Dislocated Poetics and the relative function of literature: Moving towards a neurological understanding of the literary mind

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Today

Contents

Preface

This small book is a collection of essays proposing a form of literary criticism that incorporates recent theories in cognitive science—from the neurosciences, lingusitics, biology—to rest on a conjecture that poetry, literature, and story-telling in general are the external products of a basic cognitive function. This basic function, I argue, arises from an early human ability to simulate and map-out a hypothetical situation in the mind. This fucnction is not so radical when it comes to the hypothesis that early human beings exploited an advanced ability to map space and time in their mind, thereby allowing them to construct a hypothetical scenario and plan hunting trips. This early ability gave humans one of their only true advantages over predators or prey. Besides the ability to make tools, the advantage conferred on such beings through methodical planning and forming strategies to take down large prey would have made hunting more eficient and saved more lives. This function, one might argue, is currently exploited for entertainment when two competing sports teams clash.

Analogously, if early humans also developed the ability to emotionally map hypothetical scenarios for their social interactions this would have resulted in an increased efficiency for developing social relations. The ability to foresee that another person would be angry because of your actions, coupled with the ability to simulate a hypothetical confrontation and strategize a response, would have had enormous impact. None of these latter statements are very controversial. What is at issue, is claiming that such an emotional-planning ability was at some point exploited for the fucntion of telling stories. These stories, at first, would have operated as devices to convey important information about survival: how to plant corn, how to make a spear, how to stay out of danger. This utilitarian information was threaded with emotional tone through narratives exploiting the emotional strategizing power of early humans, thus serving a double purpose and schooling the audience in both engineering of practical survival and in social/emotional constructs of interpersonal survival. In modern society stories no longer need to convey important information about making spears and growing corn. They do, on the other hand, provide ample information aobut the emotional life of characters. This goes far beyond a mere cathartic event, I argue. Poetry as a form may on the decline, but music is words set to music definitely is not. Nor are the narratives of movies, television, and other media. Much like the expoitation of early hunting strategizing for entertainment (in the form of sporting events), one can also interpret modern story-telling as an epxloitation of early emotional strategizing.

This book is not strict in terminology, nor didactic in application. I believe that there is a conceptual synonymy underlying all the essays of this book. If one takes

serious the problem of "synonymy" as presupposing various universal truths about the intuitive definition of terms, then one may have some insight into why this book is structured the way it is, and why I do not attempt a systematic approach at setting up a rigorous analytic machine to churn out analyses of various texts. Literature is a splendor. It is multivariate, it is diverse, and it operates on many levels at the same time. But this relative function of literature is not an inherent feature of the text itself, but of the mind that produces such literature and of the mind that reads it. A paper with words written on it, a musical beat with accomponying words, a screen with images and audio, are merely static objects of the world without a mind to read them. Every act of reading is an act of re-creative effort. When one reads a novel, one is involved in a re-creative effort upon some object of sense that happens to be the concrete result of an original creative effort of another human mind. Reading is a creative event; one must imagine the context, and one imbues characters with feeling and breathes life into the scenes from one's own mind—here the author is only a guide pointing the way, the reader makes it real.

Therefore, I encourage the reader not to look on the surface for repetitive use of terminology or for superficial connections in the themes of the essays or of the literature used. Dive deeper into the common experience of the reader. Analysis of this so-called "common" feature is the search for a universal constraint on the human experience of reading and creating literature. Such a UNIVERSAL really is possible if one accepts that all humans are minor variations of one thematic template: differences are random variables built from accidents of geography. Certainly, we all occupy different spaces and the boundaries of the spaces are blurred in multivariate ways. Certainly, at some level, we all look at each other through the looking glass. But the reason we are curious to look past our boundaries in the first palce is the recognition that we are looking at mere minor variation of ourself: we are composed of the same blood and tissue and guts. The same blood and tissue and guts that share almost equivalent operations of biophysical mechanisms that keep our blood pumping, our tissue growing and regenerating, and our guts functioning. We look through the looking glass at ourselves, different but the same. We understand texts differently becausse of random chance differences that are varations of a common theme: I was born in India, I was born in Ireland, I was born here—or there. But we go through (roughly) the same biophysical mechanisms when we read and interpret and write. Ligt photons hit our eyes the same, the spectrum is the same for all. Pulses from the tips of fingers on the the braille, or as we flip the pages, the disturbances of cillia in the ears, the electrochemical advances from neruon to neuron—all the same. The "common" experince of the reader does not find its place in any culture, but in the geography of *here*. As long as "here" requires a human body to occupy it, the rest is chance and accident and interpretation.

Why it should be so difficult to conceive of a "commonality" in the operation of the human mind is beyond my scope. But if one simply lets go of cultural ties one may see that"commonality" here should be expected: human physiology determines that within some limit of variability we should more than expect the same kinds of brain/body/mind functioning: The process of reading must be the same process between all normally developed human beings who have acquired this skill. How we get from this kind of naturally determined similarity to the vast cultural differences that rip generations and nations apart is beyond my understanding. What I aim to do is

incorporate the physiological operations common to all human readers into an analysis of various forms of literature. I might simplify this goal by saying that all authors and readers begin with the same physiological function for literature, but in the multivariate context of personal-social culture one sets different variables for that function; or one uses different functions for the same operation. The output of this phenomenological aspect within common human physiology is the relative function of literature.

Chapter 1

Turning the mind in upon itself

1.1 What has been passed over

The title of the introduction is taken from a Wordsworth poem. To the British Romantic poetics Wordsworth and Coleridge poetry is the 'movement' of intuition and science is the 'movement' of reason. These two 'movements' have generally been interpreted as conflicting with each other, reinforcing the stale distinction between reason and emotion, mind and body. But science is a pervasive fact in everyday life and as cognitive science seeks to reveal the inner-workings of cognition, poetry cannot afford the luxury of scientific ignorance. Contrarily, as cognitive science has moved away from its predecessor, the logical positivism of early twentieth century philosophy of science, it approaches more and more the enigmas of private subjective experiences. The difficulty with private experiences is that they are not conducive to analytic or formal description—as even the most simple reading of (early or late) Wittgenstien will show. The apparent impasse: analytic/formal theories of the nature of consciousness cannot cross the line of the private. Moreover, enigmatic philosophies of subjective experience rely too much on intuition and authentic experience; both of which by nature repel analytic disclosure—as any brief account of early the generative linguistic notions of *competence* and *performance* will show[1]. So it seems that any cognitive scientific investigation into the fully actualized nature of human consciousness must limit itself to what can only be formulated by an analytic systematization. This kind of systematization is exactly what poetry appears NOT to be. The British Romantic poets (ca. 18th century) rejected analytic systematization in favor of a private emotional experience that could only at best be communicated through the manipulation of a linguistic system by poetic form. It is not so radical to say that previously the cognitive sciences have completely ignored poetry. In fact, most science of the last two-hundred years has passed over poetry as nothing but an idle hobby or some kind of unverified expres-

[1] I don't mean to imply here that current geneartive accounts have in any way solved the problem by simply restating it as the distinction between I(internal)-language and E(xternal)-language. The problem is still the same: where does one draw the line between internal mechnanisms and external forces? Does one effect the other? Can external forces, E-language, shape the internal biophysical mechanisms, I-language, over time? These questions remain, but must be suspended until we know more.

sion. In the ideal case, poetry and the function of literature have been recognized as constituing and worthwhile epxloration of what it means to be human, but this function has not been assumed to have any kind of cognitive or evolutionary basis. The same is not true of the poets, specifically the British Romantics. Coleridge in particular was instrumental in formulating the Romantic philosophy of mind and was very sensitive to the sciences of his day. This led him to reject analytic systematization because he saw it as attempting to project a mechanical form of causality onto the ineffable and enigmatic emotional experiences of the human being. The views of Coleridge and his fellow Romantics are the most sophisticated *poetic theory of the self as a cognitive being* that we have. Because of this Romantic tradition and many contemporary attempts in cognitive linguistics to synthesize literary texts with the views of cognitive science, there is no reason why poetry and cognitive science should not both benefit from what appears to be a mutual question: What is consciousness? However, in this monograph I will not be arguing from the pperspective of cognitive linguistics. Instead, I assume the basic tenets of the Minimalist Program (MP). And though this may seem counter-productive, I hope to show why the underlying philosophy of MP is more in line with the investigation of poetry/literature as the (sophisticated) external product of a real cognitive function. Much of this inquiry rests on Antonio Damasio's work in neurology and neuropsychology. As is the case with consciousness studies one must rely on an interdisciplinary method drawing from various and distinct areas in order to synthesize a coherent position. The areas I rely most heavily on are poetry, literary theory, neuroscience, linguistics, and philosophy. I began this inquiry with a simple question: Why is poetry so important and why do we still do it? It is something that all people of all cultures through all of history practiced. This is not a vacuous claim and any attempt to deny it can only appeal to the lack of poetic records from many of the world's regions. Lack of evidence is not a refutation. (Any more considerations on this topic move into the history of the suppression and destruction of cultural artifacts and the raising of the official canon of mostly Western texts based on what is wrongly perceived to be purely Greek texts. This is beyond the scope of this investigation.) I had previously decided that poetry dealing with the cognitive self, the self that remembers, feels, perceives, thinks, and has numerous convergences between the private world of self and the public or observable world of self is the best example of the activity of human curiosity of the conscious self. It quickly became apparent through my reading of Damasio that cognitive science could not only tell us about theories of the self and consciousness but could provide the study of poetry with a new tool to investigate the old question of self. Thus, what I thought I was getting into was an extended theory of poetry based mainly on late nineteenth century ideas of cognition found in Kant via Coleridge. In short, I thought I was making an argument about the usefulness of poetry founded on a Romantic philosophy of mind. As all things go when they are actually written, my inquiry shifted. It moved into the question of the origin of consciousness as a body-emotion response that is "mapped" in the brain and extended into an area known as the mind. Such a reading comes from the work of Antonio and Hannah Damasio and has much to say about the role of intuition and the act of feeling emotions in higher cognitive activities. From the poetry aspect it dawned on me that such an activity as reading and producing poetry is really an exercise in the whole process of self-aware consciousness, or the act of feeling the sense of self as it moves from the

