain of signifiers. In *Marxism and the Philosophy of Language* and again in “The Problem of Speech Genres” and “The Problem of the Text,” Bakhtin expressed that analyses which depict a speaker and a passive listener were “scientific fictions” that did not deal with the dialogic relationships in which utterances take place. In Bakhtin’s dynamic, speaker and listener are actively engaged in responding to the current utterance with previous utterances, because he or she is not “the first speaker, the one who disturbs the eternal silence of the universe. And he presupposes not only the existence of the language system he is using, but also the existence of preceding utterances” (“Speech Genres” 69). The utterance the speaker is about to make will become another preceding link to future utterances that respond to it in this complexly dialogic chain. Where Bakhtin (or his translator) used the term *speaker*, one can take it to mean *writer* or *manual signer* as well; in this context a speaker is anyone who practices language including one engaged in internal dialogue as inner speech.

In the Bakhtin’s sense, chain is one of utterances and responses to utterances rather than an endless set of differences. The way in which “chain of utterances is used here, a preceding utterances could be those of the speaker as well as those of others. Not only are utterances thus linked, but each utterance in the chain responds to a previous utterance and will be responded to in turn – a point fundamental to Bakhtin’s concept of dialogue. Cognitive resonance describes the dynamics that generate those responses at
the cognitive plane of inner speech. The chain metaphor is especially important here rather than string, because utterances are not strung together sequentially or linearly but are dynamically linked forward and back to respond to the current utterance with previous utterances and to anticipate future utterances.

The concept of heteroglossia will not be taken up at this time except for this brief explanation. As expounded in the essay “Discourse in the Novel” (1935) translated and reprinted in *The Dialogic Imagination* (1981), heteroglossia seems to be a corollary to the dialogic nature of language. Rather than there being only one static formal language and one monolithic informal language, as Bakhtin found was often presented as examples by linguists, heteroglossia says that within social language groups, such as a national language like American English, there are actually multiple layers of languages stratified by social classes, professions, genres, periods, etc. These various layers of language within the one national language provide centrifugal forces that keep language alive and constantly developing by opposing the centripetal forces of culture, custom, and in some cases laws that try to keep language stable (271-72). Examples of legal institutions that attempt to institute and maintain linguistic stability are the Maoist language reforms of 1949 in China that led to simplification of Mandarin orthography and the transliteration of Chinese words into the Roman alphabet or *l’Académie française* charged with the purity of French.

In Bakhtin’s hermeneutic, participating in the chain of utterances is never a passive experience:
The fact is that when the listener perceives and understands the meaning 
(the language meaning) of speech, he simultaneously takes an active, 
responsive attitude toward it. He either agrees or disagrees with it 
(completely or partially), augments it, applies it, prepares for its execution, 
and so on. ("Speech Genres” 68)

This actively responsive attitude is the participant’s position while engaged in the 
dialogic encounter and will result in some kind of understanding. If the encounter results 
in no understanding, then one can presume no dialogic encounter took place. Regardless, 
the listener’s understanding will not be the same as the speaker’s, because the listener 
enters the chain of utterances at a different place with different experiences, precedents, 
and expectations from the speaker. The listener may not have attended completely to the 
speaker’s utterances and thereby understands something totally different from what the 
speaker intended. The listener may draw upon a different semantic supply from the 
speaker’s thereby creating a totally different meaning for his or her understanding. 
Furthermore, the listener does not give the speaker stoically faithful attention so that a 
listener may grow inattentive or stray mentally or become distracted. In fact, the 
distraction may be generated by the listener’s own response. Those lapses signal the end 
of that particular dialogic moment, but another can begin immediately. In any actively 
dialogic situation, when one speaker’s utterance is completed, another speaker who had 
previously been a listener may then become speaker, and the previous speaker may 
become listener. Language acts are reciprocal, not in the sense of give and take or barter 
and trade, but in the sense that speaking and hearing are two sides of the same act. This
idea of reciprocity, of the utterance as bridge between the subjective self and the other, territory shared by speaker and interlocutor, appears frequently in Bakhtin’s writings.

In “Discourse in the Novel,” Bakhtin further developed the theme of responsive understanding as a fundamental force in the dialogic relationship. This study will pick up and expand upon that theme in Chapter Five, but for now, it is important to see how understanding on the part of the listener or reader is an actively responsive condition. Through active response, the listener/reader brings the utterance into his or her own conceptual system. Bakhtin explained that inside this dynamic, response is the activating principle and any understanding is impossible without it.

As much as Bakhtin’s work opened up and amplified the theory of cognitive resonance in formation, the theory itself seemed encumbered by its metaphoric nature. It seemed doomed to languish in this state, unable to find the kind of experimental or intellectual support needed to move out of the metaphorical and into the biological until the publication of James H. Bunn’s Wave Forms: A Natural Syntax for Rhythmic Languages (2002). Although literature studies probably demand no more than a metaphorical structure for a theory like cognitive resonance, the attempt to deal with language and literature as brain-based activities demanded a biological foundation. Bunn’s position is that the continuous helix, that is a continually spiraling wave form similar to the spring that holds spiral-bound notebooks together, is more than a metaphor for the generation of language. He called it an archetype, “because the speech acts of language are physical elements that puff and billow through the waves of breath” (5). He went on to state that “If the brain transforms helical wave frequencies into images, light
and sound waves into pictures and speeches, then the brain is always following the moving form of a wave in its composition” (6). Had Bunn extended these descriptions of speech to manual sign language, he could have done so without emendation because the motions entailed in expressing concepts and inflection are consistent with wave forms, and of course the transmission of sign language from one person to another is mediated by light waves. Building on this bio-physical foundation, Bunn developed a critical theory in which language and the content of poetry can be analyzed in terms of periodicity and repetition. Bunn’s application of wave theory to literature liberated cognitive resonance from its metaphorical cocoon and metamorphosed it into a physical brain-based phenomenon that takes place as part of the conscious mind.

The parallels between Bunn’s work and cognitive resonance are striking. In the “Preface” he staked out his purpose clearly: “I seek to reshape a theory of natural language and help restore it for literary studies” (x). This compares with the stated purpose of this inquiry to uncover and embrace a workable theory of literature. Drawing on many of the same psycholinguistic works cited in the previous two chapters of this study, Bunn made a case for the brain as a transformer of wave frequencies that originate in sound and sight into mental images. As spoken, manually signed, or written language, then, these audio or visual wave frequencies supply the phonemic foundations of utterances and their responses. The linguistics of manual sign language also uses the term phoneme although its manifestation as a physical sign is quite different from speech.
Although Bunn worked out his theory with the more complex helical wave form that turns on itself, the shape of life in the form of the DNA molecule, such wave characteristics as periodicity can also be ascribed to the fundamental sine wave which is a more familiar concept. The periodic peaks and troughs of wave forms excite sensation, but it is not the active presentation of the wave form as the energy expressed through its peaks; rather it is the troughs, the gaps between their active presentations, that separate the bursts of energy and make it possible to perceive patterns in waves. These periodic patterns express language in a way that resembles Pinker’s Motherese, the prosody that sets boundaries to delineate words and sentences in the development of language. Bunn suggested:

It is useful to distinguish between an underlying syntax of wave shapes that really carries and propels the message in a direction, whereas grammars can be seen as compositional rules that segment, stop, and divide the phonemic form of waves into lexical arrangements. (53)

His description of the wave forms of thought resembles the reflective action of a bow that is bent back only to spring forward. Language, like other wave-based phenomena, is translated forward, propelled by the energy of the wave, and “thought itself is a patterned combination of retrospection and anticipation” (43). *Translate* here is used in the sense of to transfer or move from one place or condition to another rather than in the traditional linguistic sense of to render into a different language.

Two terms that are key to Bunn’s argument are also germane to cognitive resonance: *amphibian* and *rhyme*. An amphibian is an in-between thing, something
equally at home in one medium as another and therefore not properly at home in either. As such it is both either-or and neither-nor (71-73). Like Bakhtin’s chain of utterances, the wave forms that become verbal thought, the retrospection and anticipation, are amphibians of time and space in the cerebral cortex where one’s consciousness is “always Nowhere and Nobody, ranging around ‘in’ the future and ‘in’ the past” (146). The amphibious nature of language, then, permits it to translate an utterance from one head into another. The new utterance that results from cognitive resonance, the new utterance that is neither the just-perceived utterance nor previous knowledge that responds to it is amphibious at least momentarily during the liminal phase of its coming into expression.

The wave forms that Bunn attributes to language are not metaphors; rather they are descriptive of the physical nature of language. The vibrations of speech or recorded audio texts, the optical waves that transmit images of hands in signing motion, the impulses of light emanating from the written or printed page, computer screen, or video monitor are all physical stimuli, manifestations of physical energy in wave form. Regardless of what technology mediates a text, the text can be perceived only through the fundamental mediation of energy waves. The conversion of these stimuli into neural impulses in the ear, the eye, even the fingertips of the Braille reader are also physical, as is the translation of these neural impulses, as waves, to be transformed into electrochemical events in the brain. The characteristics of those waves – their frequency and amplitude, their fundamentals and overtones – is what forms the patterns of speech at the conscious level of inner speech and through that portal into the unconscious level of
thought itself. Within this environment of physical wave forms, the possibility of wave interacting with wave, and wave interacting with mental media, also makes possible the harmonic response that is cognitive resonance.⁶

In developing his argument, Bunn described how the “amphibious compound of retrieving and predicting is a rhyme” (146). Phonetically, rhyme is sound that is the same and different simultaneously. Conceptually, rhyme can also be utterances or thoughts that are similar but different. It is this rhyming approximation, that is the either-or, neither-nor attributes of discourse, which explains how cognitive resonance works.

The original analogy of cognitive resonance was to the harmonics of like-tuned surfaces when encountering tones of specific frequencies. In light of Bunn’s theory, a more apt analogy for cognitive resonance might be *Orchestral Presence*, which indicates a fuller application of harmonics to an ensemble performance. Orchestral Presence was a trademark name the old Wurlitzer Company gave to a feature on its electronic organs where each voice was generated slightly out of phase in relation to the others thereby producing a richer, truer orchestral sound. It was so called because the effect of the feature was to produce the sense that the hearer was in the presence of an ensemble of musicians and instruments instead of only one. If every voice in an ensemble were identically the same and sounded in perfect unison, regardless of the number of different voices sounding, listeners would perceive one voice only. The slightly aphasic quality of orchestras – members playing with slower or faster attack, slightly higher or lower pitch, voices with more or fewer overtones, etc. – both separates the individual voices while also producing resonant sound events that make the ensemble sound fuller than it actually
is. Any ensemble of musicians and instruments, including the human voice, will produce this sense of fullness because achieving absolute unison is impossible.

Rather than similarity, the feature of orchestral presence depends upon slight differences within similarity – a quality natural to an ensemble but difficult to achieve without technology capable of producing random phase differences in a multivoiced single instrument like an electronic organ. In those dialogs that constitute the practice of language, there are always differences even when two utterances may sound alike or are repeated. Two utterances can never be the same precisely because of the recursive nature of cognitive resonance. Each reiteration makes it a new utterance, with a slightly nuanced difference in meaning from the previous iteration. These differences in dialogue contribute to a fullness of meaning in a way comparable to that in which Wurlitzer’s Orchestral Presence feature produced a fullness of sound from a single instrument.

Moving from wave theory into aesthetic theory, Bunn drew upon the concepts of symmetry and the conservation of energy. All matter assumes a periodic shape in its simplest form according to its specific physical laws of composition. His example was a three-bowled ladle from the Anasazi culture of the American Southwest. When this symmetry is disturbed, the matter reacts in a predictable way until symmetry is restored (269-70). Thus, the periodic shape of water in a container is smoothly fluid, with a glassy surface that appears flat and reflective of incidental light waves. Then when a pebble disturbs the surface of a body of water, kinetic energy forces the aqueous matter to assume a different shape which is translated into waves that move outward from the point of impact. If the body of water is small enough those waves may be reflected back
by the rim of the container in complex patterns of overtones until the energy is dissipated and the original symmetry restored.