body to the mind to the page. My argument is, then, for the use of poetry, specifically in the context of a method that seeks to reveal the origin of language deep in cognition, as a tool for cognitive science to manageably deal with the problems of explanation of the phenomenon of the act of feeling emotions. Poetry is a perfect candidate for a science based on extremely rational models of the mind; models that ignore the emotional and physical responses to the world as interwoven with high cognitive functioning. Poetry is in essence a string of logical symbols manipulated through a rational process of relations of grammar that has as its subject and outcome the private world of feeling emotions and feeling the self as a Self in a physical world. Poetry, when done by people like W.B Yeats, Wordsworth, T.S. Eliot, or J. Graham, has the perfect balance between the rational and the emotional. On the neurology side, Damasio is making the same argument that nothing in consciousness is purely rational or emotional. This inquiry has two purposes. The first is an argument for a style of Romantic poetry that uses contemporary advances in the cognitive sciences as a new tool for an investigation and elaboration of poetic form and theory. The second is an argument for a cognitive-scientific use of poetry as a unique tool for investigating the nature and origin of consciousness as first and foremost an embodied phenomenon of emotional-physical response that evolves into a complex web of rationality and emotionality of self. Taken together, the specific style of poetry mentioned above and cognitive science should mutually benefit from what appears to be the same question: what in poetry allows us to observe a unique cognitive phenomenon involving the synthesis of non-verbal experience and analytical-logical linguistic formulations of non-verbal experiences? Either way the reader chooses to look at it I have decided to limit this inquiry substantially. There are more things left unsaid than are said about the nature of consciousness. Specifically, I have restrained the scope to processes that take place at the lower levels of cognitive operations. In other words, there is no consideration of how the poet uses language to make poetry. Rather, I am concerned more with the biological processes of how an initial experience finds its way to a linguistic formulation. Once considerations that involved the social-ideological areas and conventional-language-use areas of influence upon the poet became inevitable I decided to stop the inquiry. Of course, there is no objective way to distinguish where the social and where the biological are separate, if such a question is even intelligible. Unfortunately, my own judgement is all I can refer to in trying to draw some line between what is biologically functional in the brain/body (and thus, subject to laws of physics and chemistry) and what is thematically interesting to the poet in terms of language, content, and poetic design, which is subject to considerations of ideology and culture. Thus, such a distinction between the processes of the mind and the contents which the mind processes is an arbitrary one. This lack of objectivity is a reflection of the state of cognitive science itself and may represent some limit of understanding. There is no absolute proof either way that the brain determines the mind or that the mind can causally effect material changes in the brain. Such topics are hotly debated and I find no shame in admitting that I have nothing close to an answer, only an educated opinion among the many opinions that exist. Again, there is more left unsaid than is said about how the initial experience of some phenomenon finds its way to linguistic formulation. Moreover, the concern with how an initial experience finds its way to linguistic formulation is investigated more as a basis of why I think there is a ”dislocation” between experience and language than to come to any

definite outcome of how this actually happens. Because such an inquiry of the latter form (how ineffable experiences become effable linguistic systems) would necessarily take much more time and space than this essay is willing to admit, I have made the appropriate restraints, though admittedly such restraints are arbitrary. It is now time to confront the specific problem of this essay: dislocation between the initial intuitive experience of the poet and the analytic system of linguistic formulation that describes such experiences. I present the argument below.

1.2 The argument

Premise 1 *Natural language is a biologically emergent system arising from the human organism-as-a-whole, particularly the brain (a Conceptual-Intentional system) and sensory-motor mechanisms (a Perceptual-Articulatory system).*

Caveat 1 *Language may not be particularly restrained by the brain/mind, or sensory-motor systems that give rise to it.*

Premise 2 *Generative linguistics is the most valid formal system of inquiry for discovering properties of Premise 1; in particular the Minimalist research program and its concepts of Conceptual-Intentional (CI) and Perceptual-Articulatory (PA) interfaces.*

Premise 3 *Poetry has inherent linguistic and conceptual structures embedded in it that reflect the nature and justifiable validity of premises 1 and 1.*

Assumption 1 *Natural language is not necessary for basic consciousness.*

Corollary 1 *Natural language is in some way "dislocated" from the most essential and fundamental self-conscious awareness of overall human experience.*

Remark 1 *If poetry contains embedded structures implied by 1, 1 it will also characterize a unique cognitive property of a dislocation between initial conscious and unconscious experiences and the emergence of linguistic systems that are employed through poetry to describe these "prime" experiences. Simply put, linguistic systems are not needed for core levels of consciousness and thought. This implies a dislocation between the initial human experience and the linguistic system underlying the natural language that is employed in describing that experience. The notion here is that the act of writing and reading poetry is a bridge between the two dislocated extremes of (un)conscious experience and natural language. Poetry, I argue, exploits both the underlying linguistic system of a natural language and the re-creative capacities of an "active" reader who can inferentially or imaginatively go far beyond any linguistic structure. It functions as re-creation of the original dislocation between initial experience and the language system that describes experience. Poetry allows us to re-evaluate experience by seeing that our initial experiences can be represented first and foremost thorugh a linguistic system and, secondly, through cognitive imagery (literal, symbolic, factual-propositional, or metaphoric) provided by the poet through the use of language.*

1.2.1 Addendum to the argument

What follwos here is a formulation intended to broadly define "the linguistic system underlying natural language."

Theorem 1 ***Strong Minimalist Thesis*** *Human language is an optimal solution to interface conditions that the faculty of language (FL) must satisfy.*

Proposition 1 ***Weak Minimalist Thesis****: Human language is the natural product of linking sound (or gesture) and meaning.*

Corollary 2 *Human language is a product of the natural state of the organism-as-a-whole, and therefore, is subject to the same laws and constants that all of nature is.*

A realistic theory of linguistics that takes natural language as a scientific object of inquiry must subject the brain to the known laws of biology, physics, and nature in general. In computational complexity theory, for example Deutsch (1985), Deutsch (1997), Lloyd (2000), Lloyd (2006), and also Kauffman (1995), all physical systems are understood to be computable and subject to the known laws of physics and computation, specifically entropy (the second law of thermodynamics) and universal computability (the Church-Turing Thesis). By normative scientific standards the brain cannot contradict laws of nature. I explicitly state this as a corollary of the *weak* minimalist thesis, which is an uncontroversial weakening of the strong minimalist thesis proposed in Chomsky (2008).[2] Notice that the Corollary to the WMT does not say that human language is explained by or reduced to all natural laws; nor does it say that all natural laws apply to it—only that it is subject to the laws and constants of nature (and by implication only a subset of natural laws). The Corollary is simply a compression of arguments found in many sources, including Boeckx and Piattelli-Palmarini (2005), Chomsky (1986, 1995a,c), Piattelli-Palmarini and Uriagereka (2008), Uriagereka (1998) and many others past and present; see also Formigari (2004) for historical consideration of issues relevant to the Corollary—particularly historical tensions between assigning natural langauge a "spiritual" or "bestial" cause relative to "immaterial" and "material" effects.

1.3 What is there to say?

It isn't saying much that poetry is a product of some combination of cognitive functions, this is practically self-evident. But it is much stronger to say that poetry is the result of a basic cognitive function. This implies that at some level everyone is a poet, and in an informal way this is true: everyone has the capacity of becoming a poet or producing poetry merely by the fact that they have been born with a faculty of language that developed into a world language (Egnlsih, German, Japanese, Hindi) and they are the eventual product of consciousesness—whatver consciousness really is. At

[2]The SMT is widely regarded as not being plausible—though possible—and is thus used as a heuristic standard. For this reason, it seems strange to derive a corollary from a heuristic. This is the motivation for putting forward a weakened version of the SMT.

another level, though, as any professional poet will tell you, poetry is hard work. It is a skill that one has to cultivate. Whether one cultivates this skill or an appreciation of this skill, there are specific processes of cognition necessarily inherent to the machinery of the self that are played out in poetry. This, however, is not a top down model: we do not start with poetry as function and reduce it to certain processes. This would be tantamount to saying that there was a conscious intentionality of representation before there was the machinery to convey the intentional (and unintentional for that matter) representations of experience and image found in poetry. What we need to begin with are the lower functions from which conscious intentionality emerges. But this raises a question that it isn't my goal here to try and answer: How does the outside world come to be represented inside our minds? Current cognitive science has many ways to answer certain questions about perception, concept formation, neural activation/inhibition, mental imagery, semantic reference, and other areas converging on mental representation. My purpose here is to bring up the possibility that poetry may be an elaborate exercise of experiential representation through the exploitation of linguistic and consciousness systems; an exercise that is merely the extension of an actual cognitive process we cannot be fully aware of. In this way poetry makes able the awareness, on a high level, of certain "experiences" of processes of representation of the world that may occur at lower levels of cognition. I am not attempting an explanation of how we represent the world or nature, but how poetry can activate awareness of a *dislocation* between perceived natural language structures and the experiences of human beingness. Poetry is a sophisticated use of natural language—and the underlying linguistic system that defines that language—that attempts to re-represent actual experiences that are separated from even the most rudimentary linguistic objects.

1.4 The *body loop* and the *as if body loop*

Antonio Damasio makes a significant distinction between emotion as a body-based phenomenon and feeling as conscious awareness of emotion (Damasio 1994, 1999). He introduces what he calls the somatic-marker hypothesis (1999: 38-42). It states that emotions are essentially first-order neural maps established through physical patterns played out in the real world experiences of the physiological body. These neural maps, which are representations of repeated physical stimuli, are then re-represented in second-order neural patterns that mark the body's states as "images" in the mind. This leads to what Damasio calls (i) a "body loop" and (ii) an "as if body loop" (1999: 79-80). The latter is a type of neural simulation based on actual body states that capitalizes on well formed neural patterns and neural maps previously established. The terms in (i) and (ii) relate to changes in body state and cognitive state: the *body loop* "uses humoral signals (chemical messages conveyed via the bloodstream) and neural signals (electrochemical messages conveyed via nerve pathways)" to change body state (Damasio 1999: 281); the *as if body loop* can also change the body state because "representation of body-related changes is created directly in sensory body maps, under the control of other neural sites... it is 'as if' the body had really been changed" (Damasio 1999: 281). Both terms relate to what I previously called "prime" experience and both are necessary for changes in cognitive state necessary for high cognitive activities like

writing and reading poetry. I compare the *as if loop* potential to the type of experience one may have in reading a poem. No physical *body loop* or generally physical event is taking place that corresponds to the emotional behavior consequent from the reader's processing of the language of the poem. Thus, we simulate the experiential qualities of a poem via the *as if loop* in conjunction with, or as a consequence of, the language used in the text. The fact that abstract symbols can conjoin with a pre-established neural architecture to produce simulated experiences that are no less real as a physical experience is the foundation of the dislocation between physical experience and language that describes such experiences. One limiting factor is that the reader must have an emotionally equivalent corresponding neural map in conjunction with the experience communicated through the poem. For example, if one has not experienced something in the flesh they will not experience an approximately equivalent simulation: if I have never been to the woods, experienced snow, or seen a horse, then Frost's "Stopping by Woods at Night" will not give me the allowance of re-experiencing something similar to what the poem is conveying. The initial experience of the speaker of the poem is inaccessible to me. Rather, I may have some simulated type of experience from reading Frost's poem, but it will not be an approximation of the initial experience of the poet because I have never been physically engaged by the same set of general phenomena conveyed in the poem. What is amazing, though, is that I may engage in emotions and experiences that I have no physical basis for or that I have never in actual physical fact experienced. But because I have happened to had many winter nights alone in wooded areas, Frost's poem holds a particularly special significance for me-but this is not a prerequisite for enjoying the poem on many levels of feeling. Later I will consider a short paper by Feldman and Narayanan (2004) to independently support Damasio's claims about the *as if loop*. The authors argue, based on clinical trials with monkeys, that pre-motor cortices and sensory-motor mechanisms play a part in the construction of meaning in action words. This amounts to a simulation process by which one unconsciously executes a simulation of the action corresponding to the word in order to process its meaning or intention. They go one step further and propose that abstract events including planning, recognition, and imagination may share the same representational neural substrate as action word potentials do. I will also introduce "preverbal" and "verbal" selfhood. Preverbal selfhood refers to the experiential level of awareness while verbal selfhood refers to the conscious, and linguistic level, at which we begin to formulate descriptions of the possibilities of such awarenesses. The preverbal and verbal are dislocated, but they are not dualistic features such as a mind and body dualism would have it.

1.5 The verbal/pre-verbal convergence

How is language dislocated from consciousness? How is it that we can speak of a preverbal selfhood from which a verbal selfhood molds and shapes by way of linguistic designs? It might be helpful to import a term from Damasio: "convergence zones" (1992, 1995, 1999). By this term Damasio simply means the neural locations in which distinct and various processing areas of the brain meet up and converge. It is such convergence of multiple and diverse neuroanatomical areas that gives the brain its mul-

tidimensional quality. Convergence zones are also how emergent structure might be explained in that we have the meeting up of differing localities responsible for variously different processing jobs with the consequent of an apparent holism. From this convergence these systems or subsystems create novel patterns of neuronal firing. It would be much like two waves running up against each other: the patterns, once they converge, would alter by way of interference with each other. This interference could inhibit, cancel out, or activate new patterns. It is this novel way of two modulated systems to converge and create a new pattern, I conjecture, that connects the preverbal and verbal (i.e. how one goes from the neural patterns of the brain with their accompanying structures to the performance of natural languages). These convergence zones, as Damasio puts it, are responsible for a "dispositional space" with a neural foundation in high-order cortices and some subcortical nuclei (1999). Dispositional space refers to memory and the "records of implicit knowledge on the basis of which images can be constructed for recall, movements can be generated, and the processing of images can be facilitated" (1999: 219). We must keep in mind here that the images and knowledge Damasio speaks of are not symbolic; they are neural "images" of neural "knowledge." These "images" are produced first in non-conscious states of the brain as first-order experiential representations and are then re-represented in second-order states of awareness of this initial experience. The convergence zone is simply the location where such a second-order representation is processed and recorded for future recall. The theoretical convergence zones/dispositional spaces are neural distinctions dealing specifically with how "images" are processed, recalled, and used. If, for right now, we assume that experiences are processed as first-order "images" based in the physical body that can be mapped into second-order structures for linguistic exploitation in natural language processing, my notion of dislocation is related to Damasio's notion of disposition. Dislocation refers to a form of second-order structure that is distinct from an initial first-order experience. Dislocation is also meant to imply the full range of dispositional neuroanatomical variety that converges in specific areas to create novel neural patterns. These new patterns are representations of representations, so to speak, and are dislocated from the initial event pattern. So, if we imagine the preverbal self as a kind of image maker spinning out structure from the reflex of initial first-order experiences, the verbal self is a more abstract re-representational system that could be recursively defined in the sense that the output of first-order structure is the input to second-order mapping operations that inherently build on self-reference. This is only possible through convergence zones that allow one to recall and process images initially recorded as first- and second-order representations. Furthermore, the verbal self, or what is beyond second-order structure, would necessarily contain the kind of structure that yields the basic organizing principles of human language. Damasio also notes that

> dispositions are not words. They are abstract records of potentialities. Words or signs, which can signify any entity or event or relationship, along with the rules with which we put words and signs together also exist as dispositions and come to life as images and action, as in speech or signing [sign language] (1999, 332).

If dislocation helps organize distinct processing areas in the brain between an initial experience and the linguistic representation of that experience, then dispositional space and the convergence zones that are its neural foundation must play a part. I want to draw attention to my assumption that my use of the term dislocation is an extension of Damasio's term dispositional space. It entails everything subsumed under convergence zones with the added consequent of conscious linguistic production. To put it differently, dislocation is a dynamic form of structural dependency between distinct localized and non-localized temporal processes operating in the brain. Dislocation is defined by the mapping of first-order structure onto second-order structure, providing a general foundation of the mind-and in particular human language.

1.6 The footfall echoes

The title of this section is taken from T. S. Eliot's masterpiece *Four Quartets.* The following lines are taken from the "Burnt Norton" section.

> At the still point of the turning world. Neither flesh nor
> fleshless;
> Neither from nor towards; at the still point, there the dance
> is,
> But neither arrest nor movement.
> (lnn 62-66)

Eliot goes on:

> Erhebung[3] without motion, concentration
> Without elimination, both a new world
> And the old made explicit, understood
> In the completion of its partial ecstasy,
> The resolution of its partial horror Yet the enchainment of past and future
> Woven in the weakness of the changing body,
> Protects mankind from heaven and damnation
> Which flesh cannot endure.
> (lnn 74-82)

Past and future blur together in first-order experiences—primal, or "prime," experiences which are not subject to moral judgment. The present, past, and future are mapped onto higher order functions from the pre-verbal self.

> Time present and time past
> Are both perhaps present in time future,
> And time future contained in time past.
> (lnn 1-3)

[3] German for 'raising.'

The verbal self that recursively constructs from first-order experience is able to re-order those initial pre-verbal experiences. The pre-verbal self does not conceptualize the passing of time, but only knows time as the spatial extension of physical processes embedded in a physical world. Once a second-order structure emerges it is possible for the passing of time to be partitioned through the extended emergence of a linguistic structure.

I argue that Eliot is here describing the process of cognition as it recursively maps from the initial first-order "body loop" to operations of higher second-order structures of the "as if body loop." For the poet and reader of poetry, initial experience must be re-organized, re-represented in the mind through the structure of a linguistic system that delimits, first a foremost, a physical experience through a distinct linearity of form-a temporal measure in units of speech or writing. The final result is a linguistic system that maps to cognitive imagery. Yet this linguistic system has embedded within the limits of its own organizing principles and language-specific structures an ineffable quality: the verbal self metaphorically folds back on its preverbal self of first- and second-order structure. This folding back subsumes interpretational semantic variables that cannot be deterministically mapped onto a function of predictable meaning for the reader: the value of meaning for the reader will in large part be determined by their own previous physical experiences from which emotions (first-order body loops) and feelings (awareness of emotions) emerge. Additionally, there is an analogy between *folding back* and what happens in a convergence zone.

> At these sites [convergence zones] the axons of feedforward projecting neurons from one part of the brain converge and join with reciprocally diverging feedback projections from other regions. When reactivation within the convergence zones stimulates the feedback projections, many anatomically separate and widely distributed neuron ensembles fire simultaneously and reconstruct previous patterns of mental activity (Damasio 1992, 91).