This dynamic presents a problem to the conceptual category of water or at least of water at rest. In *Patterns in the Mind*, Ray Jackendoff suggested that in sorting through conceptual categories, the mind innately establishes its own symmetry, one that makes marginal members of the category or differences intolerable. For Jackendoff, differences create some degree of cognitive stress. His example is the impulse that makes people want to straighten a picture that might be hanging crookedly. Jackendoff’s conclusion is that there is something satisfying about ideal categories that make humans happier than marginal categories (182-83). He did seem to contradict that conclusion in his final thoughts when he wrote about the human tendency to reject the rational in favor of the beautiful (219-22). The theory of cognitive resonance suggests a different approach to the aesthetic that has nothing to do with ideal and marginal categories. Perhaps the mind is not so much aware of differences, i.e. of deviations from ideal categories, as it delights in novelty, i.e. the new utterances, thoughts, or ideas produced by cognitive resonance. Jackendoff’s seeming contradictions might be better resolved in what Bunn has written and what this study supports: aesthetic events occur within the sameness and difference of rhyme, and cognitive resonance is a dynamic response to these differences.

Literature, that is the artful practice of language, generates aesthetic value from the resonant layers of new meaning created within a richly concentrated dynamic experience of the chain of utterances. The cultural or ideological lens through which the literature is seen or projected will measure the quality of that aesthetic value relative to
the cultural in which either the text is situated, the reader is situated, or both. The aesthetic value of any text will have different qualities to different readers from different cultures. Chapter Two discusses the idea that “literature encompasses all texts that express observations, thoughts, or works of imagination and that generally exclude technical information: mathematics, scientific reports, instructions, acts of legislation, etc.” Works of the imagination do not concern themselves with the restoration of symmetry but rather with the impulse to create something new, initially in the mind but eventually taken out of mind to be written as literature or to be performed in some other artistic endeavor. Thus, works of the imagination occur in painting, in sculpture, in musical composition, in dance in addition to the literary work which is the artful practice of language. Recalling Leroi-Gourhan’s thesis that “tools and language are prehistorically linked and cannot be disassociated within the social structure of humankind,” (114) one can also list technological advancements as works of the imagination. The copia of imaginative works that find their realization in the various expressions of art and technology tends to blur the boundaries that separate the various modes of expression. Nonetheless, for this discussion literature is limited to that practice that imaginatively creates an abundance of new ideas, thoughts, and feelings out of the use of language alone. Perhaps it is the abundance and quality of the newly created products of language that further distinguishes literature from other practices of language.

If one were to take another look at Bunn’s concept of symmetry restored, he or she might find that it is impossible to restore symmetry truly in the same way that it was impossible for Heraclitus to step into the same river twice. Although symmetry appears
to be restored, the minimal difference between the original condition and the restored condition includes the time elapsed, the energy added and attenuated, and the condition as restored rather than original. So in the case of Bunn’s Anasazi ladle, where “all these simple shapes assume an optimal form that is mathematically related to geometry by conservation principles,” (270) that form is different from the form of the three original bowls and the product of that difference is a work of art. Taking another look at Jackendoff’s picture hanging crookedly, perhaps there is a tension arising out of the difference between its condition and that of an ideal category of picture hanging straight on a wall. The pleasure in straightening the picture might arise out of the tension which prompted the act of straightening the picture and not in the restored symmetrical condition of the picture.

The creative power of cognitive resonance is generated by difference and asymmetry, just as the full sound of the orchestra is generated by differences. Bakhtin’s chain of utterances is also about differences, among other things. Within the chain of utterances, differences are produced even where none appeared to exist as in an utterance that may be repeated, because each succeeding same utterance is rendered different by resonating with the utterance to which it responded. One could argue that there exists nothing but differences, and in the Heraclitean sense, this would be true and would present the same problem that plagued Plato: a world that is unknowable. Derrida deals with this problem with différance as a philosophic strategy that recognizes unending difference among the members of an unending chain of signifiers and that chooses to defer or postpone settling on a meaning or collection of meanings. Derrida’s strategy
offers pleasure in the play while actually putting very little at risk. A different approach to the problem, which is hardly a solution, would be to step into that river of language and, while reveling in the differences, choose a position for the time being, regardless of how brief that time may be, and move on. This can be said about literature and all the arts: Without asymmetry, without difference, there is no rhyme, no cognitive resonance, and no art.

The way cognitive resonance creates art may go even deeper into the interface between verbal thought and unconscious thought. A common theme that runs across contemporary psycholinguistic literature, and which was noted earlier in Vygotsky and Bakhtin, is the silence of thought itself. Jackendoff stated that thought is not available to consciousness, and what one hears as thinking is only the conscious manifestation of thought and not thought itself. Thought can also manifest itself consciously in the other sensual modes besides the sounds of language as nonlinguistic sounds, music, images, smells, textures, etc. This contradicts a long-standing tradition which believed that thought depends on verbal language. One of the reasons Jackendoff offered for his conclusion that thought is not available to consciousness is that language alone would be incapable of generating the multisensory manifestations of consciousness. (1994 184-203; 1996 179-208). In addition to the language module, Jackendoff described neural modules similar to language in which humans acquire visual and musical skill through syntactical structures. One of his arguments for separating unconscious thought itself from the conscious verbal or visual manifestations of thought arose out of observing intuition. He argued that the arrival of a sudden conclusion without conscious awareness
of the process of getting there is possible only if thought is unconscious (1994 87-88).

Vygotsky wrote that “thought does not express itself in words, but rather realizes itself in them [emphasis added]” and even then it frequently fails to enter into words or at least into words that accurately and effectively express the thought (252). It is a common experience of even the most articulate of us that we sometimes stumble over words in attempting to express a thought. This is again echoed in Pinker in that “sometimes it is not easy to find any words that properly convey a thought” (58).

The theory of cognitive resonance helps explain how language and literature operate imaginatively in relation to the multisensory content of consciousness and to the silence of deep thought. (Cognitive resonance may account for imagination altogether although a study of that magnitude is far outside the scope of this thesis.) One of the familiar responses to literary reading especially, besides the interior voicing of the words on the page, is the generation of multisensory images (visual, aural, olfactory, etc.) that enliven the text. These images are not the product of the text itself or of reading directly; rather, such images are responses to the utterance that is the text and their source is thought itself as memory. These images, called into consciousness by reading, supply the already known material out of which cognitive resonance can generate new knowledge. This generation of images also occurs in listening, in speaking, in writing – in all the dialogic activities that constitute language.

Cognitive resonance also occurs in to those circumstances when thought fails to realize itself in words. Bakhtin suggested that this could be a problem with mastery of certain social or literary speech genres outside of one’s normal sphere of communication.
He observed that “people who have an excellent command of language often feel quite helpless in certain spheres of communication” (1986 80). There are likely other causes of ineffability than attempting to work in genres beyond those with which one has had practice, but Bakhtin’s discussion of generic issues said that such ineffability was not a problem of impoverished vocabulary or lack of style. For purposes of this argument, it is important only to acknowledge that there simply are those times when one has thoughts that cannot be easily or effectively put into words.

Approaching the problem of the ineffable from the perspective of the reader rather than the speaker or writer, an otherwise unspoken thought may well have come to fruition emotionally or in nonlinguistic imagery, and so the problem is limited to language. Then, perhaps one of the characteristics that makes a particular text literature or of a more appreciable quality as literature has to do with the way it resonates with thought that the reader might have, which he or she cannot yet realize in words. If reading a particular text helps give words to an otherwise ineffable thought, in terms of cognitive resonance, those new words that clothe that thought and any future verbal responses that those new words will help generate will comprise new knowledge. This application of the concept of cognitive resonance is consistent with dialogics as backward-forward, future-past, in-out, multi-utterance experience. From this perspective, cognitive resonance adds a further dimension to our concept of literature and the literary. One might then say that a text that resonates with the ineffable, thereby giving it voice, is another way to determine what may be called “literary.”
Cognitive resonance does put a name to the mental processes in which relationships overlap and provides insight into the boundary between speaker and hearer where said words are simultaneously heard words. The site of those processes is what Jackendoff called the conscious manifestation of thought. From a linguistic and literary perspective, it is what Vygotsky, Bakhtin and others called inner speech. Inner speech is that liminal mental space where cognitive resonance occurs and where texts are acted upon by active speakers/readers, listeners/writers. The next chapter will explore how literary texts are performed as inner speech.
CHAPTER 5. TEXT AS INNER SPEECH

Denis Donoghue’s critical essay, “Orality, Literacy, and Their Discontents” (1998) begins by troubling over aspects of William Butler Yeats’s poem “A Deep-Sworn Vow.” Three pages into the essay, Donoghue’s text starts to wrestle with the voice of the poem, trying to identify a speaker who is not the poet and without falling into the trap of the intentional fallacy. It was the title of Donoghue’s essay that made it attractive for this inquiry, and it was that troubling over the issue of voice that kept it in the list of resources. “I construe the voice as a sign of personal presence, hypothetical no doubt, the presence of a textual self, not necessarily ontological, but sufficiently stable to last for the brief spell of the poem” (111).

The way Donoghue approached the issue of voice opened a new salient into the problem of consciousness for this thesis. A reader can identify a persona of sorts indicated by the voice of the poem that is more than hypothetical. The voice of the poem is the reading voice of the reader; the I of the poem is the reader’s imagination as it makes meaning as inner speech. The purpose in citing Donogue’s struggle with the voice in the poem is to focus our attention on inner speech as the site where readers process literary texts, i.e., the site where literature is performed.

As inner speech, thoughts that work on or emerge from a text become manifest in words, images, smells, shapes, textures, etc. As noted in the previous chapter, thought
itself is silent and inaccessible to consciousness. When Pinker explained that thought uses symbols or representations of concepts and arranges them according to consistent schemes, one might assume that what he was writing about was not thought itself but the *manifestations of thought*. According to Pinker these symbols do not have to look like any specific language, although they could, and they also could include numbers, shapes, colors, etc., as well as things and actions (245-47). In *Patterns in the Mind* Jackendoff described neural modules similar to language in which humans acquire visual and musical skill through syntactical structures. These modules fit into a general scheme of a combinatorial brain structure that enables storage of a finite number of simple concepts that Jackendoff called *conceptual primitives*, which can be combined and recombined infinitely into more complex thoughts by patterns of *conceptual grammar* (187-88).

Pinker’s representations of concepts and Jackendoff’s theory of multiple modules working cooperatively together offer a flexible and workable approach to the complexities of cultural artifacts, especially literature. Their theories impose a perspective on the idea of multiple brain modules capable of supporting multiple modes of expression and transmission, suggesting that the brain is capable of working skillfully and imaginatively with language by drawing upon thoughts and memories from whatever mental modes in which they are available.

The concept of inner speech has long standing in psycholinguistics. The literature credits Wilhelm von Humboldt (1767-1835) with the discovery and naming of inner speech, a credit that is spelled out in Alex Kozulin’s notes to Vygotsky (267 n 11). What Pinker described as *thought* relates closely to Vygotsky’s discussion of predication at the
level of inner speech. It is possible that Pinker’s treatment of thought is really a
treatment of inner speech. It is also possible that Jackendoff’s concept of manifestations
of consciousness relates to inner speech, too. Electronic mail messages from Laura-Ann
Petitto (2002) and Karen Emmorey (2002) confirm a parallel function to inner speech in
deaf sign languages, which Emmorey termed submanual rehearsal or inner signing.
Therefore, as an element of cognition between the silence of thought and the clamor of
speech or the excitations of signing, inner speech is a well-known and accepted
psycholinguistic concept.

Vygotsky described the difference between external and inner speech this way:
“While in external speech thought is embodied in words, in inner speech words die as
they bring forth thought. Inner speech is to a large extent thinking in pure meaning”
(249). Chapter Three discussed how Vygotsky traced the ontogenetic development of
inner speech from external egocentric speech when he observed how thought and speech
were interrelated in a complexity of ways that change and develop with growth. Thought
also undergoes many changes in order to find its reality and form in speech. The
beginning of verbal thought occurs when the learner can abstract the word from the
object it represents. At that point in linguistic development, meaning or semantics begins
to separate from sound or phonetics.

Our experimental results indicate that the function of egocentric speech is
similar to that of inner speech. [. . .] Its fate is very different from that
described by Piaget. Egocentric speech develops along a rising, not a
declining curve; it goes through an evolution, not a devolution. In the end, it becomes inner speech (228).

Like egocentric speech, inner speech is speech for oneself; external or vocalized speech is for others. The only aspect that truly diminishes as egocentric speech moves inward to become inner speech is vocalization. Even then, some individuals, perhaps all of us at one time or another, display some externally voiced aspects of egocentric speech when we talk to ourselves out loud. Vygotsky said that observing a decrease in vocalization indicated to him that the child was developing an abstraction from sound and with it the ability to think words instead of having to pronounce them aloud.