These "previous patterns" are the neural "experiences," "words," and "images" stored in dispositional space that Damasio claims are "abstract records of potentialities" (1999: 332). If dispositional space holds these records, which include "rules with which we put words and signs together" (1999: 332), then these dispositional spaces are the mediators between the poet's initial experience, his awareness of that experience, the"images" he chooses to represent, and the organizing principles of the linguistic system. Damasio goes on to say that

> Activity in such a network [convergence zone]... can activate a system that mediates between concept and language, causing appropriately correlated word-forms and syntactical structures to be generated. Because the brain categorizes perceptions and actions simultaneously along many different dimensions, symbolic representations such as metaphor can easily emerge from this architecture (1992: 91).

1.6.1 A Neo-Reichenbachian Take on Eliot's Time

Hans Reichenbach's book *Elements of Symbolic Logic*, Reichenbach (1947), proposes a way to measure time in natural language. His treatment has been revived in numerous generative studies that must account ro Tense—the functional cateogry that encodes temporal relations of the verb or predicate; see in particular Cinque (1999) and Hornstein (1993). XXXX

1.6.2 Evidentiality in Time and Situation

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1.7 What comes before the pre-verbal?

I turn now to Damasio's concept of a nonconscious proto-self: "the sense of self has a preconscious biological precedent... and the earliest and simplest manifestations of self emerge when the mechanism which generates core consciousness operates on that nonconscious precursor" (1999: 153-154). Put another way,

> the organism, as represented inside its own brain, is a likely forerunner for what eventually becomes the elusive sense of self... found in the ensemble of brain devices which continuously and nonconsciously maintain the body state.... These devices continually represent... the state of the living body, along its many dimensions. (1999: 22)

However, this proto-self does not perceive or know anything, and is not one constant whole but a collection of devices or systems and subsystems that run the automated management of the organism (Damasio 1999). We must remember that Damasio sees no evidence of natural symbolic language in core consciousness: "The contribution of language to the mind was, to say the least, astounding, but its contribution to core consciousness was nowhere to be found" (1999: 108). If it is true, as Damasio claims, that core consciousness emerges from the proto-self then we must assume there is no linguistic significance within the proto-self. It is this proto-self that comes before and extends into a nonverbal selfhood. It is notable that some type of heavy *veil* mechanism covers the proto-self from the mind's awareness of the intricate details of the interrelations mentioned above. The proto-self is the "coherent collection of neural patterns which map, moment by moment, the state of the physical structure of the organism in its many dimensions" (1999, 154). These first-order collections of neural patterns on multiple levels from brain stem to neo-cortex, and the pathways that connect these multiple levels, are intimately involved with the process of "regulating the state of the organism" (1999: 154). Damasio goes on to say that we are not aware of this proto-self and that it does not occur in one place but

> emerges dynamically and continuously out of multifarious interacting signals that span varied orders of the nervous system... [becoming] a product of the interaction of neural and chemical signals among sets of regions. (1999: 154)

But it is not *aware* of anything. It is from the swamp of proto-self and core consciousness that a sense of self emerges. The proto-self also provides the basic schemata from which higher *imagistic* representations of body emerge from. In fact the emergent imagery representations of the body *projected* into core consciousness actually simplifies the precognitive/preconscious functions of the proto-self necessary to make the representations in the first place. The simplification of processes-as-representations gives the mind more time and space to do other things; namely, process mass quantities of perceptual content by *compressing* such representations into conceptual domains. In another way, however, the proto-self concept of Damasio is important in understanding the levels beyond prototypical self. In the proto-areas we first get wind of the brain forming representations of the internal state of the body (as influenced by outside, intercellular, and intracellular forces). This is the embodied foundation of representations emergent in other areas of high level self-conscious operations. Though it may not have any global effect, it is at least a place to begin. Furthermore, we can show that from Damasio's work the most basic conglomeration of systems that a core sense of self emerges from are not localized in one area, they are in various areas on multiple levels; they are physically dislocated. With this foundation, we find some support for the argument that initial experiences as realized in our sense of self do not depend on linguistic organization: there is a dislocation/disposition between initial experience and the conscious use of natural language that describes that experience. Thus, poetry with its emphasis on imaginative representations of experience both rational and emotional can be seen as a re-creative exercise of this basic cognitive reality. This turns poetry into a valid cognitive function itself no less necessary than the basic cognitive operations it puts into play: operations that happen to be necessary for getting along in the world such as interpretation of condensed information, parsing out conceptual schemas, and basic organizing principles. Here I will recap: The nonconscious-proto-self moving into the core-consciousness-self is not a developmental model (e.g. a model where as one grows older one moves from nonconscious states to conscious states. Rather, such states exist simultaneously moment to moment). It may be explained in evolutionary terms as proto-self preceding the other states, but this is not the whole picture. The various states of consciousness exist simultaneously and in a certain way are all interdependent, namely towards the proto-self as the necessary foundation of a neural network representation of inner body states. The emergence from proto self to core self happens when any object whether present or recalled modifies the body-based first-order proto self and becomes a second-order representation, which is how core-consciousness emerges. The core self awareness is generated for any object that provokes a certain core consciousness mechanism. Namely, it is the interaction between proto-self and an object that generates some mechanism that modifies the first-order proto-self and from which a second-order representation emerges in the form of a nonverbal nonsymbolic "image" that is a new neural pattern and that we can now call core-consciousness. The major change from proto to core is that we can now be aware of the fact that there is representation, and that the transference between proto and core in terms of representations and re-representations sets the neural foundations for organizing principles of symbolic and linguistic forms. To bring this home I will quote Damasio again: "the nonconscious proto-self, which is reconstructed live at each instant, and the conscious core self, which emerges from it in the second-order nonver-

bal account when an object modifies it [proto-self]" (1999: 173) is how we describe the feeling of the self as a body and a concept of self. The process mentioned above is constant because of the availability of any object in present time or recalled time, and gives an apparent sense of continuity to the core self. This core self is our preverbal selfhood (interdependent with the nonconscious proto-self) from which higher order linguistic systems formulate sequences and create specifically designed image-symbols through the organizing principles emergent from core-self. Beyond core consciousness we have feelings of feelings. Remember that for Damasio emotions are connected to a myriad of physiological responses that are for the most part public, and feelings are a private mental experience of emotion. Tranquility can be considered a private feeling where recollection of emotions becomes the second-order nonverbal modification of an object on a first-order representation of inner body states. To quote Damasio again,

> In short, emotional states are defined by myriad changes in the body's chemical profile; by changes in the state of viscera; and by changes in the degree of contraction of varied striated muscles of the face, throat, trunk, and limbs. But they are also defined by changes in the collection of neural structures which cause those changes to occur in the first place.... To the simple definition of emotion as a specifically caused transient change of the organism state corresponds a simple definition for feeling an emotion: It is the representation of that transient change in organism state in terms of neural patterns and ensuing images. When those images are accompanied, one instant later, by a sense of self in the act of knowing, and when they are enhanced, they become conscious. They are, in the true sense, feelings of feelings. (1999: 282)

What we get is to be changed, to have the feeling of knowing, of being aware and sensing ownership of phenomena associated with the root cause of our image-making and emotion-feeling ability: the body. Nothing can proceed without the body. This is what the great poets know. If it is true that language emerges from the organism-as-a-whole and has its genetic blueprint beginnings somewhere deep in the structure of the brain-body-mind matrix, then the language of poets is surely a rich resource for inquiry. I have tried to show here the importance of poetry to consciousness studies and consciousness studies to poetry through a general inquiry into the nature of the route an initial experience must follow in order to become formulated linguistically. Poetry is the perfect candidate for a middle ground between a phenomenological and an analytic study of human consciousness as formulated through the medium of linguistic systems. The reason for this is that the experience of poetry, both writing and reading, bridges the gap between a private nonverbal account of an experience and that same experience as it is formulated within a biological and linguistic system.

Chapter 2

What is Language?

This question has a long history. Throughout most of this history there have been two conflicting opinions that can be summarized nicely in the following dualisms.

(1) Spirit vs. Bestial

(2) Immaterial vs. Material

(3) Designed by Nature vs. Designed by Society

The left side includes explanations such as language is a product of God, it is an ephemeral property of the mind, it is some kind of (maybe perfect) system that is *supervened* onto the materiality of the human brain, or it somehow arose from the general physical forces that shape all of nature. The right side includes explanations such as language is a product of earthly (and sinful, perhaps) forces which tries in vain to express the prefection of God, it is the product of physical mechanims that express thought, or it is an evolutionaruy adaptation meant that arose from some kind of communicative need in social settings. The explanation I am going to give comes from the Designed by Nature argument. It should be noted the simplistic exmaples given above are just that: simplistic examples. All definitions and explanation of what langauge is are complex and cannot easily be placed into oversimplistic dualisms. The truth is that a proper and complete explanation for language has to account for **both** sides. Until we know more about language this proper explanation will have to suffer at the hands of a one-sided story.