Aside from its decreased vocalization, the main characteristic of inner speech is its syntax. Compared to external speech, it seems disconnected and incomplete. Inner speech tends to omit those words that make up or connect to the subject of a sentence while concentrating on the predicate. Vygotsky observed that there are also two instances when pure predication manifests itself in external speech; they occur dialogically when answering a question or when all the parties of the conversation already know the subject. A literary example of this kind of predicative dialogue occurs in the chapter entitled “Title” of John Barth’s Lost in the Funhouse (1988):

No turning back now, we’ve gone too far. Everything’s finished. Name eight. Story, novel, literature, art, humanism, humanity, the self itself.

Wait: the story’s not finished. And you and I Howard? Whispered Martha, her sarcasm belied by a hesitant alarm in her glances . . . (107-8)
This passage might be better indicated dialogically like this with the separation of the paragraph into multiple lines suggesting at least two, possibly more, speakers:

“No turning back now, we’ve gone too far.”

“Everything’s finished.”

“Name eight.”

“Story, novel, literature, art, humanism, humanity, the self itself.”

“Wait: the story’s not finished.”

“And you and I Howard?”

Whether internally imagined or externally expressed, this interchange is clearly dialogue, i.e., utterance and response.

Not just predication but abbreviation in general is a strong feature of internal speech. Vygotsky found it instructive to compare abbreviation in inner, oral, and written speech or language. Among the functional distinctions of language, Vygotsky suggested that those between dialogue and monologue help explain the extent to which these different modes of speech expression use abbreviations. However, in trying to come to terms with mediated text in the study of literature, one could arrive at a slightly different concept that will be developed in the next few pages and which raises sufficient doubt about the status of monologue as the opposite of dialogue.1 Perhaps Vygotsky erred in categorizing monologic/dialogic distinctions among inner, oral, and written language and perhaps language at all three modes if not truly dialogic is at least the product of dialogic processes. Nonetheless, Vygotsky performed a great service in raising this question, because confronting the issue helps to determine the extent to which all aspects of the
practice of language, including literature, are essentially dialogic especially when manifest as inner speech.

According to Vygotsky, linguists consider dialogue as the natural form of oral speech, and this seems a perfectly reasonable observation. Oral speech as conversation requires speaking partners familiar with the subject enabling them to use abbreviated speech. Under some circumstances they also use predicative sentences. Oral dialogue presupposes that the speakers can see each other to observe facial expressions and gestures and to hear the tone of their voices. This kind of dialogue draws on additional content-rich modes of expression than oral utterances alone, so it may be more than just familiarity with the subject that supports abbreviated speech in conversation.

Although conversation favors abbreviated and predicative speech, it does not favor complicated formulations because of the speed at which the dialogue takes place. Utterances are instantaneously present and immediately gone. What abides, if anything, is the new knowledge generated by cognitive resonance in the minds of the participants, outcomes that will be different for each partner because of differences in interpretation and available knowledge. As part of a rapidly ephemeral speech experience, dialogic responses to oral conversation consist of unpremeditated utterances; conversation then occurs as a chain of reactions. It is this quality of immediacy and somewhat extemporaneous responsiveness that reduces the ability to produce complicated formulations in oral conversation.

Before closing out the category of oral speech and completely eliminating the possibility of monologue, one must raise the issue of debate to see how trying to
distinguish between monologic and dialogic speech on the basis of mode is fraught with difficulty. Although oral in mode, debate is not as immediate or spontaneous in the way that conversation is because the exchanges are usually formal, utterances are often anticipated, and frequently responses have already been formally prepared. Even in conversations where the exchange may be anticipated, the degree of informality allows for greater chances of spontaneity. This characteristic of debate as formally prepared speech is consistent with classic rhetorical theory from Aristotle through Giambattista Vico. Expressing a position in a debate is more like producing a written text as Vygotsky described it (below) than like carrying on conversation, but does that make debate monologic in the way that Vygotsky thought writing was monologic?

Vygotsky determined that both written language and inner speech were monologic. Written language has none of the supports or restrictions of oral speech. Tone of voice, physical expression, and presumed foreknowledge of the subject are not available to support the interpretation of a written text, so the writer must use more words and use them more precisely than would be permitted or appropriate for oral dialogue. The reader depends on it. In a written text, syntactic differentiation is at a maximum. The conventions of written texts lead writers to put on paper expressions that seem unnatural in conversation. Thus, abbreviated speech or predication is seldom found in written language in the way that it is in speech. Unlike speech, written language can present complex formulations with linguistic elaboration that can be attended to with consistent repetition in leisure and with intense consciousness. But is written language truly monologic?
Seldom have written texts been produced directly as first drafts; they are generally the products of iterative processes. The iterative writing process is essentially dialogic at the level of inner speech. Although the process that produces a written text is dialogic, the product after its production and prior to its reception appears to be monologic if one can say that ink on paper is language. This thesis will argue that decoding and interpreting mediated text is dialogic, but the dialogue occurs at the level of inner speech, following a decoding process similar to the encoding process that constituted the act of writing.

If one were to say that the ink stain which constitutes the product of writing is not language, then in that mediated state between composition and reading, written texts are never monologic nor are they dialogue. Mediated texts – writings, recordings, film, telephone calls, radio broadcasts, and other technologies of expression that preserve and transmit language and literature – are not themselves language or literature. They are something else. Ong suggested that a writer’s audience is a fiction (1982 102). If what he meant by “fiction” is something created out of the imagination, then this thesis argues that the voice of the author or the correspondent “out there” is also and always a fiction. With written texts, then, any dialogue between the author and the reader is also imaginary.

Instead, media interrupt the possibility of dialogue, and mediated texts, once produced, cannot produce or reproduce language until they are decoded and processed by the audience at the level of inner speech. Mediated texts are not language because they lack at least two of Pinker’s three characteristics of language; they are not infinite or
compositional, and in some cases not even digital. Linguistically, mediated texts are nothing – ink stains on paper, irregular grooves embedded in vinyl, electromagnetic radio frequencies, photonic waves propagated through fiberglass, iron rust on acetate, silver nitrate residue on celluloid. None of these things is language; they are all something else. If mediated texts are not language, there cannot be a linguistic connection between author and the audience. In fact, the media separate the language of the author from the language of the audience (Figure 1). The audience creates language resembling the author’s language by decoding the text.

![Figure 1. Authorial language and audience language separated by media.](image)

In this sense, author means speaker, writer, or creator of a literary text, and audience means listener, reader, or viewer. This separation imposed by the media can be of long standing or instantaneous. The idea that media separate author and audience is difficult to come to terms with precisely because of the fiction of “mediated language” which is somehow supposed to flow from author through the media to audience. Although there may be an organic social connection between individuals engaged in conversation, no such connection can occur between individuals separated by the
materials that constitute media. Coming to terms with media separation may be easier
when considering books and other printed materials than, say, a telephone call. With
printed texts, one can start with Ong’s idea of the fictional audience: there can be no
organic connection to an unknown reader. Once printed, a book can sit on a shelf for
years. During that time, nothing happens. If a reader ever opens that book, nothing will
happen to the text printed therein, either; it just lies there. Media can disintegrate with
age or wear, but physical wear is not the same as being consumed by use. Reading,
listening to, or viewing mediated text does not diminish the supply of information stored
therein. Even when telephony and broadcast signals dissipate, it is not because they are
consumed but rather because their mediated contents had not been stored. For printed
texts, it takes a reader capable of decoding the text to begin a process of interpretation,
but the process happens to the reader, not to the printed text.

This idea of separation by media is important to the theory of cognitive
resonance, because it helps to locate the performance of literature in an audience
separated from the author. In other words, the author’s performance of a mediated text is
completed upon production and is separate and disconnected from the audience’s
performance of the same mediated text. To push this illustration of separation by
medium a little further before dropping it, consider the separated conversation that
constitutes a telephone call. A telephone call is like a printed text or a recorded message
in that the language mode, in this case speech, is encoded onto a medium for transmission
and must be decoded before it can be processed as language.
Telephonic media generate illusions of connectedness comparable to the organic connectedness of social conversation. Although one could imagine that the sound one hears through the receiver is merely the mechanical reproduction of a voice, the technology works to create an even greater illusion. The white noise that one hears behind the reproduction of the speaking voice is not the reproduction of actual background noise. Processing the telephone signal from analog streams to digital packets and back to analog streams strips away the ambient background noise, and if left in that state, the reproduced speaking voice would sound disembodied. To complete the illusion of the presence of a speaking person, telephone technology electronically generates the white noise that produces an audio context to replace the original background noise processed out of the signal. Despite the illusion of a speaking presence, in that instant between when the speaker spoke into the transmitter and the listener heard a “voice” through the receiver, the utterance had ceased to exist as speech. What did exist, then, was a coded representation of speaking in the form of a modulated wave of electrical energy that could only be decoded by a device capable of delivering a simulation of a person speaking. All mediated utterances cease to exist as language when encoded in their respective media.

Decoding mediated text produces another utterance, different and separate from the original utterance that was transcribed and transmitted as mediated text. Unless the reader is reading aloud, the utterances that constitute the decoded text are manifest only in the consciousness of the person attending to the text at the level of inner speech, and it is the production of meaning within conscious thought that makes a text literature for the
reader. As far as it goes, this resembles Reader Response theory, but in next chapter
cognitive resonance will separate from Reader Response in some ways.

In this sense literature is so totally different from the other arts. In talking about
the transparency of the text in the Western tradition of codex publishing, Richard
Lanham noted in *The Electronic Word* (1993) that one looks *through* the medium to
create meaning from a text as reconstituted speech (4-5). In the visual and plastic arts
especially, one looks *at* the thing itself, at its shapes, colors, and textures, at physical
evidence of the artist at work in the form of brush strokes, chisel marks, selection of
material, etc. to experience the art. Literature, per se, is not praised for the selection of
media or typography. The aesthetic appreciation of typography, bookbinding, etc.,
occurs within a visual aesthetic, not linguistic aesthetic. So when the physical aspects of
a book are evaluated esthetically, it is usually not for the quality of the text but rather for
the craftsmanship of design, the quality of the paper, or aspects of bookbinding – none of
which have anything to do with the text itself. Because one deals with literary works on
a different plane from the physicality of the medium, it is easy to overlook how the
practice of language, and therefore literature, is a physical act.

Donoghue’s struggle with trying to impose an oral sense on a printed text only
begins to suggest some of the problems inherent in mediated expression. Although linear
writing represents codified speech and is capable of recording representations of speech,
it is highly limited in what it accomplishes alone, because it is not speech itself. The
written text comes into existence initially only as the result of dialogic processes within
the consciousness of the writer. Subsequently it lies cold and dead in the form of
impressions on a medium until it is reconstituted into language when an interpreter
skilled in reading consciously processes the text at the level of inner speech. Even in a
performance of oral reading before an audience, the reader must perform this internal
process before vocalizing the text externally.

This thesis suggested earlier that writing might be one of the modes in which
language manifests itself, because it satisfies Pinker’s characteristics of language detailed
earlier in Chapter Two: it is infinite, digital, and compositional. One could even defend a
position for the possibility of writing as a natural language in Derrida’s sense of writing
before the letter. It is conceivable that mythographic signs as described by Leroi-
Gourhan and discussed earlier in Chapter Two are the product of ontogenetic processes
especially in that they produce radial meanings through the relational arrangements of
images similar to the kinetic inflections of American Sign Language. On the other hand,
phonetic linear writing, whether alphabetical or pictographic, seems to be an artificial
language analogous to computer code. Phonetic writing is not ontogenetically developed
like speech and manual sign language. Rather it is a rigidly stable code that exists
outside the individual and must be learned as a nonspontaneous concept. As such, it is
clearly a technology of the hand rather than a language of the mouth following Leroi-
Gourhan’s distinction.

In order for a written text to become available to thought, then, it must be
decoded and translated into neural impulses appropriate for the language and thought
modules of the brain. This translation occurs at the level of inner speech. One might
speculate on the degree of additional translation necessary to native users of American
Sign Language and other forms of manual signing for whom speech-based English, German, Italian, Russian, etc. are second languages. It is likely that written texts in any language must first pass through this intermediary decoding and translating processes before it is available in appropriate mental modes of expressions for use by deaf sign language users. For them, reading in a speech-based language is probably comparable to reading a foreign language for those who already have speech and have developed a vocal language faculty.

Inner speech is different from textual representations of speech, because of its tendency towards abbreviation and predication. It is different from vocal speech as well because this abbreviation and predication arises always in inner speech as the natural form of inner speech. Vygotsky noted that the same factors responsible for abbreviation in oral speech are also present in inner speech. The inner speaker already knows what he or she is thinking about. Hence, the subject need only be implied. Vološinov’s “Critique of Freudianism” from *Freudianism: A Critical Sketch* (1927), another of the Bakhtin works of disputed authorship, insisted that there is no change between external and inner speech in terms of its orientation towards a listener (42). Vološinov understood that even when using speech for oneself, that is inner speech, the verbal thinker also a listener, which makes egocentric speech dialogic, rather than monologic as Vygotsky would have it. So with syntax and sound reduced to a minimum, meaning moves to the forefront in inner speech; thus, inner speech features semantics over phonetics to the extent that a single word can become richly saturated with meaning as explained on the following pages.
Vygotsky described the syntax of meaning of inner speech as having three main semantic characteristics: preponderance of sense over meaning, agglutination, and combining and uniting word senses. Sense is the sum of all the psychological events aroused by the word, a dynamic complex with several zones of unequal stability. Of those zones, meaning is the most stable and precise. Sense enriches a word through context, and a word in context means both more and less than the same word does in isolation, because the new context expands the possibilities while it limits meaning (245-47). *Apperceptive background* is the term the Bakhtin literature applied to *context in inner speech* in Vygotsky; Vološinov wrote in “Reported Speech” that this apperceptive background is “encoded in inner speech” (64). Vygotsky’s *word in context* relates directly to the role of utterance in inner speech as the concept was developed within the Bakhtin circle. Agglutination is the formation of complex words by putting together smaller words in which the meanings combine to include the combined form plus all the constituents. Agglutination is a well-known and recognized feature of modern German noun formation, but its natural occurrence might not be easily recognized in inner speech. Combining and uniting word senses occurs in such a way that a single word includes all the senses of the words and ideas associated with it in much the same way as a title of a novel or a play carries the sense of the work. For example, when one thinks *Hamlet*, not only does he or she name a play and a character within that play, but unless specifically modified, the thought includes all of the speaker’s previous experiences with the play and the character including any critical comments and responses to those comments. Vygotsky cautioned that in inner speech a single word can become so saturated with
meaning that if it were possible to unfold that meaning into external speech or a written
text, it would require a multitude of words to do so (245-47).

Vygotsky’s work on inner speech intersects with Bakhtin’s at an interesting point
corresponding to cognitive resonance. In the “Reported Speech as Index of Social
Change,” Vološinov explained the dialogic nature of inner speech as the site where the
individual receives the utterance of the other, comprehends it, evaluates it, and responds
to it. The response can remain internal; it does not have to be externally articulated. For
Vološinov, understanding these dynamics is critical to understanding reported speech
(64). For Bakhtin, especially in “Speech Genres” and “Discourse in the Novel,” it is
critical to understanding how reported speech and heteroglossia constitute novelistic
style. For this inquiry, these dynamics illustrate cognitive resonance and the inclination
to understand and respond dialogically to received utterances.

The theme that runs through the essays in Richard Poirier’s The Performing Self
(1971) is that the act of literary creation is one of performance, of the writer performing a
linguistic feat worthy of attention and admiration. The performance of language differs
from other kinds of performances such as i.e., Roland Barthes’ wrestling or ballet or
music in that these are each different modes of expression. This thesis and Poirier’s both
concentrate on linguistic modes. His approach to criticism, then, has to do with how the
writer performs with words:

Anyone who can describe any kind of performance with accuracy and
fascination – in rock or in a sonata, in boxing or in ballet – has already
developed an attentiveness and a vocabulary which can be adapted to a
reading of, say, the plays of Shakespeare, a better reading, indeed, than they have received from all but a few Shakespeareans. (viii-ix).

The converse is also true that the act of reading is also a performance, one that takes place primarily on the plane of inner speech. A text is realized because the performance of language can be expressed in an artifact through writing or recording. Reading is a matter of performing an interpretation on that written artifact.

Here where this thesis tries to come to terms with what a text is and where it abides as a core issue to the theory of cognitive resonance participates to some extent in how textuality has become a matter of critical attention over the past several decades. One of the current dictionary definitions of text, “a literary work or other cultural product, regarded as an object of critical analysis” (1790), was not available to readers of The American Heritage Dictionary before the fourth edition was published in 2000. It certainly does not appear in the third edition (1857), published in 1992. This later sense seems to predominate recent literary criticism, and yet it still does not explain what a literary text may be or how one accesses it.

Chapter Two concluded that there could be no literature without a recorded text, that is a physical representation of oral performance. Now extend that definition to embrace the kind of language performance that occurs as the reiterative dialogics of writing itself; in other words, the recorded product of writing, in manuscript or print, will be a text. One might say that text is any mediated utterance. Bakhtin noted in “The Problem of the Text,” that a text is “any coherent complex of signs,” including works of art (103), and that even utterances separated by space and time will “reveal dialogic
relations if there is any kind of semantic convergence between them” (124). These
descriptions parallel some of Roland Barthe’s concept of text expressed in several essays
concludes dramatically with “the birth of the reader must be at the cost of the death of the
Author” (148). Earlier he noted that the performance is in “the language which speaks,
not the author; to write is [. . .] to reach that point where only language acts” (143), and
that:

A text is made of multiple writings, drawn from many cultures, and
entering into mutual relations of dialogue, parody, contestation, but there
is one place where this multiplicity is focused and that place is the reader,
not, as was hitherto said, the author. (148)

In another essay from that same collection, “From Work to Text” (1971), Barthes wrote
that “the Text is that space where no language has a hold over any other, where
languages circulate” (164).

In terms of this thesis, three aspects of textuality can be found implied in Barthes’
definitions that are consistent with Bakhtin: the linguistic performance of the text is
located in the reader; the performance itself is dialogic; and the nature of the language is
heteroglossia. Here heteroglossia means that texts often consist of language stratified by
a multiplicity of sources and by time. Temporal heteroglossia is not Bakhtin’s term, but
rather a term coined for this thesis to designate language that changes over time. It
makes language analogous to Heraclitus’s river: one never speaks in the same tongue
twice. By proclaiming the death of the author, Barthes did not proclaim the end of
writing, but rather recognized that interpretive authority resides in the reader (or listener). Here, the thesis moves slightly away from Bakhtin and towards Barthes to say that because mediation separates writer from reader or author from audience, the reader stands alone as the performer and interpreter of the decoded text at the level of inner speech. The next chapter will deal more at length with interpretation as the performance of the text, but for now it is more important to deal with how cognitive resonance processes decoded text as inner speech.

For some critics, the conclusion that the reader stands alone as the interpretive authority of a text he or she performs might set off the kind of alarms that prompted Meyer Abrams to write “How to Do Things with Texts” (1979). Stanley Fish’s essay “Is There a Text in this Class?” (1980) was written in response to Abram’s contention that in pursuing novel strategies to deal with indeterminacy in a text, the so-called “Newreaders” – Jacques Derrida, Harold Bloom, and Fish – ignored linguistic meanings embedded in words. Abrams’ concern was the possibility of losing “access to the inexhaustible variety of literature as determinably meaningful texts” (295-96). The core of Fish’s response was that the norms of language and of meaning “inhere in an institutional structure within which one hears utterances as already organized with reference to certain assumed purposes and goals” (306) rather than being embedded in the language itself. That institutional structure is situational, and the situation of the utterance provides a context that enables a specific meaning or meanings (307-09). Fish also called that institutional structure “interpretive communities”; indeed the subtitle to the volume in which the essay was published is *The Authority of Interpretive Communities*. 
Interpretive communities are social structures that share common language, culture, and social values including linguistic values. One of the implications of Barthes’ thesis about interpretive authority residing in the individual reader, and with which this thesis concurs, is the suggestion that communal values are fictions of the same order as the fictions of the reader’s relation to the writer and of the author in the text; they occur only in imagined communities. The interpretive context for the practice of language is individually constructed out of a shared linguistic and cultural environment. Although the shared environment supplies common material with which the intuitive language faculty can create language (see Chapter Three), the language so created is individual and resides only within an individual’s language faculty. The utterances within the chain from which the individual draws meaningful context for interpreting a new utterance heard, read, or thought were constructed from utterances that originated in the shared linguistic and cultural environment but have since become individualized in both conscious and unconscious memory. Because members of a common social or cultural heritage draw upon the same supply of linguistic and cultural material, the chains of utterances which they will apply to whatever text they hear, say, read, and write will likely have a great deal in common, but they will not be the same chains. These individual differences account for the variety of individual interpretations of the same heard speech or read text, and they also prevent the possibility of precisely communal interpretation.

When one performs literature, i.e., process a text at the level of inner speech, cognitive resonance draws on the individual’s stored chain of utterances – previously
known knowledge held in conscious and unconscious memory – to resonate with the new text. Cognitive resonance occurs at the level of inner speech, producing a new utterance that can range in expressiveness from a highly agglutinated and contextualized concept to a fully articulated statement. This new utterance can follow a range of paths. It can go into unconscious thought, remain in conscious thought, be expressed as external vocalized speech, be encoded into written language, or any combination. All of these possibilities constitute the possible performances of a text on the plane of inner speech.

Because textual interpretation, which generates understanding, is processed at this level within individual consciousness, the process cannot be shared or collectivized, but the resulting new utterance can and sometimes is shared through external expression in speech or writing. *Understanding* in this sense is not to be confused with an ideal accord between author and reader; rather it is used to indicate the meaning a reader or interpreter takes from a text. Although the process is individual and isolated, approximately common contexts generate approximately common understandings, thereby suggesting the possibility of interpretive communities. What does get shared, then, is reflected in social texts and contexts, i.e., literature as an art that helps define culture.

In insisting on the integrity of individual interpretation, this thesis does not devalue that which is shared in the form of commonly held beliefs, ideas, and concepts – the ideologies of a social order; rather it calls attention to the separation of individual conscious understanding as a process that operates on shared linguistic and literary experiences. Creating and maintaining a fiction of shared understanding is critical to social stability; the presence of individual understanding is necessary for social progress.
These differences illustrate the dynamics that Bakhtin called centripetal and centrifugal forces in language, in culture, and ultimately in social values (1981 271-72) as well as Leroi-Gourhan’s notion of “that uniquely human two-way traffic between the innovative individual and the social community that makes for progress” (228). These differences are the source of the beauty and difficulty inherent in literature as the artful practice of language.
CHAPTER 6. UNDERSTANDING: RHETORIC MEETS HERMENEUTICS

“The interpreter, who gives his reasons, disappears – and the text speaks.”

(Hans-Georg Gadamer, “Text and Interpretation” (1984), 50)

To complete this thesis, the concept of cognitive resonance must be placed within an authentic literary theory or practice of interpretation. To that end, one thought that kept nagging away at the work came from Roland Barthes’ observation in the essay “To Write: An Intransitive Verb?” (1972) that “for centuries Western culture conceived of literature through a genuine theory of language,” which he identified as rhetoric (42). The long history of rhetoric in the West as documented by Walter Ong in Ramus, Method, and the Decay of Style had its roots in pre-Socratic Greece and lasted up to the Renaissance. It was not the original intent of this study to rehabilitate rhetoric as a genuine theory of literature, but it never intended to discard it, either, especially where its practice can be serviceable to literary theory. It has subsequently transpired, however, that traditional rhetoric appeared to be more than serviceable as one locus in which cognitive resonance can operate as a complement to the other locus, which is the interpretive practice of dialectical hermeneutics. This chapter will show the complementary relationship of rhetoric and hermeneutics around cognitive resonance after a brief explanation for rejecting other theoretical locations.
Because cognitive resonance is a brain-based principle, its operations are physical. One overarching issue in trying to connect the physicality of the language of cognitive resonance with critical literary theory was the degree to which *metaphysics* comes into play in much of theory almost to the exclusion of the physical aspects of language. Starting with Saussure onward, much of the work in language and literature deals with relationships and abstractions rather than physical activity. For example, within the deconstructive theories of Derrida, the concepts of *arche-écriture, sous rature, trace*, and *differance* all seem quite abstract, having little or no connection to living, breathing, physical humans in conversation. As noted in Chapter Two, Derrida himself characterized the term *arche-writing* as describing “relations and not apellations.”