2.1 Designed by Nature

2.2 Dislocation of Phonological Material

Chapter 3

How is Language Dislocated from Consciousness

How is language dislocated from consciousness? How is it that we can speak of a preverbal selfhood from which a verbal selfhood molds and shapes by way of linguistic designs? And lastly, why is it that throughout this paper I have advocated against dualism in separating grammar/rhetoric, emotionalism/rationalism, and so forth? To take the last question first, it must be remembered that in any apparent claim for a strict separation between two states or concepts I have made clear that we should view them as notions on opposite positions of a continuum. They aren't truly separate because they are not pure. Such a continuum is a helpful heuristic in imagining the continuity of dimensions of multiple levels from molecular to psychological phenomena. We cannot say that these two levels of measurement are separate; though any kind of causal necessity is definitely in question. Second, in the case of preverbal and verbal distinctions, or in other words the " dislocation' of initial experiences from linguistic systems along a continuum of levels of different dimension, it might be helpful to import a term from Damasio: " convergence zones" (1992, 1995, 1999). By this term Damasio simply means the neural locations in which distinct and various processing areas of the brain meet up and converge; he presupposes a neurological modularity, which should be distinguished from faculty psychology modularity. It is such convergence of multiple and diverse neuroanatomical areas that gives the brain-mind its multidimensional quality. Convergence zones are also how emergent structure might be explained in that we have the meeting up of differing localities responsible for variously different processing jobs with the consequent of an apparent holism. From this convergence these systems or subsystems create novel patterns of neuronal firing. It would be much like two waves running up against each other: the algorithmic patterns, once they converge, would alter by way of interference with each other. This interference could inhibit (cancel out) or activate a new pattern. It is this possible novel way of two seemingly unrelated systems to converge and create a new pattern that is a neural mediator connecting preverbal and verbal selfhood (i.e. how one goes from the neural patterns of the brain with their accompanying structures to the performance of natural languages). These con-

vergence zones, as Damasio puts it, are responsible for a " dispositional space" with a neural foundation in high-order cortices and some subcortical nuclei (1999). Dispositional space refers to memory and the " records of implicit knowledge on the basis of which images can be constructed for recall, movements can be generated, and the processing of images can be facilitated" (1999, 219). We must keep in mind here that the images and knowledge Damasio speaks of are not symbolic; they are neural " images" of neural " knowledge." These " images" are produced first in non-conscious states of body-brain as first-order experiential representations and are then re-represented in second-order states of awareness of this initial experience. (It is from this second-order that linguistic principles can begin to be constructed). The convergence zone is simply the location where such a second-order re-representation is processed and recorded for future recall. The theoretical convergence zones/dispositional spaces are neural distinctions dealing specifically with how " images" are processed, recalled, and used. If, for right now, we will assume that experiences are processed as first order body-based " images" that can be transformed into second order organizing principles for symbolic-linguistic re-representations that take part in natural language processing, my notion of dislocation is related to Damasio's notion of disposition. Dislocation refers to a form of second order symbol-image distance from an initial first order experience, exactly the kind of distance created when representations (neural maps) and re-representations (organizing principles for natural language) are formulated. Dislocation is also meant to imply the full range of dispositional neuroanatomical variety that converges in specific areas to create novel neural patterns. These new patterns are representations of representations, dis-located from the initial event pattern. So, if we imagine the preverbal self as a kind of image maker from initial experience, the verbal self is the more abstracted re-representation recursively defined by reference to the preverbal in order that organizing principles for symbolic-linguistic forms are constructed. This is only possible through mediation of convergence zones that allow one to recall and process images initially recorded as (first-order and) second-order representations. Disposition speaks of neural anatomy, dislocation speaks of the linguistic process as it is processed within convergence zones first as a represented " image" form, then as principles for the organization of linguistic-symbolic forms, and performed (written down or spoken) through the body and placed in a public domain as a non-changing object (e.g. a poem). As Damasio says, " dispositions are not words. They are abstract records of potentialities. Words or signs, which can signify any entity or event or relationship, along with the rules with which we put words and signs together also exist as dispositions and come to life as images and action, as in speech or signing [sign language]" (1999, 332; my italics). If dislocation is a supposed " distance" between an initial experience and the linguistic representation of that experience then dispositional space and the convergence zones that are its neural foundation must play a part. Simply put, the term dislocation is an extension of the term dispositional space. It entails everything subsumed under convergence zones with the added consequent of conscious linguistic production. To sum it up, dislocation is a flexible form between localized and non-localized spatially extended relations through temporal processes operating in the brain to provide the foundation of the general mind and one of its specific products, language.

3.1 Language is not Thought

The first thing that must be recalled is simply that linguistic language is separate from thought. We can speak of pre-verbal and verbal thought with the degree of fact something akin to a " scientific fact," though general consensus still wanes. There is no need for the development of a systematic linguistic language in order for consciousness and thought to develop and exist in a workable way, though the richness of this development is in doubt dependent on linguistic ability. It is the same a saying that a human needs to develop mathematical skills in order to think and have thought. Granted, one doesn't need these faculties or modules in order to survive on a basic level of consciousness, but it's ludicrous to assume that our levels and qualities of thought aren't made infinitely better through the use of highly self-conscious systematic and formal systems such as linguistic language and mathematics. It's hard to imagine another way of specifically communicating our thoughts to a degree of exactitude without language. One can assume visual-image representum, or musical modes of communication - both as valid as other forms of communication - but it's hard to think that they could ever reach the level of exactitude that systematic linguistic languages do. Given all the de-centered and infinite generative possibilities of language along with basic semantic ambiguities, in light of alternative methods for communication, description, expression, linguistic systems are extremely specific and exact. Thus, in understanding and accepting the fact that language and thought are interrelated but not completely dependent on each other (the interrelation having a byproduct of refining both language and thought and influencing each other to amazingly complex degrees), we can speak with certainty of a pre-verbal self-hood and a verbal selfhood. But it should be noted here that there is no intended implication of a distinct separation and that the influences language and thought have on each other serve a function of linking and bridging disparate faculties or modules of the cognitive machinery. This is where we will speak of a verbal self-hood (an awareness of Self through language and thought), and a pre-verbal or pre-linguistic self-hood (an awareness of a self via core emotional functioning by which a type of image-language is produced in different levels of brain-mind (Damasio DE, FW)). Within the (pre)- verbal self-hood we can imagine a continuum along which both types of self-hood range with polar extremes as like the spectrum of light: we have two " idealized pure" forms at the polar opposites. But between these idealized purities of identity in pre-verbal and verbal self-hood there exist the real identities where no clear distinctions can be made from state to state. They blend together on close analysis, but in a more distanced and general way some states are obviously not related, except that they belong to a hypothetical continuum of states, which for now we can assume that the totality of which is consciousness. A helpful note here is to think of this continuum as having recursive functions: we need not travel along the continuum step by step to change states. In a way, this continuum is a mix of vertical and horizontal faculties of the mind: it allows for looping from state to state in many and various ways dependent on changes in the

> body's chemical profile; by changes in the state of viscera; and by changes in the degree of contraction of varied striated muscles of the face, throat, trunk, and limbs. But they are also defined by changes in the collection

> of neural structures which cause those changes to occur in the first place. (Damasio FW)

These must be accomponied along with the images represented in the mind through the body-brain matrix that Damasio speaks of, outside stimuli, psychological reactions and actions, choices, and just about anything else we can think of that may have an impact on our brain-body-mind and our self-awareness of being and feeling. Integral to this, are dimensions of awareness of self: from core emotional states like somatic-marking of the perception of light stimuli to highly self-aware states such as the study of psychology and accompanying images.

Language and thought are and are not separate, and there is and is not a distinction between pre-verbal and verbal selfhood. This is not just a whimsical contradiction: we can speak in theoretical terms of consciousness independent of linguistic language, or the development of areas of consciousness with no need for linguistic systems, but the fact of the matter is that we can't be sure we have ever seen or met a person in a state of consciousness completely independent of a linguistic system, and if we did, how could that person verify what we suspected. Insurmountable as the problem actually is, we can set up an idealized theoretical model from which to contrast. Our model is a theoretical person who has never learned any linguistic language, yet is normal under every other core consciousness level, as well as the continuum of states discussed above. The latter is merely a helpful image or analogy, but the former is an actual possibility and it's arguable whether or not we have been introduced to such a person in the cases of *feral* children or in the case of Genie. These are children who have either had close to no social contact with other human beings, and thus have had no initial linguistic stimulation (a point some generative linguists note must occur), or have had numerous social contact but with species different from humans, resulting in a species specific exposure to communicative patterns or strategies. Most of these studies have concluded that initial linguistic exposure to human language must occur before a certain age (Fromkin). Thus, these *feral* children may not have any workable linguistic system as we would define a workable linguistic system.

3.2 Neurology and Language

Two of the most striking ideas for my purposes come from the neurology sector. The first is from Antonio Damasio (*Descartes' Error* [DE], *The Feeling of What Happens* [FW]), who places consciousness within the interrelationship between brain-body-mind. His model represents a three dimensional matrix of sorts with loops that connect the three interdependent dimensions. There are two types of loops, one that marks the body in the brain and one that acts as if it is marking the body in the brain. The first one is dependent on Damasio's definition of emotion, of which he says, " the term emotion should be used to designate the collection of responses, many of which are publicly observable" (FW 42). These responses are due specifically to physiological stimuli inside and outside the body and are to a great extent objective phenomena. Emotions are distinct from feelings: " I have proposed that the term feeling should be reserved for the private, mental experience of an emotion" (FW 42). Feelings are self-conscious

responses within the self to the more objective emotional phenomena. Feelings are the awareness of having emotions, and are thus necessary for consciousness which is a state of self-awareness in varying degrees. He goes on to state,

> In short, emotional states are defined by myriad changes in the body's chemical profile; by changes in the state of viscera; and by changes in the degree of contraction of varied striated muscles of the face, throat, trunk, and limbs. But they are also defined by changes in the collection of neural structures which cause those changes to occur in the first place.... To the simple definition of emotion as a specifically caused transient change of the organism state corresponds a simple definition for feeling an emotion: It is the representation of that transient change in organism state in terms of neural patterns and ensuing images. When those images are accompanied, one instant later, by a sense of self in the act of knowing, and when they are enhanced, they become conscious. They are, in the true sense, feelings of feelings (FW 282 italics mine).