Bakhtin’s humanistic linguistics – dialogics, the chain of utterances, heteroglossia, and inner speech – was instrumental in formulating how cognitive resonance functions. However, sorting through Bakhtin to identify a genuine theory of literature continues even now as an ongoing project at the Bakhtin Centre of the University of Sheffield in England and elsewhere. Attempting to participate in that project would be more than unwieldy, it would constitute a totally different thesis.

In yet another area of theory, the notion of interpretive communities generally expressed in the reader response or reception theories of Wolfgang Iser, Hans-Robert Jauss, and Stanley Fish conflicts with the idea of the isolation of the reader/auditor inherent in cognitive resonance. If it is not clear yet, it is important to recognize that within the concept of cognitive resonance media separates the reader/auditor from the speaker/author. This aspect of cognitive resonance is illustrated in Chapter Five, and it
implies that the parties to any discourse are essentially isolated from one another even in conversation. Because the processes that make meaning are interior, there can be no actual collaboration sufficient for a communal interpretation. Cognitive resonance negates the possibility of collective readings. That said, the theory of cognitive resonance does not discard those authentic communal aspects of language and literature that make them cultural phenomena. A communal linguistic heritage does provide the sensuous material from which the developing infant creates language (Chapter Three). Because discourse itself is dialogic, requiring at least two parties, even when the dialogue is internal, the socially originated contextual background of language also provides sufficient commonality for the norms of language and meaning that Stanley Fish wrote about that enable understanding to occur.

More than 15 years ago, Patricia Bizzell wrote an essay “On the Possibility of a Unified Theory of Composition and Literature” (1986) that delivered a fascinating challenge. Her argument then was that no unifying theory had emerged “because there are no dominant theories in each of the two fields between which a union might be negotiated.” She further argued that a unified theory was possible because “both reading and writing are meaning-making processes, whether we are talking about the reading and writing of a literary masterpiece or a freshman essay” (175-76). She noted that Richard Lanham and E. D. Hirsch, whose professional careers began in the study of literature, had later become active in Composition Studies. She also noted how Terry Eagleton would replace literary theory with rhetoric to study how “all kinds of verbal discourse [. . . ] make meaning in their particular contexts.” She further noted how composition theorists
such as James Kinneavy also called for a similar change and that literary theorist William Cain:

Predicts its outcome in the creation of new men and women of letters, intellectuals on the pattern of H. L. Mencken, who take the culture as their text and who serve an explicit moral and political agenda in their community. [...] This is the task that Edward Said has named “secular criticism.” (178)

One might speculate all kinds of reasons why Bizzell’s challenge seems not to have been seriously and professionally acted upon during these past 15 years. In 1994, Lee Honeycutt, inspired by Bizzell, sought in Bakhtin a common theory for composition and rhetoric for his master’s thesis at the University of North Carolina. He concluded that he could not find a Bakhtinian foundation sufficient for a unified theory. Instead, he found a salient opening into the new textuality of electronic media as described by Richard Lanham in *The Electronic Word*. In a recent electronic mail message (2002), Honeycutt said that he had abandoned the pursuit of a unified theory and that his academic focus as a staff member of the English department at Iowa State University has since concentrated on rhetoric and technology.

The disrepute of rhetoric from the time of Plato up until today makes attempts at its rehabilitation difficult. Walter Ong documented in *Ramus, Method, and the Decay of Dialogue* how Peter Ramus’ method provided the knockout punch to rhetoric in the sixteenth century, but there always has been more to it than philosophy’s opposition to rhetoric as raised initially by Socrates in Plato’s *Gorgias* and *Phaedra*. To this day, one
of the dictionary definitions of rhetoric speaks to empty or dishonest speech (1547), which constitutes part of Socrates’ complaint. In truth, Socrates did not condemn rhetoric as persuasive speech altogether, just when it was used in the service of a baser objective than the Truth. This is the ethical issue traditionally associated with rhetoric, what Richard Lanham called in The Electronic Word the “Q. Question”:

In the beginning of Book 12 of the Institutio oratoria Quintilian confronts [. . .] a crucial question. Is the perfect orator [. . .] a good man as well as a good orator? [. . .] To confront this question honestly would imperil his entire endeavor and so, with that genial resolution which illustrates his sweet nature throughout the Institutio, he assumes the answer he wants and then goes on to bolster it with inventively adapted Platonism. (155).

In Platonic terms, philosophy, which becomes dialectic in the Ramus method, has an inside track on Truth. Philosophy, in those terms, seeks an absolute finality that cannot be found or claimed by rhetoric. In rhetoric, truth is always contingent.

Despite the specified differences between philosophy and rhetoric, they coexisted in an uneasy balance from the beginning of Western culture through the Middle Ages as Ong noted:

Dialectic and rhetoric have been intertwined at least from the time of the Greek Sophists till our present day, and when Ramus decrees that they must be disengaged from one another once and for all in theory (but always united in practice), he engages some of the most powerful and obscure forces in intellectual history. (270)
Although Ong’s thesis in *Orality and Literacy* was that writing itself was implicated in tipping the balance in the relationship between rhetoric and philosophy:

> The humanist, like his medieval predecessor [the scholastic], was conditioned to learning by reading. The scholastic, scientific passion for fixity and exactitude [was] associated with dependence upon written documents. (92).¹

The scientific method derived from the Ramus Method has since come to replace even Socrates’ philosophy or Ramus’ dialectic as the path from which *Truth* may be reasoned.

On the other hand, scientific method resolves few quotidian issues because so very little outside of science is falsifiable. For the most part, in Western cultures at least, most of business, the arts, politics, the law, and even technology when practiced outside the science laboratory have traditionally and silently functioned under the rubric of rhetoric while scientific and academic endeavors alone remain outspokenly subject to reason or philosophy. Now, much of the postmodern or at least the post-structuralist community will argue that the rationality of science is itself a rhetorical fiction.

One of the objectives of Lanham’s *The Electronic Word* is to make an argument for restoring a rhetorical *paideia* to education. Within the framework of that *paideia* he advanced the concept of bi-stable oscillation, movement back and forth between binary concepts and modes of perception that compare to Castiglione’s *sprezzatura*:

> Castiglione resolves the immiscibility of rhetoric and philosophy, of truth and Truth, by creating a cultural ideal he calls *sprezzatura* that puts the two into a perpetual oscillation. The conversations in Urbino model the
continual “conversation” which is human culture in a rhetorical, interpretive universe of discourse. Truth and truth are put in a continually reversing figure/ground relation that answers the “Q” question by putting it back into time. (161)

Buried within that paragraph the phrase “rhetorical, interpretive universe” suggests a close and positive relationship between rhetoric and hermeneutics or interpretation. Walter Jost and Michael J. Hyde took notice of Lanham’s oscillating model in their “Prologue” to Rhetoric and Hermeneutics in Our Time (1997):

Precisely because rhetoric operates within the realm of the indeterminate, it is characterized by a fundamental instability, the “play” within its scope of possibilities for meaning and action that Richard Lanham rather awkwardly calls a “bi-stable oscillation.” (xviii)

Jost and Hyde’s reader is a collection of essays that link rhetoric and hermeneutics, and awkward or not, the naming of this oscillation between apparently binary opposites is characteristic not only of rhetoric, but for most of the history of Western culture up to the modern era, including Plato’s reasoning and Ramus’s method. Rhetoric, however, takes notice of and thrives on this oscillation, an oscillation significantly close to the helical wave forms identified by James Bunn (Chapter Four); Ramist method, on the other hand, attempts to categorize it and thereby ossify it. Much of literary scholarship, still rooted tenaciously in the Ramist method, also presents us with binary oppositions— orality/literacy, subject/object, self/other, etc.— but often they tend concentrate on one side or the other rather than to look at how they may be implicated in each other.
After Socrates/Plato captured what they took to be the high ground of philosophy against what they saw as the moral oscillations of rhetoric, Western culture continued to defend that position well into the twentieth century. According to Lanham, the argument mounted by those who hold that position is that “conceptual truth, arrived at through pure reason, should create our ‘referential reality’” (188). He contended that this argument is both impossible and dangerous, because such a process has no method to correct possible errors, and he cited Gregory Bateson’s essay “From Versailles to Cybernetics” (1972) to illustrate how error without recourse to correction can arise from just such a process. Taken together, Lanham, Jost, and Hyde, as well as those critics and scholars cited by Bizzell in her 1986 essay, all suggest that the trends of cultural oscillation may be arriving at a point where rhetoric can stand on its own and possibly may even reclaim its place as a genuine theory of language.

One way to reinforce the possibility of rhetoric’s renewed ascent is by linking it to hermeneutics. The concept of cognitive resonance can aid in this linkage by contributing functional understanding for how rhetoric works in the minds of auditors, a linkage that is otherwise missing from the traditional pedagogical texts from Plato to Vico. In the Phaedrus, Socrates offers the advice that “No one will ever possess the art of speaking [. . .] unless he acquires the ability to enumerate the sorts of characters to be found in any audience (273e), and in Chapter II, Aristotle’s Rhetoric discusses two motivational factors that affect rhetorical outcomes: the emotions and types of human characters. In these texts, the instruction to the student of rhetoric is that the rhetor must understand and apply these factors to the presentation to make the speech more
persuasive. Although all rhetorical instruction emphasizes and imagines an audience – rhetoric depends on there being an audience to persuade – only Plato and Aristotle offer this kind of audience analysis. Further, the five-stage paradigm of classical rhetoric – Invention, Arrangement, Style, Memory, and Delivery – deals with memory only from the speaker’s standpoint; the auditor’s memory is ignored.

Memory played a major role in the rhetorical life of the West, according to Frances Yates’ *The Art of Memory* (1966). The roots of the art of memory lie in the legend of the poet Simonides’ recalling the names of the guests who were killed when the building in which they were at a banquet had collapsed. Simonides, whose life was spared when he stepped out of the building momentarily, was able to place each guest at a specific location in the banquet hall within his memory and thereby produce a list of the names of the victims. This use of places or locations to manage memory gave birth to the concept of topics (τόποι), which means places, to organize one’s memory.

By the Middle Ages, the art of memory took on a life of its own and became larger than rhetoric itself. This enlarged scope was eventually realized in the Memory Theater of Giulio Camillo. This was a physical structure, designed along the lines of an actual theater and topically organized so that all knowledge had its own place within the machine (135-174). Yates quoted from a letter from Vigilius Zuichemus to Erasmus that “He [Camillo] calls this theatre of his by many names, saying now that it is a built or constructed mind and soul, and now that it is a windowed one” (136-37). What Vigilius described sounds very much like what is now called artificial intelligence, a concept that Giordano Bruno expanded upon and made more powerfully magical as his memory
wheel (279-309). Bruno was burned at the stake for heresy, and shortly thereafter the Ramist method, abetted by the new technology of printing, eliminated the need for memory from the study of rhetoric, effectively putting an end to the elaboration of the art of memory. By the time Giambattista Vico presented his lectures *Institutiones Oratoriae* from 1711 to 1741, which were transcribed and published by his students as *The Art of Rhetoric* (1996), he concluded that “There is nothing we can say here on memory. It is indeed an innate virtue which is maintained and kept by usage, and if there is an art to this, [. . . ] the proper one is that which is called mnemonics” (207).

What is particularly noticeable about Yates’s historical treatment is how the importance of memory to rhetoric developed to a point where it seemed to overshadow the other four aspects. However important the role memory played in rhetoric, the role of memory in the study of rhetoric seemed limited solely to the orator. Nothing was written or said about the importance of memory in the audience. Furthermore, except for Socrates’ admonition regarding the character of men’s souls and Aristotle’s categorization of the emotions and the characteristics of men, nothing seems to have been said about how rhetoric was supposed to persuade, what there was in rhetoric that could turn minds and form opinions. Cognitive resonance can fill that void.

Cognitive resonance explains the rhetorical effect by describing how discourse generates new knowledge, which, in turn, motivates new positions or opinions. The auditor’s memory is a major part of this process, because it is the source of existing knowledge, which is the matter that discourse sets to resonating. When Bakhtin told us in “Discourse on the Novel” that understanding is not complete without a response, he
placed responsive understanding as the culmination of the dialogical process.

“Understanding comes to fruition only in the response. Understanding and response are dialectically merged and mutually condition each other; one is impossible without the other” (282). Thus in a rhetorical situation, the auditor hears/reads the argument and responds to it in terms of knowledge already held in memory. The response is the new knowledge produced as the perceived argument resonates with what is already known. One implication of cognitive resonance is it that it appears to shift the balance of rhetorical power. It reduces the semblance of the rhetor’s power to persuade by enhancing the auditor’s power to respond. That, in turn, disperses rhetorical power to all participants in the rhetorical situation. It is incumbent upon each participant to exercise his or her power responsibly.

An apt illustration of locating the power to understand, and therefore the power of persuasion, with the hearer comes from Antony’s funeral oration (JC. 3. 3. 78-266). A fast and cynical take on that scene might label the crowd fickle and easily led, but the text shows that Antony does not lead the crowd, at least not directly. The citizens ultimately arrive at a position assumed to be Antony’s, but at no time does he tell them where he wants to go with this. Instead, the play depicts the citizens responding to Antony’s words in dialogic terms with words of their own. Possibly had these been other than Roman citizens without prior knowledge of Caesar, Antony’s speech might have been just another eulogy for just another dead soldier. These Romans have their own prior positions, and they act from those positions when they hear about the murder of Caesar. That they act on their own can be seen clearly when, towards the end of his oration,
Antony intends to incite the crowd with a reading of Caesar’s will, but the citizens, having already arrived at their own judgment, are well ahead of him. They do not need to hear the will read.

This episode parallels the Socrates’ demonstration of the servant “remembering” the solution to a geometric problem in the *Meno*, cited in Chapter Four. Constrained by Brutus and the rest, Antony was very careful not to say anything negative about Caesar’s murder or of those who did it. Constrained by the terms of their experiment, Socrates and Meno were very careful not to suggest answers to the servant. Antony presented his audience reminders of what they already knew about what made Caesar great and popular; Socrates carefully reminded the servant of those things he himself had already stated about the problem, things he already knew and knows that he knew. The citizens answered Antony’s utterances by moving to a position where they demanded vengeance, an idea that Antony was careful *not to express*. Meno’s attendant answered Socrates that by doubling the diagonal of the square (although he did not know the term diagonal) and squaring the result, he could produce a square twice the size of the original; neither Socrates nor Meno give him that answer.

What is going on in both *Julius Caesar* and the *Meno* is that cognitive resonance enabled the hearers to draw upon their own faculties, their own knowledge stored in personal memory, to process the words heard in these discourses. Cognitive resonance affirms the responsibility of the hearer and learner, implicating the audience in the production of meaning by actively engaging the text. This engagement propagates meaning. Bakhtin’s elucidation of the many layers of overlapping dialogic relationships
– speaker/hearer, uttered/answered, historic/anticipated all linked together dynamically
so any participant may assume multiple roles – shows that in dialogue no one has
singular power. Inner speech, where said words are simultaneously heard words, is that
liminal space where expression crosses over into understanding and understanding
generates expression; here is where rhetoric meets interpretation. Here, too, is where
Lloyd Bitzer’s rhetorical situation meets Hans-Georg Gadamer’s hermeneutical situation.

In Bitzer’s essay, “The Rhetorical Situation” (1992), he noted that all rhetorical
discourse is situational and outlined seven points to define what situational means. What
it all comes down to, however, is exigence: “In any rhetorical situation, there will be at
least one controlling exigence which functions as the organizing principle” (7). Likewise
in *Truth and Method* (1993), Gadamer expressed a hermeneutic moment of exigence “in
the experience of being pulled up short by the text. Either it does not yield any meaning
at all or its meaning is not compatible with what we had expected” (268).

The hermeneutics of Gadamer followed the work of Martin Heidegger much in
the way that Jacques Derrida’s deconstruction does, except they emphasize different
aspects of Heidegger generating quite different outcomes. Diane Michelfelder and
that “Heidegger’s recognition of the priority of language [. . .] gets developed in two
quite different directions in the texts of Gadamer and Derrida” (1). Gadamer’s
hermeneutic philosophy was brought together after almost a lifetime of study at the age
of 60 and published as *Truth and Method (Wahrheit und Methode).* In that work he
traced the generations of hermeneutics from Schleiermacher through Dilthey and Husserl. Richard Palmer is generally considered his American interpreter and champion.

The field of hermeneutics is actually quite broad, and also includes such names as Charles Altieri, Gerald Bruns, and Paul Ricoeur. Gadamer wrote in “Hermeneutics and Logocentrism” (1987) that even Paul de Man “was quite well disposed to hermeneutics” when he knew him in Zurich but that De Man had since affiliated himself with Derrida’s poststructuralist turn (114). In *Hermeneutics* (1969), Palmer credited the publication of E. D. Hirsch’s *Validity in Interpretation* (1967) with bringing hermeneutics to the attention of the American literary community, although Hirsch’s formalism was at odds with the hermeneutics of Palmer and Gadamer (3). William Spanos, another American critic, identified himself as having a hermeneutic turn during the late seventies and eighties. His articles published at that time along with a collection of essays he edited as *Martin Heidegger and the Question of Literature* (1976) shows he developed an hermeneutical theory in which he performs a rubric he calls “destruction” based on Heidegger’s *Destruktion*. All this as a general overview indicates the breadth of contemporary hermeneutics following Heidegger.

The appeal of hermeneutics to the development of cognitive resonance began by drawing a resemblance between Gadamer’s concept of the hermeneutic circle and Bakhtin’s chain of utterances. Both focus on response. Heideggerian hermeneutics views a text as living in time and not as a completed work or finished product. In the essay, “Heidegger, Kierkegaard, and the Hermeneutic Circle” (1976) William Spanos noted that any attempt to interpret a text omnisciently from the end rids the work of its
authentic being by closing off this temporal existence. This creates a vicious circle from which there is no escape. Hermeneutics leaps into that circle, understanding the being of the text “not as a derived conceptual proposition, as a finalized and spatial totality, [. . .] but only in a vague, dim way, as that which has been ‘covered up’ or ‘forgotten’” (120-21).

In *Truth and Method* Gadamer expressed the basic rule of hermeneutics as circularity:

> We recall the hermeneutical rule that we must understand the whole in terms of the detail and the detail in terms of the whole. This principle stems from ancient rhetoric, and modern hermeneutics has transferred it to the art of understanding. It is a circular relationship in both cases. The anticipation of meaning in which the whole is envisaged becomes actual understanding when the parts that are determined by the whole themselves also determine the whole (291).

At first glance this circular process may look like a Möbius strip or the ouroboros that keeps doubling back on itself, but it is not a closed circle.

To begin with, one enters this hermeneutic situation to deal with the exigence of a text that will not, for whatever reason, yield to understanding. The reader approaches the text with what Gadamer called a good will to understand, a concept he stressed in the “Reply to Jacques Derrida” (1989) as “what Plato called “ευµενεισ ελενχοι” [eumeneis elenchoi]. That is to say, one seeks [. . .] as far as possible to strengthen the other’s viewpoint so that what the other person has to say becomes illuminating” (55). The
hermeneutic process entails raising questions and seeking responses to those questions so that the circular process also changes with each response. The whole that one finds after inspecting the details will be different from the whole one first encountered, and likewise the details derived from that new whole will be different from the original details. Thus the hermeneutical circle is not a true circle but rather a continuous spiral or helix. This spiral aspect finds an analogy in Bunn’s helical wave forms. Also in this light, Marshall McLuhan’s interpretation of popular advertising in The Mechanical Bride (1951) as excerpted in The Essential McLuhan (1996) might be seen as a hermeneutical work in that its intended function was to dislocate the advertising imagery “into meaning by inspection” (22).

One enters the hermeneutic circle or spiral alone, thereby initiating an autonomous project simply because this is the way one practices language and literature. One result of the reader/author separation noted in Chapter Five and above is that the author is not nearly as dead as Barthes or, for that matter, Stanley Fish might have it. The role of the author is just something else, different from the role of the reader. During the writing process, the author is simultaneously reader and writer, and during reading, the reader is at least an authority on what it is that he or she knows. Whatever special knowledge or authority the author may have contributed is already there in the text; that work is done, and there is nothing more he or she can contribute. Hermeneutics draws upon the reader’s authority to understand and thereby to interpret the text. Through cognitive resonance, the reader applies what he or she already knows to the text being
performed in the mind, realizing the only interpretation possible to that reader at that time within that context. That is what is meant by an interpretation that cannot be helped.

Although not without problems, the interpretive universe of Hans-Georg Gadamer offers a hospitable home for cognitive resonance as a literary theory. The interpreter enters the hermeneutical circle openly and totally, holding nothing back. The rubrics of current theory often expresses a notation of what is at stake in a particular reading; what hermeneutics puts at stake or at risk is not what is in the text but rather the prior knowledge and understanding that the reader/hearer brings to the text. Listening to the work speak, the interpreter experiences the text – its meanings and ideas – in a process of interrogative conversation, thereby disclosing or bringing into the open more of the truth of the work, risking prior understanding to emerge with new understanding.

The process does not stop there as if a goal had been reached. When the interpreter achieves understanding with the text, he or she could continue working, using this emerging understanding as a new fore-understanding for another encounter with the work, and yet another, and another. The hermeneutic circle is never closed or complete. It is ever moving into the future, richly disclosing more of what is concealed. The critic is neither the master nor the servant but rather a partner with the text, an active participant in this process of discovery. Interpretation is hard work, but it is work enabled by cognitive resonance. Had it been a rhetorical situation rather than an hermeneutic situation, the auditor would have followed the same process in order to come to an understanding with the rhetor’s argument or presentation. In both the hermeneutic and rhetorical situation, understanding does not necessarily mean agreement.
or acceptance of the argument, but understanding the text (or the speech) is essential before any judgment can occur.

Of course one possible outcome or understanding might be that a literary text or a rhetorical presentation is incomprehensible. This does not mean that the process has failed. Rather, it means for this time and under these circumstances, the understanding reached is that one cannot reasonably understand. Under those circumstances, the hermeneutic situation continues while the interpreter goes on to other work unless, of course he or she chooses to drop or defer the matter.

The relationship between rhetoric and hermeneutics is one in which the kind of disrepute owned by rhetoric is also shared by hermeneutics. In the essay, “What Hermeneutics Can Offer Rhetoric” (1997), Richard Palmer noted that:

“Rhetoric and hermeneutics . . . parallel each other in more than influence and multidisciplinary significance. They are parallel generically, they are interwoven historically, and they have experienced a remarkable expansion in theory and self-understanding in the last half of the twentieth century” (108).

In a note to that same paragraph Palmer observed that many practitioners of rhetoric and hermeneutics feel out of place, “even denigration, in relation to the traditional disciplinary categories in higher education” (129 n 1). There does seem to be a certain celebration in the English department about the French theorists, particularly Barthes, Foucault, Derrida, and Lacan. Earlier this chapter noted Patricia Bizzell’s challenge to
identify a unified theory of composition and literature. Perhaps, she missed that opportunity herself, because as Palmer further noted:

> Four of the five most recent figures in Bizzell’s and Herzberg’s *Rhetorical Tradition* (1990) are French: Michel Foucault, Jacques Derrida, Hélène Cixous, and Julia Kristeva. No German theorists associated with hermeneutics are shown there to be fertilizing the tradition of twentieth-century rhetoric. Neither Jürgen Habermas nor Hans-Georg Gadamer appear. (109-110).

National identity is germane here only because the competing theoretical approaches seem to come down along national lines with German or hermeneutic representation clearly excluded from Bizzell Herzberg’s book.

This chapter has shown that cognitive resonance applies in similar fashion to both rhetoric and hermeneutics, and perhaps that could be a point of unification. Persuasive understanding/understanding persuasion: cognitive resonance is at the core of the relationships between hermeneutics and rhetoric. In “To Write,” Barthes complained that today’s bored readers are mere consumers who “cannot produce the text, open it out, set it going” (163). Cognitive resonance describes a way to set a text going; and Gadamer’s hermeneutics reinforces the concept that a text must be more than consumed; it must be embraced, understood, and performed.