What is important here is the fact that these physical and objective phenomena are being represented by neural patterns, which in turn are represented as images in the mind. This is what Damasio calls somatic-marking, a marking through brain-mind of the body's state. This happens no matter what. But when we begin to have a subjective experience of these phenomena, when we have feelings of emotions, we are self-aware of our physical states and on our way towards consciousness. According to Damasio,

> these representations are implicit, dormant, and not available to consciousness. They exist, rather, as potential patterns of activity arising within neuron ensembles. Once these dispositions are activated, a number of consequences ensue. On the one hand, the pattern of activation represents, within the brain, a particular emotion as neural " object." On the other, pattern of activation generates explicit responses that modify both the state of the body proper and the state of other brain regions. By doing so, the responses create an emotional state, and at that point, an external observer can appreciate the emotional engagement of the organism being observed. As for the internal state of the organism in which the emotion is taking place, it has available both the emotion as neural object (the activation pattern at the induction sites) and the sensing of the consequences of the activation, a feeling, provided the resulting collection of neural patterns becomes images in the mind (FW 79).

This could not happen if it were not for a looping system that allows a constant recursion back and forth from body to brain to mind. This is what he calls the body-loop. It uses chemical messages through the bloodstream and neural signals through nerve pathways and has influence in changing the landscape, which is represented in somatosensory structures of the nervous system and brain (FW 80). The significant thing here is that Damasio goes on to propose an " as-if loop" that works as if the body state were being changed when in fact no objective phenomena is taking place (80). This is possible because the brain has a mapping system, of sorts, based on previous

and somewhat established neural patterns (couched in various neuroanatomical areas and capable of running simultaneously) of these basic body loops. Thus, we have the built in ability to simulate almost any experience for which a corresponding neural map and body-loop image have existed previously. This is behind empathy and sympathy, the ability to feel pain for someone when one is not really in physical pain. This is behind the emotional and sensory data of emotions. And this is how a work of literature can allow us to experience the joy and love of Character that are represented by nothing more than a formalized linguistic system: The words imply a world and if they are good, that they can with some fidelity map out the correct symbolic representation of feelings and emotions, we can simulate the creation of a world peopled with feeling beings based on our own ability to simulate phenomena because we ourselves have physically been through such phenomena. This is not a template but a dynamic process or re-creation through the non-conscious approximation and re-appropriation of neural maps interdependent on the physical and cognitive experience of our own experiences. I will explore this further in depth later on. The second most relevant idea for our purposes in CogSci, which also comes from the neurological sector, is in an article by Jerome Feldman and Srinivas Narayanan titled " Embodied Meaning in a Neural Theory of Language." The results are strikingly similar but independent of Damasio's " as-if loop." (See also Changeux's Neuronal Man, Fodor's The Modularity of Mind, and Edelman's The Remembered Present for comparisons and differences). The Narayanan-Feldman article states that action words have both motor components and conceptual components along with the somato-sensory component (1). They begin by citing a number of studies that establish the viability of the idea that " the meaning of a noun depends on the uses of the underlying thing [object]" (2). Thus some kind of underlying action valuation of an object will determine the non-action meaning contained in noun. In the case of action words Narayanan-Feldman make reference to neurological studies done with monkeys that propose what is called mirror neurons, which have homologs in humans. The processes of these mirror neurons suggest an " overlapping substrate for the execution of the actions and for the perception of the same action" (2); neurons that activate the stimulus to physical action can also " mirror" this action and reflect it as a perception into the form of a verb. (The example used in the article is this: someone asks you to pass the salt – mirror neurons simulate the action of passing in the mind and this " reflective" simulation helps the person perceive what performative action is meant by the verb " pass"). Since there is an overlapping of " reflective" and " active" substrate, Narayanan-Feldman postulate simultaneous multimodal neural substrate for words with action: Multiple areas of the brain are running simultaneously as the subject is able to act and perceive at the same time (e.g.: it takes little real-world time for us to actually " pass" the salt... versus " passing" the football or " passing" gas). Strikingly, " areas that were conventionally considered to process only sensory information like posterior parietal areas, have been found to play a major role in motor control.... It appears that premotor and parietal areas are neurally integrated not only to control action, but also to serve the function of constructing an integrated representation" (2). This " integrated representation," much like Damasio's body-emotion based representation in the brain-mind, marks actions, objects, and locations that such actions and objects are directed towards. Thus, if the body is represented in the mind by objective phenomena Damasio calls emotions, it is just as well

that other objective phenomena outside the body are represented in the mind through the body's physiological perception of such. And so, if a representation of location and action within the location-with-a-corresponding-object is represented within the mind, it is possible to say that a simulation of such action within the proposed location is possible through the mind's representation: since the mind can represent an image of the dinner table where the salt will be passed we are allowed to say that the mind can also run a pre-conscious simulation of actually passing the salt. (We need to keep in touch with the fact that there is no separation at all between body-mind-brain. If any one of these elements is missing, such representations are impossible, i.e. simulations. And in fact, such representations emerge from the elements of body, brain, mind.) This simulation is exactly what our authors postulate. They then move from the physical context realm to the narrative realm and hypothesize that " the NTL [Neural Theory of Language] assumption is that people understand narratives by subconsciously imaging (or simulating) the situation being described." More generally, NTL suggests that all understanding involves " simulating or enacting the appropriate embodied experience" (6). Note here the use of the word embodied; no experience, representation, or simulation is possible without the body. However, we may have experiences where the awareness of our body plays little to no part. The similarity with Damasio is striking, moreso because Feldman and Narayanan have taken a different route to get to the same type of conclusion. The authors cover other very important ground but for our purposes the act of pre-conscious cognitive simulation through representations of embodied interpretations of action-meaning words is sufficient. A last note before moving on: the authors extend their proposal beyond concrete actions underlying words

> These experiments argue both for the general idea of simulation and also for the particular notion of the embodied meaning of action words. They also provide robust biological evidence that planning, recognition, and imagination share a common representational substrate. Our model of actions and their use in narrative predicts that the same structures are being exploited in understanding language about both concrete and abstract events (10).

Thus, when we read in a narrative that subject P asked subject Q to pass the salt we understand what is happening without any reference to an actual physical action because we already have a "lexicon" for such an action. The importance of this conclusion should not be undervalued. Specifically in terms of what is called valency theory, which takes the verb as the main ontological component of sentences of which constituent entities organize around (Russ 182-184). The term valence, is of course, taken from chemistry and implies a conceptual synonymity in the movement of combination and organization between sentences and atoms. A third study of significance for us comes from the linguistic sector. Susan Curtiss' (et. al.) studies of linguistic development in children with right and left hemispherectomies provides interesting ground for speculation on the nature of psycholinguistic competence bounded to neurological structures (reference to the article " How normal is grammatical development in the right hemisphere following hemispherectomy? The root infinitive stage and beyond"). What we find in this article is that " the language [performance] of the hemispherec-

tomies paralleled that of their MLU matches with respect to the specific morphosyntactic characteristics of each stage... [and] that grammatical development, regardless of it neural substrate, is highly constrained by UG [Universal Grammar] and follows a narrowly determine course“ (Curtis, et. al. 1). The hemispherectomies (a surgery resultant in “ closing-down“ the activity of a hemisphere of the brain) were mainly the result of “ hemimegalencephaly, cortical dysplasia, Rasmussen's Encephalitis“ and were compared along many different studies of hemispherectomy of both left and right hemispheres. What is most amazing is that when the left hemisphere is disabled, traditionally the language “ side,“ the isolated right hemisphere takes over the linguistic development with varying degrees of success. Overall, children with the isolated right hemisphere, while taking longer, have more success than they do failure in achieving parallel MLU with normal hemisphere children. This leads our authors to postulate that if “ the right hemisphere is free to develop its latent capacity to subserve grammar and grammatical development“ then we must ask ourselves where “ UG [Universal Grammar] resides in the brain, or why and how grammar gets pulled to or is pre-programmed to unfold in the left hemisphere in almost all members of our species“ (9-10). There are more delicate issues bounded with this but the major point is that those children with left hemispherectomies, the side which is the traditional language “ side,“ still develop highly complex grammatical ability and make the same mistakes over an extended period of time that normal children do. The authors of this article do not seek to answer why children with the isolated right hemisphere can develop so well. But they do claim that “ child grammars, even those mediated by the right hemisphere past early childhood, embody functional structure... and that grammar, even grammar subserved by the isolated right hemisphere, grows only along a course narrowly defined and constrained by the principles of UG“ (10). Thus, it appears that linguistic competence is not necessarily “ tied“ to any neural substrate. It's my contention that such structures as UG are emergent properties, and so, cannot be located in any one area. Such structures are not the shadows of Platonic forms floating around in our minds, and they are equally not the byproduct of a specific neurological structure: UG is “ dislocated.“ I am not denying the localization of many processing areas. There is too much clinical evidence to deny such local activity. What I am hypothesizing is that the real worth of linguistic acquisition, development, and use lies in-between the relations of these localized processing dimensions. In the case of severe damage to a local left area of language processing it may be the case that the relations themselves between areas are projected to plastic areas of the right hemisphere. No specific area is the area for language. Nevertheless, grammatical proficiency emerges over time as valid output. It seems that what we must rely on are relations between areas of processing in order for a full understanding of a sentence or narrative to emerge. And so it might be that even though local substrates are very important, some indispensable, what really counts is how the various areas “ communicate“ and converge.

3.2.1 I feel therefore I know

Let us go back to something Damasio says about language and consciousness, “ I believe it is legitimate to take the phrase 'I know' and deduce from it the presence of a nonverbal image of knowing centered on a self that precedes and motivates that

verbal phrase" (FW 108). We have to take seriously the notion that linguistic language may not be needed for core dimensions of self awareness and consciousness. Granted, linguistic language is the greatest tool for describing and investigating this sense of self, but this in no way predetermines the absolute fusion of the two. To quote Damasio again, " The contribution of language to the mind was, to say the least, astounding, but its contribution to core consciousness was nowhere to be found" (FW 108). By this, we can begin to think in terms of a preverbal self and a verbal self. Although it is not desirable to make a distinction between the two as extreme opposites we can postulate a dislocation between basic human experiences (preverbal self) and the forms of linguistic language that allow us to describe and define such experiences (verbal self). For example, when we participate in the strange experience of having of a word on the " tip of our tongues," we may all agree that images seek to mediate between what we feel we want to say and the appropriate form in which to say it. In this way, language can be described as being somehow " dislocated" from consciousness. We will return to this later.

3.2.2 Emergence

A discussion of the term *emergence* should be the next step: To begin with, *emergence* carries with it, sometimes, a connotation along the lines of mystical appearance of some kind of phenomena. In this connotation it has synonymy with the term *transcendence*—the reduction of infinite, divine, or purely metaphysical forces beyond human cognition to an appreciable subjective experience, namely the sublime of the Romantics. Instead of **reduction** of macroscopic forces into a microscopic form that transgresses its own actual boundaries, *emergence* is the ascension of highly complex and sometimes disparate microscopic phenomena to an appreciably general macroscopic form. The two terms, *transcendence* and *emergence*, merely describe two directions of the same concept. This places the use of the term *emergence* and its applications in this paper within the range of interests of the Romantic and Transcendentalist writers, along with some of the philosophers that inspired them, namely Kant and his phenomenology. Crucially, this term also refers to the study of complxity and complex dynamic systems, for example Kauffman (1995). All of this, though, is implicit throughout. Why I bring it up here is to remind us that concerns dealt with in this inquiry are not new, but are contemporary twists on old questions and can be related to the larger study of complexity and emergence that is currently underway in fields like biology and linguistics. Examples of emergence include fractal geometry (as nothing but the emergence of a large pattern from the repetition of relatively small patterns that have the same statistical relations), or the human nervous system as the general systematic pattern that emerges from the complexity of (inter) relations between significantly smaller and distant systems all over the body. Another example of emergence is the " impression" or " message" one may get from the (inter) relations of words, sentences, paragraphs, and chapters within an entire text. A last example is that of the fugue or canon form in classical music. Douglass Hofstadter (Godel, Escher, Bach) and Damasio use the fugue or orchestra metaphor in a highly fidelitous way in describing emergent phenomena of the human brain-body-mind. As we will see, *emergence* as a property defined above serves our purposes well because it has a wide range of applicability with a very high

degree of semantic or conceptual synonymy within its specific uses. Whether used in a mystical way or a scientific way, the concept relayed is the same in kind, and differs only in degree of how such emergent phenomena occur. In other words, the term has a parallelism with esthetics and logic, emotion and reason, phenomenology and science. Thus, the purely scientific application, as in biology or physics, can operate as a metaphor in more esthetic domains, and the connotative, literary, or mystic applications of the word link well to observable scientific and mathematic phenomena. The point here is not to " scientize" poetry or " mysticize" science. It is about finding terms with a rich transport between diverse areas. It's about finding terms that can mediate between various levels of observational phenomena from the molecular to the spiritual, all valid data when considering the linkage between human experience, language, and the esthetic form of poetry that seeks to communicate such experience through the manipulation of such language systems. Therefore, any term with sufficient enough conceptual data that bridges our areas of inquiry is invaluable to this study. The term, with its broad range of applicability and high degree of conceptual import and parallelism between diverse fields is ideal in our use of it as the property by which linguistic language is acquired , developed, and then used specifically towards the creation of poetry. It will become part of the vocabulary corpus in framing this Poetics - , if not the most discrete central concern as a conceptual necessity for this paper. A finer definition of *emergence* is needed now; to show us that the metaphorical transport of its scientific use may not be as "metaphorical" as it appears. The term originally arose in evolutionary biology to account for seemingly random and unexpected modifications in organisms. Such mutations or evolutions could not be accounted for by the mechanistic reductions implied by Darwin's natural selection theory: "emergent forms seem to disobey the principles of mechanical causality governing living beings. . . ." (Dictionary of Cognitive Science 114; 2004). A weaker version states that " evolution of higher-level properties (psychological ones in particular) depends on the lower levels, which would be compatible with their irreducibility" (114). These definitions easily move into an artificial intelligence arena where they become " Self-organized dynamic systems, which are composed of a very large number of interacting entities, [which] exhibit global properties that the basic entities in them do not posses...They are generally dependent upon the spatiotemporal patterns generated by interactions between basic entities. Examples of such patterns are spin-glass phenomena in physics [and] neural synchrony assemblies responsible for categorization in cognitive neuroscience" (113). Lastly, emergence is connected with the concept of dynamic systems, which are non-linear and concerned with literally mapping out chaotic phenomena. Dynamic systems are helpful for cognitive systems in what is called connectionist systems, which are " dynamic systems... albeit complicated ones due to the number of interconnected elements. An essential function of connectionist systems is categorization based on complex perception" (110-111). Dependence on the term " emergence" will allow us to speak of extremely complex interrelationships within the body, brain, and mind without having to be conversant in the particulars. We do not need to know the particular activity of these areas to understand that some form of dynamic system emergence is at work. This is the conceptual power of our term, and this is what allows us to apply the term in a broad range of domains (especially after our synonymous alignment with the term " transcendence" in regards to the poetry of the Romantics). Thus, when I say that

structures of cognition emerge from the material structures of the materiality of brain-body-mind and are not shadows of Platonic forms floating around in our minds, nor are they strictly reducible to specific neurological structures and subsystems, but emerge from within the complexity between multi-modal systems, neuroanatomical systems and architectures, viscera, and the various working parts of the human organism-as-a-whole, namely the body-brain-mind matrix, I am intimating a middle ground between epiphenomena and mechanical reductionism: The cognitive poetic function falls between the two extremes. The difficulty is not to locate such a function along a continuum between these extremes, but to show how a cognitive poetic function oscillates along such a continuum. The answer here is in Damasio's " body-loop" and " as-if body loop."

3.3 Language and Poetry

It would be nice to provide a clear and direct link between linguistics and poetry. Unfortunately, we do not know enough about human languages to do this: poetry is a sophisticated manipulation of particular natural languages. In order to understand how an object is maniputated we need to know about some of the general properties of that object in the first place. Certainly, one can povide a linguistic take on poetry in specific langauges, but to know how the basic cognitive function that gives rise to poetry is related to natural language in general we need to know more about both of these subjets. It is difficult to speak in the logical terms of linguistics about poetry as a singular subjective experience, and yet, that is what matters. A subject-reader must first be " moved" by a work, and therein find agreement with others about the fact that the work has some inexplicable quality to " move" them: if enough agreement occurs then that work or that author is considered to be of importance. It should be noted that these readers need not agree on the " how" or the " what" of the work, but just that a phenomenon (or any number of such) occurs in reading it, which is first and foremost the language it uses to convey higher representational phenomena about the world, emotion, and experience. John Milton's Paradise Lost is a great work. Some who have read it will agree but there need not be any consensus on how the reader and the work succeed at doing this. Furthermore, even if a reader does not like Paradise Lost it will always be agreed first and foremost that the poem achieves its poetics through its use and manipulation of linguistic language. In fact, a close reader can admit of greatness in this work without having any ideological agreement with the work itself. As Susan Kolodny says, " If, within its own terms... the text manipulates my sensibilities and moves me to pleasure - as I will affirm it does - then... in spite of my real-world alienation from many of its basic tenets, I have been able to enter that text through interpretive strategies which allow me to displace less comfortable observations with others to which I have been taught pleasurably to attend [i.e.: the language of the poem]" (Kolodny 1393). This lends itself to a question: Is there a poetic language? The answer would be no (Fowler). The purpose of a linguistic analysis of poetry is to show to what degree poetry is qualitatively different in its organization on phonological, morphosyntactic, and semantic grounds from daily speech and other forms of generic writing. One must analyze the elements of the linguistic system of a poem

with the cooperation of applied linguistics: parsing, pragmatics, prosody, alliteration, subject-verb agreements, spelling, meaning, rhyme, meter, tone, and so on. Any other first order analyses don't make sense: a poem is what its language is, and must be analyzed first with linguistic tools even if these tools may be at the deeper levels of theoretical linguistics and act discretely in the analyses of poetry. One of the reasons for studying poetry, a rhetorical reason, is to bring to surface some of these linguistic tools; to make the reader aware that the poem is employing, say, phonological rules at certain instances and these deeply embedded rules have some relation with this reader's taste or distaste for specific qualities in a poem. And that such embedded rules may have particular impact on other rules and other readers. Poetry's intimate and necessary use and manipulation of deep linguistic structures and rules on surface linguistic structures impels it to be first and foremost an objective linguistic exercise, whether in reading, speaking, analyzing, or writing. Yet, the study of affect cannot be ignored. The logical relations and structures that linguistics deals with cannot resolve the more fundamental phenomenological issues of the private subjective experience of the poem. Let's face it good poetry would not be good unless there were some private and awesome experience between text and reader. This private experience in poetry cannot happen without the language, which has unique logical properties. The prejudice at work here is that rationality and emotionality must be separate. This prejudice is played out in poetry by the supposed distinction between a rhetorical (emotive linguistics) and grammatical (rational linguistics) viewpoint. There exists a type of poetry that concerns itself less with ideological presuppositions of author, audience, and world than with self-awareness and cognitive processes, functions, and/or operations per se. This style of poetry (Lyric) is what our inquiry is most interested in because it seems to shed a light on the linguistic relationship between surface and deep structure. Lyric poetry is concerned with " images or metaphors, and about the possibility of convergence between experiences of consciousness such as memory or emotions... and entities accessible to the senses, such as bodies, persons, or icons" (De Man 911). If it is plausible that the body-brain relationship has an embodied influence on the mind, and that language is a structure emergent from the embodied brain-mind relationship, it becomes possible to speak of a " dislocation" of linguistic structure from basic human experience within the brain-body-mind matrix as a whole. What we may say here is that there is no clear separation between emotionality and rationality, no clear distinction between rhetorical and grammatical structures, and by way of these ambiguous placements of difference I use the term " dislocated" to imply a plasticity in location and distinction between the above pairs. When we look at the word " love" can we really speak of clear and distinct positions or definitions of the word in its logical and emotional structures? It is this inquiry's goal to show why we would say no: there is no clear or distinct way to define the word " love" without ignoring other essential aspects of the word's " existence." The above quote by De Man is in relation to W.B. Yeats' poem " Among School Children." Other poems of this caliber include T.S. Eliot's book Four Quartets, Jorie Graham's " Prayer," or Robert Frost's " West-Running Brook." Additionally, such attempts can be found in Keats, Coleridge, and many other Romantic and Transcendentalist writers and poets. In fact Wordsworth in his preface to the Lyrical Ballads proposes " to illustrate the manner in which our feelings and ideas are associated in a state of excitement. But, speaking in language somewhat more appropriate, it is to follow the fluxes and refluxes