The richness of literary experience engendered by cognitive resonance requires an enriched horizon of dialogic experience; literary criticism particularly may not be a young person’s game. The practices of rhetoric and hermeneutics seem to entail a great
deal of rehearsal: the more one does it, the better the performance. One might say that
rhetoric and hermeneutics are habits of expression and understanding rather than
strategies. None of this is to say that that critical literary study is lost on the young. As
discussed earlier in Chapter Three, Vygotsky showed quite the opposite when he
separated spontaneous concepts from learned or “scientific” nonspontaneous concepts.
There he noted that “systematic reasoning [. . .] later transfers its structural organization
into spontaneous concepts” (172). Thus the practice of applying the formats and patterns
of effective presentation and critical reading skills will enable young readers to develop
rhetorical and hermeneutical habits which they may not fully realize until they have a
sufficient repertoire of knowledge to apply to literary experience. Perhaps Hans-Georg
Gadamer’s longevity may be the source of strength in his work, because it gave him
years to build an effective store of knowledge and years to rehearse habits of expression
and understanding.
Chapter 1. Introduction

1 “Because it’s there” are the words George Leigh Mallory used in answer to the question why he wanted to climb Mt. Everest asked during a lecture tour to raise funds for his 1924 second and fatal attempt at the summit. Since then, the phrase has been inexorably linked to Mt. Everest and to other monumental endeavors for which motivation seems inexplicable. Although the statement has come to stand for motivation to take on things that exist for no reason other than to challenge the human spirit, something that must be conquered, there is also conjecture that Mallory uttered these words in exasperation over hearing the same stupid question night after night. This is the ambiguity of language, and now 78 years later, we must accept that this expression has come to stand for both the challenge and the exasperation with those who cannot imagine the challenge.

2 On the issue of Spivak’s word choice in translation, consider the following where she presents the French terms she is translating: “The sound-image is the structure of the appearing of the sound [l’apparaître du son] which is anything but the sound appearing [le son apparaissant]” (63). L’apparaître is a noun and might be more accurately translated as appearance to distinguish it from the verbal apparaissant which translates directly into appearing. This choice of using the same phonetic unit, appearing, in two distinctly different senses makes it a homonym and presents what may be an unnecessary problem of meaning.

This example suggests the possibility of other, similar problems in translation. For example, the use of writing as the gerund in English and a noun in French (écriture) and writing as a present participle, a verb form, in English and in French (écrivant) might not have been clearly or correctly translated. Wherever the word writing appears in the text, it is not clear if it means arche-writing or what Derrida calls “the vulgar concept of writing” (56), or possibly something else. In English there is no direct translation that expresses the specific sense of writing that écriture does in French; somehow scripture does not quite seem what Derrida has in mind.

The American Heritage Dictionary (third edition) offers 11 definitions for to write as a transitive verb, three definitions as an intransitive verb, five phrasal verbs with a total of 16 definitions, plus five definitions and a Biblical designation for writing as a
noun (2061). These differences in definition are not necessarily all that nuanced. One English word that could offer a closer translation of *écriture* might be *text*, but *text*, too, has multiple meanings. One of those meanings was introduced to English with the emergence of critical theory in the last several decades, which the fourth edition of *The American Heritage Dictionary* published in 2000 defines as “Something, such as a literary work or other cultural product, regarded as an object of critical analysis.” This definition is not available in the third edition from 1992.

These examples from *Of Grammatology* were chosen to help illustrate this problem of avoidable multiple meanings, because struggling with *Of Grammatology* and other texts by Derrida consumed a great deal of energy and research attention producing scant results. In as much as *Of Grammatology* deals with issues of language and writing, it might have made a more important contribution to this discussion. However, what Derrida wrote about language is far from clear. Nonetheless, his work casts a long shadow, and in some ways he has become our Mt. Everest.

3 The waves generated by a falling tree may be perceived percussively by receptors other than ears, but that perception would be in a sensory category other than sound – for instance, pressure might be perceived by touch.

4 *Conceptual integration* in the sense promoted by Cosmides, Tooby, and Barkow was originally called *vertical integration* by Jerome Barkow as early as 1980. It is based on the Aristotelian principle that two statements cannot both contradict each other and be true at the same time. The authors changed the term to *conceptual integration* for *The Adapted Mind* (1992) in order to avoid epistemological issues; see Cosmides note 1 (13-14). *Conceptual integration* appears to be similar to *consilience*, a concept originated by the 19th century philosopher of science, William Whewell, and recently popularized by Edward O. Wilson, in his book of the same name. Whereas *conceptual integration* appears to be a passive measurement of the likelihood that a principle or theory might not contradict accepted knowledge in other fields, *consilience* appears to be an active and deliberate process to unite otherwise disparate fields under a concept of universal knowledge. Electronic correspondence with Jerome Barkow confirmed this distinction.

5 A compelling reason to get the biology right is sensitivity to the claims put forth in Alan Sokal and Jean Bricmont’s *Fashionable Nonsense* (1992). This book arose out of the furor generated by the so-called “Sokal Hoax” and has as its thesis that some famous postmodern intellectuals abuse scientific concepts and terminology in their work (x). To illustrate this point, Sokal submitted a paper that was a parody of postmodern cultural theory entitled “Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity” which was accepted and published by the journal *Social Text* in its Spring-Summer 1996 issue. The paper and the commentary it generated after Sokal revealed the paper to be a hoax in the May-June 1996 issue of *Lingua Franca* is documented in *The Sokal Hoax* (2000).
6 This understanding that there is nothing outside of language available to deal with literature may resemble Derrida’s *il n’y a pas de hors-texte*, except for the fact that the paragraph from *Of Grammatology* in which that statement appears to refer to “a referent or transcendental signified” (158).

Chapter 2. The Roots of Language and Literature

1 Theater is restored to literature when the script is reduced to a written or printed text, but this tangential discussion is not germane to this chapter.

2 See note 7 below for a more complete explanation of sign language as a visual presentation of language comparable to writing. It is possible that a kinetic recording of a signed performance might be considered literary, but inasmuch as this is a recent technology, one cannot expect to find a rich canon of signed literature. Moreover, since signed languages are specific to small geographically isolated communities, the production of such a literature may be economically challenging. There are up to 500,000 users of American Sign Language compared to 210 million first language users of English in the United States alone, 40,000 British Sign Language, up to 100,000 French Sign Language plus users of a Marseille dialect plus Lyons Sign Language – in all SIL International has catalogued 114 different and distinct deaf sign languages worldwide. Nonetheless, the possibility of the emergence of sign language literatures is worthy of consideration.

3 In addition to Randall White’s comment in his “Introduction” about Leroi-Gourhan being largely ignored, especially by English speaking critics (xvi), further evidence to support this contention lies in the absence of references to *Gesture and Speech* in the texts that I consulted for this project. Except for *Of Grammatology*, I cannot find references to it in any of the theoretical, historical, or psycholinguistic texts consulted. I would have expected that perhaps Walter Ong might have been familiar with the work in its original French edition because *Orality and Literacy* includes a record (166 ff.) of Ong’s having read *Of Grammatology*, but Ong makes no note of Leroi-Gourhan within the text, notes, or bibliography. Leroi-Gourhan’s text provides some theoretical support for Ray Jackendoff’s psycholinguistic concept of *Parallel Architecture*, introduced in *The Architecture of the Language Faculty* (1996) and expanded upon in *Foundations of Language* (2002). In an email message, Jackendoff wrote that this book had never before come to his attention. It also offers support for James Bunn’s theory articulated in *Wave Forms* (2002). Thus, I expected to find a reference to *Gesture and Speech* in at least one of those texts, but there is none.

4 Archeological discoveries subsequent to Leroi-Gourhan’s publishing of *Le Gesture et la parole* in 1964 place the emergence of the true hominid at about 100,000 BCE. Consistent with Leroi-Gourhan’s theory of the freeing or the hand for other than locomotion and the mouth for other than food gathering (because the hand was now available to perform those functions), language or protolanguage activities could have
emerged much earlier than 30,000 BC. See Randall White’s “Introduction” to *Gesture and Speech* and his “Representation and the Evolution of Cultural Memory” on the Institute for Ice Age Studies web page. Also see Stephen Jay Gould’s “Up against the wall” in *Natural History* for a critique of Leroi-Gourhan’s aging of cave paintings.

5 See note 3 this chapter above about Ong’s awareness of Derrida’s *Of Grammatology*.

6 Derrida’s denial of presence and embrace of absence is implicated in the chain of signifiers in the sense that a sign means that which is different from the thing which it signifies as well as different from signifiers which it is not (i.e., a cat is not a hat, is not a dog, is not a tree, etc.). This, in turn, seems to preclude the possibility of a transcendental signifier, an ultimate Truth. Or perhaps it is the other way around: the impossibility of the transcendental signifier precludes presence. In this, Derrida contradicts what he sees as an overarching Western belief in the transcendental signifier, which he saw as manifest in a condition he called logocentricity. This too brief explanation is likely an over simplification and hardly a fair representation (if one is allowed to represent another) of Derrida’s thought. The “Derrida problem” in terms of this thesis has to do with the overwhelming amount of work he puts into trying to prove the absence of something such as the transcendental signifier or even more simply a meaning for a text. The simplified version of one of the rhetorical/hermeneutical positions supporting this thesis is that meanings are negotiable and temporary, useful for the moment of interpretation with no pretense to transcendency. In these terms, it is difficult to see how logocentricity applies.

7 It is difficult to track Derrida’s citations of Leroi-Gourhan in *Of Grammatology*. For example, he (or his translator) did not specify which of the four French editions of *Le Geste et la parole* he consulted. References often include a roman-numeral book designation as well as page numbers, but it is clear that the references to “GP11, pp. 32 and passim” (83-84) cannot refer to Book II (or to chapter 11), because the passage cited appears in Book I, Chapter 1, page 5 of the English edition. Derrida’s statement that “The end of linear writing is indeed the end of the book” (86) is supported by an extensive note (332-33 n 35) that paraphrases Chapter 15 of *Gesture and Speech*. Derrida’s actual citation seems to refer to a section in Chapter 6 of *Gesture and Speech* on “Beyond Writing: the Audiovisual.” That particular passage in Chapter 6 in turn refers the reader to Chapter 15, “Imaginary Freedom and the fate of Homo sapiens.” It is Chapter 15, however, that Derrida paraphrased in note 35.

8 Linguistic analyses and discussion of the various deaf sign languages often use speech-based terminology such as phoneme, morpheme, and phonetics. Strictly speaking, this is not only inaccurate, but it implies that these languages are manual counterparts to the spoken languages of the cultures in which they exist. Not only do they not bear any relation to the spoken languages of their cultures, but as such they also cannot be reduced to script without first being translated into a language for which
writing is available. See Carol A. Padden and Vicki L. Hanson “Search for the Missing Link: The Development of Skilled Reading in Deaf Children” (442-44).

Sign languages are highly inflected, but inflections are expressed kinetically; as a result transcriptions of those languages in print, which consists of drawings of gestures with dynamic arrows indicating motion, are less than satisfactory. Sign language, like writing, is visual representation, and it might be the case that it is impossible to reduce a visually represented linguistic mode down to another mode of visual representation.

9 To complete the circle, Steven Pinker demonstrated in The Language Instinct how the human capacity to acquire language is an instinct. Ray Jackendoff introduced the concept of parallel architecture in The Architecture of the Language Faculty (1996) and elaborated upon in Foundations of Language: Brain, Meaning, Grammar, Evolution (2002) that makes plausible a theory that the language instinct is the evolutionary product of natural selection, a concept that Noam Chomsky was unable to embrace.

10 Ong’s source for these particular statistics was Monro E. Edmonson’s 1971 work, Lore: An Introduction to the Science of Folklore and Literature (New York: Holt Rinehart & Winston), pp. 323 and 332.

11 Natural languages are those naturally generated and used by the peoples of the world. English, Nihongo (Japanese), Russian, Hausa, and American Sign Language are all natural languages. Esperanto, COBOL, and Visual Basic are artificial languages. Chapter 3 will provide greater explanation of how natural languages come into being and are distinguished from artificial languages.

Chapter 3. The Ontogeny of Language

1 Pinker noted that American Sign Language “does not resemble English, or British Sign Language, but relies on agreement and gender systems in a way that is reminiscent of Navajo and Bantu” (36).

2 A strong case against animal language came out of H. S. Terrace’s Nim project as reported by Laura-Ann Petitto in “On the Biological Foundations of Human Language.” Petitto was a psychologist on the project charged with raising a chimpanzee from infancy and teaching it American Sign Language, chosen to compensate for the animal’s physiological inability to speak. On the question of animal language, she stated unequivocally that “chimpanzees fail to master key aspects of human language structure” (450). Steven Pinker also goes into great detail in The Language Instinct about the differences between humans and the other great apes to explain why, despite the claims of some researchers, animals do not have language. Among the failures ascribed to chimpanzees learning American Sign Language was a lack of grammar, lack of defined contours in signing, and lack of inflection critical to American Sign Language (334-42).
3 For a thorough and accessible discussion of the ontogeny of language, Steven Pinker’s *The Language Instinct* is outstanding. Ray Jackendoff’s *Patterns in the Mind* is equally readable, almost half the length, and covers a more extensive set of issues dealing with thought and other language-like areas such as music and vision. Noam Chomsky is a highly prolific author, so it is easy to get lost in his bibliography. *Reflections on Language* seems to be the keystone work on generative grammar, but Chomsky is an egregiously tedious read (see Pinker 103-04).

4 See Chapter 2 note 11 above regarding natural languages.

It is important to note that as a natural language American Sign Language is distinct from English or any other spoken language. It is not pantomime. It follows its own grammar and syntax and is capable of generating an infinite number of sentences and expressing an infinite number of thoughts and ideas just like any other natural language.

5 Pinker does not provide a text reference to the work where the research and underlying theory of how infants pick up the prosody of their mother tongue appears, but from his list of references the source appears to be Jacques Mehler, Peter Jusczyk, et. al., “A precursor to language acquisition in young infants,” *Cognition* 29 (1988): 143-78.

6 MacNeilage took some satisfaction from the fact that Steven Pinker an Paul Bloom’s article, “Natural Language and Natural Selection” (1992), which originally appeared in *Biological and Brain Studies* as a draft article, supported the theory that natural language was the product of natural selection. However, when asked to comment specifically on MacNeilage’s theory for an ABC-TV science news article “From the Mouths of Babes” (20 April, 2000) by Robin Eisner, Pinker was quoted as calling his argument nonsensical.

Pinker and others have also faulted Chomsky’s position on natural selection, but Chomsky was rightfully concerned that generative grammar was too complex to have emerged as a complete faculty. Ray Jackendoff’s recent work, however, suggests a theoretical path that might be acceptable to Chomsky: the tripartite parallel architecture of *Universal Grammar* with separate structures for phonology, syntax, and concept and distinct interfaces between these structures (1996, 38-46; 2002, 107-51 and 231-64).

7 Some conditions will allow the extension of vocabulary acquisition so that an individual might have additional spurts of learning more words beyond adolescence. These conditions could include learning another language or studying for and entering a profession that has its own special vocabulary.

8 A third English translation of Myshlenie i rech by N. Minick was published as part of the first volume of *The Collected Works of L. S. Vygotsky* in 1988 (Ed. Robert W. Reiber and Aaron S. Carton. New York: Plenum) as *Thinking and Speech*. This work is not cited in the References, because I have not seen it.
9 Discussions of verbal thought as Vygotsky used the term here and deep thought or thought per se encounter semantic difficulties. In Western culture we have an ancient tradition that identifies thought with language or speech. This is not so. Vygotsky recognized inner speech to be a type of thought different from external speech. He also recognized a plane of thought deeper than inner speech, which is effectively silent: it uses no words. “The flow of thought is not accompanied by a simultaneous unfolding of speech. The two processes are not identical, and there is no rigid correspondence between the units of thought and speech” (249). Ray Jackendoff addressed this issue in Patterns in the Mind (184-203) and went into more detail in The Architecture of the Language Faculty (179-208). These issues will take on greater significance in the following chapters.

Chapter 4. The Theory of Cognitive Resonance

1 A search for prior uses of the term cognitive resonance turned up four instances of which three are somewhat similar. The unique instance appears in Roger Neighbour’s The Inner Apprentice (1992), an approach for training physicians in England. He used the term as an antonym to cognitive dissonance, which is a concept used in behaviorist psychology to define a condition of discomfort when confronting an unknown or contradictory situation; cognitive dissonance is seen as motivation for learning because when experienced, it must be resolved. Neighbour used cognitive resonance to describe the euphoria of resolution.

The use closest to how it is intended in this study came from work at the Center for Complex Systems Research at the University of Illinois Champaign-Urbana according to an email message from Alfred Hubler (1999). The other instances appear in papers on object oriented programming and both the sense of the term and the intention of the authors seem to have been since forgotten according to email messages from Brad Appleton (1999) and Tihamer Toth-Fihel (1999).

2 In Orality and Literacy, Ong assured us that the tradition in the literate West was that “a written text of any worth was meant to be and deserved to be read aloud.” He reported that this practice continued commonly through the nineteenth century (115). Thus, the practice of verbalizing a text as it its decoded in reading has a history of long-standing, validating the theory that the practice continues to occur as inner speech.

3 Marxism and the Philosophy of Language is one of the texts of disputed authorship. Bakhtin’s condition in post-revolutionary Soviet Russia was always precarious. Arrested in 1929, he was sentenced to six years exile to Soviet Central Asia. Work published under the names of two of his colleagues in what has come to be known as the Bakhtin Circle, Pavel Nikolaevich Medvedev and Valentin Nikolaevich Vološinov, had sometimes been ascribed to Bakhtin as principal or possibly sole author. Although Vološinov never disputed those claims, none of the arguments put forth for or against Bakhtin’s participation in this work is conclusive. This thesis will not contribute to the
“Who Wrote Bakhtin” industry. Regardless of Bakhtin’s personal contribution to these texts of disputed authorship, one fact emerged after Bakhtin’s Soviet rehabilitation: his authentic work continued to explore and expand upon these ideas (Morris, 2; Morson & Emerson, 31-48). For purposes of this thesis, Bakhtin will be considered conceptually to include the texts of disputed authorship and those published texts that the publishers or editors ascribe to Medvedev or Vološinov will be so cited.

4 Bakhtin’s chain of utterances is different from Saussure’s chain of signifiers. In Saussure’s analysis, signifiers are linked together to form sentences or statements. In Bakhtin’s sense, the chain of utterances reflects the dialogic nature of language itself as an historic dynamic of responses to previous utterances and anticipating future utterances, which will respond to the current utterance. The issue between them was not their differing use of the chain metaphor, which seems not to have entered the discussion, but with the context within which utterances existed and without which they could not be realistically evaluated. The concept of intertextuality is also related to this chain of utterances. Saussure’s chain of signifiers does not contribute much that is useful to the theory of cognitive resonance.

5 Although Bunn drew upon a wide range of examples of wave forms and periodicity to explain his thesis, it is interesting that he did not refer to Fibonacci numbers or their expression as the Golden Section, Golden Mean, or sometimes Golden Ratio. In nature, we see the wave shaped expression of these ratios in the whorls of the chambered nautilus shell or the arrangement of sunflower seeds. In art it is expressed in the ratio of architectural rectangles or approximately in the scale of a sheet of paper or the dimensions of a book. For a comprehensive treatment of the subject, see Dr. Ron Knott’s web page, Fibonacci Numbers and the Golden Section.

6 Although not stated in Bunn’s theory, one may imagine the possibility that the selection of neural pathways to store the newly created knowledge in the hidden regions of deep thought and the subsequent calling up of utterances to respond to a newly perceived utterance may be the result not of a switching mechanism analogous to the array of gated devices in the central processing unit of a computer but a more fundamental and natural technology: the harmonic response of neurons to the frequency of the input waves similar to the wave division multiplexing that takes place in digital telecommunications networks. This thesis is an inappropriate document in which to expand upon this image, however.

Chapter 5. Text as Inner Speech

1 Opposition is always difficult to come up with, because by definition it is a binary condition in which its terms must truly be exclusive of each other while in combination they must constitute the totality of a category. The terms under discussion (monologue-dialogue) do not fully satisfy those conditions. Other literary dyads such as
orality-literacy also fail to meet these conditions, because there can be orality within a state of literacy and literacy can persist within a culture that seems to be manifestly oral.

This thesis is not a critique of Derrida’s grammatology nor of deconstruction, but rather an avoidance of both. One of the troubling aspects of erasure and trace, for example, seems to be an ad hoc requirement for opposition between constituent terms. It is not clear to me how Derrida selected the dyads he used as examples, and they seem not to be clearly in opposition. Rather their formation seems arbitrary, but who made those arbitrary decisions if not Derrida?

2 This condensed overview of telephone technology comes from more than a decade of professional experience writing about technology for AT&T Bell Laboratories and AT&T Network Systems. Additional technical resources include Mike Sexton and Andy Reid, Transmission Networking: SONET and the Synchronous Digital Hierarchy (1992) or the Encyclopedia of Telecommunications (1988) edited by Robert A. Meyers. Both of these are highly technical engineering texts.

3 That there might be a mode of writing other than the literal or pictographic seems to be one of the driving elements at the heart of Derrida’s section “The Outside and the Inside” in Of Grammatology (30-44). The play in Derrida’s essay seems to rely on writing that is closer to being language itself than linear phonetic writing which represents spoken language. A form of writing that may indeed also be a mode of language is quite different from a form of writing that represents a different mode of language. Conflating a visual mode of expression with a visual representation of an oral mode of expression under the rubric of writing, as Derrida seems to have done, generates problems in understanding. One of the thoughts emerging from the research for this thesis is that a great deal of work is yet ahead of us in the area of modality of expression; one of the areas that seem to draw us into confusion and a possible reason for the conflation of different modalities is the lack of clear distinctions between modes of expression (language, music, visual imagery, etc.) and media.

4 Although it is conceivable that the graphic signs of a written text could somehow pass directly into thought without translation, it could occur for those individuals who have a graphical natural language system that expresses concepts directly as images rather than as representations of phonetic structures. For example, some algebraic or organic chemistry problems might be processed in a language module that was not speech. Still such mental processing would occur at a level something like inner speech on the order of visual-spatial rehearsal as reported by Margaret Wilson and Karen Emmorey in their paper, “A visual-spatial ‘phonological loop’ in working memory” and its follow-up essay “A ‘word length effect’ for sign language.” This would not, however, be a literary text.

Chapter 6. Understanding: Where Rhetoric Meets Hermeneutics
1 Ong’s distinction – Orality and Literacy – may be more simplistic than the historic record suggests. For one thing, writing and literacy were limited until the Renaissance or later, and the orality of rhetoric coexisted with the literacy of philosophy for at least two millennia. Rather than writing itself, it was more likely that print technology made the real difference in suppressing oral rhetoric because of its ability to reproduce in abundance texts that are consistently identical, conveniently distributed, and easy to use..

2 Gadamer’s longevity was more than amazing; born on February 11, 1900 and died at the age of 102 on March 14, 2002, Gadamer’s lifetime, from conception, spanned three centuries! He earned his doctorate at the young age of 22 and continued working right up to the end. He met Husserl, studied with Heidegger, and debated with Habermas and Derrida. Although the truth of the statement about spanning three centuries reflects a statistical accident of timing, his lifetime of work, often the yeast of the philosophical ferment steering critical theory, suggests that his lifespan may have greater significance than his work alone.
LIST OF REFERENCES

Warners Bros., 1968.


Appleton, Brad. “Re: cognitive resonance.” E-mail to Gerald M. Kenney. 2 Mar. 1999.


Bernard-Donals, Michael F. “Reception and Hermeneutics: the Search for Ideology.”


Bunn, James H. “Re: Wave Forms and Christopher Alexander.” E-mail to Gerald M. Kenney. 4 Sep. 2002.


Emmorey, Karen. “Re: [Fwd: Re: Inner speech & signers].” E-mail to Gerald M. Kenney. 30 July 2002.


<http://www.public.iastate.edu/~honeyl/bakhtin/thesis.html>
Hubler, Alfred. “Re: cognitive resonance.” E-mail to Gerald M. Kenney. 4 Mar. 1999.


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Padden, Carol A., and Vicki L.Hanson. “Search for the Missing Link: The Development of Skilled Reading in Deaf Children.” The Signs of Language Revisited: An


Toth-Fejel, Tihamer. “Re: cognitive resonance.” E-mail to Gerald M. Kenney. 7 Mar. 1999.


<http://compapp.dcu.ie/~tonyv/Pastiche/Pastiche.html>.


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Vološinov, Valentin Nikolaevich. “Constructing a Sociological Poetics” from