of the mind when agitated by the great and simple affections of our nature“ (Brit lit 357 italics mine). This proposal isn't just for one Wordsworth poem, though it arguably finds its greatest success in The Prelude. It is for an entire programme of the activity of poetry itself. For Wordsworth, the poet is the one who, with a specifically tailored language that arises from common usage, is to explore the phenomena of being self-aware of having experiences both rational and emotional and to map with poetry the structure of human perception as the major function of half-creating the phenomenological world we half-objectively “ absorb“ through simultaneous sensation and thought. This entire programme is to be employed through the use and manipulation of language, which is the surface linguistic system of an inexplicably deep experience of cognitive activity. The depth here is not a psycholinguistic deep structure, but a depth antecedent to and leading up to the framework of an intentional consciousness. It is preverbal. Linguistics applied to poetry splits into two camps: that of the affect/effect interrelated between text, world and audience [rhetoric], and that of the form/structure of the poem [grammatical]. We may look at grammar or rhetoric as being either inside the body or outside the body contrary to each other. A text works both ways, which rhetoric and grammar cannot get around. There seems to be no real bridge between the antinomies rhetoric/grammar because there seems to be no real difference: content relies on form, and form relies on content: rhetoric relies on grammar, grammar relies on rhetoric. In a very general way we see the split here between an epistemology of poetry and a metaphysics of poetry, both revolving around a phenomenology or a logical structure of poetry. It is my contention that such a split is useless. If we proceed from the generativist framework in linguistics as the study of the deep activity in body-brain-mind that results in the activity of organization of surface levels of language, then any surface activity implies a deep activity. There need be no actual difference between rhetoric and grammar when we see language as a relationship between deep-deep activity structures of low-level operation and processing and deep/surface linguistic structures. What is more useful is a concept of a fluid continuum along which the notion of grammaticalness and the notion of rhetoricalness frame the supposed extremity of the difference. After this, the goal is not to place poetry at one moment or another on some point of this continuum, but to show how the reading of poetry oscillates along it. The answer to this is to be found in a detailed version of Damasio's “ as-if loop,“ of which I will discuss later. No poetry is purely grammatical or rhetorical and neither is any study of poetry. Why should our categorization of poetry limit itself to such unapplicable boundaries? And, I might add, boundaries that always admit of reducing the phenomena of poetry in order to account for one specific aspect of it. I am not opposed to such boundaries if they have specific goals in mind, but we must admit that these boundaries (grammatical or rhetorical) simply do not work in the way we need them to work, especially in the light of advancements in cognitive science. Perhaps there is no clear or distinct link between linguistics and poetry, just as there may be no clear or distinct definition of poetry. And this is where it should be noted that a definition of poetry is not one we should explicitly expect, but one that should be implied by investigating the nature of supposed inherent linguistic and conceptual structures embedded in poetry that reflect the nature of premises 1 and 2. Furthermore, linguistic language is not necessary for basic consciousness, and is in some way “ dislocated“ from the most essential and fundamental self-conscious awareness of overall human experience. Thus, if poetry

contains embedded structures described by 1 and 2, it will also characterize a unique cognitive property of a dislocation between initial experiences and the emergence and use of linguistic systems that describe these experiences. However, if it is necessary that I attempt a definition of poetry in order that it helps us move on, this definition is: whatever linguistic system is arranged along the lines of re-representing a complex initial human experience that antedates the sophistication inherent in simple linguistic use such that its re-representation in terms of mental imagery stimulates specific responses in conjunction with the initial experience past so that a simulation of the initial experience is re-experienced in a form open to critical analysis, psychological investigation and reasonable reflection through the relationship between reader, world, text and voice. Thus, poetry is an exercise that utilizes an emergent sophisticated system to analyze what evolutionarily predates it and what allowed it to become so sophisticated in the first place (the core-consciousness and emotional realm Damasio speaks of, which is theoretically not dependent on language). It is analogous to viewing brain cells or eye cells under a microscope. We know such cells antedate the invention of the microscope and have influenced it. Looking then at these cells under the microscope is a limited type of recursive investigation into the nature of things that played a part in the invention of the tool by which one investigates. This makes poetry an extremely self-conscious activity, and when applied to self-cognition in terms of representation, visual imagery, memory, emotion, and feeling, we are turning the instrument inwards. Furthermore, by applying study in cognitive science and generative linguistics to poetry we are doubling the fold inwards: this is a study of consciousness itself, with the understanding of course of limited awareness. Thus, the relation between linguistics and poetry should be self-evident on the simple grounds of association of the medium (language). But we can go much further than this by reformulating the distinction between rhetoric and grammar by way of a continuum along which these notions are polar extremes that cannot ever be formulated purely. I am not saying, here, by the way, that we should not apply strict definitions of grammar and rhetoric, but that such definitions act as differences of extremity along a fluid continuum.

3.4 The Tree from the Seed

Let us turn to a quote from W.B. Yeats: “ Labour is blossoming or dancing where / The body is not bruised to pleasure soul / ... O chestnut tree, great rooted blossomer, / Are you the leaf, the blossom or the bole? / O body swayed to music, O brightening glance, / How can we know the dancer from the dance¿‘ (“ Among School Children,“ lnn. 57-58, 61-64). There are distinctions here that pair up with the previous dichotomy: a dance is nothing more than a series of steps set to rhythm, it has sets of logical relations between step 1 and step 2 and so forth. Yet, a dance is nothing without a person to actively participate in the movements. Moreso, the activation must itself simultaneously be an experience and a re-creation of the principle of the logical sets; the dancer has to exhibit some kind of unique ability in carrying out the geometrical functions called for in the dance. Geometrical function is not enough, there has to be some part that is unexplainable and inimitable; it has to have “ spirit“ and “ passion“ and it has to “ move“ us. The same can be said of the music that plays throughout the dance: it has

specific mathematical relations in degrees of beat and timing, but it also has to have an affectual and tonal aspect unique to the carrying out of the mathematical functioning. Many complaints about child prodigies in music are along these lines: they carry out the functions of the music flawlessly but there is nothing unique about it, there is no " passion" through the movements from one mathematical sequence to another. And even though we all know what passion is and recognize it when we see it and can in amazing instances agree on it in large communities, we must admit that science's explanation of it is so much weaker than the imagination's description of it. Here we have the power of imaginative description taking over the place of scientific explanation. A tree, as well, can be seen as a scientific natural pattern of fractal geometry that statistically reproduces the same mathematic relations within different levels of measurement: from the bole (trunk), blossom, leaf, branches, and so forth. Yet, we all agree that a tree is more than taxonomic description or mathematically statistical relations.' The above points hold true for poetry in general. There is no reason why we should not begin to demand a richer investigation between the grammatical logical relations and the rhetorical emotional relations in respect to text, reader and audience, and how these relations play out in the cognitive life of such subjects. In fact, given the developments in the last fifty years of the specialized areas grouped under cognitive science it would be shortsighted not to demand such accounts from poetry. However, it should be made clear for this paper that just because there is an emphasis on the reader or audience of a poem we are not so concerned with a strict literary reader response. The focus is on the workings of the mind-body-brain and how physiological and neurological foundations lead to (and may impact) intentionally and ideologically conscious reactions to a work of poetry, though these reactions will not be looked into here. Lastly, if we apply Damasio's framework of emotionality and consciousness to a psycholinguistic interpretation of poetry we get something of the sort of the emotional-body foundations from which brain-mind relations emerge and from which high-order cognitive representations operate. The benefit is that we have a material and scientifically observable basis for a psycholinguistics that must by necessity incorporate non-rational processes of operation as the precedent operations to " Cartesian" propositional forms inherent in deep structure. Generally, we will be able to show that as long as linguistics cannot account for emotion and feeling as inseparable aspects of consciousness that predate linguistic formulations it will not make any progress. If psycholinguistics wants to place language as a genetic function it must locate a direct link from a genetic " expression" to a psyche-logical " expression." The argument here is that if such a direct link actually did exist we would think in terms of linguistic propositions and not image-based fluxes. Thus, infants who cannot yet manipulate linguistic signifiers would still think in terms of those significant propositions. However, if Damasio is correct, before we think in linguistic propositional-signifiers we think in " images." This argument is contingent on findings in how genes " express" and how this expression leads to the structure of body-brain architecture and how that architecture founds the basis of psychological phenomena. What the non-neurologist can rely on is the common sense that when we have an experience it is only formulated into linguistic forms of surface-structure value after the experience, and that during the initial experience there is nothing like linguistic propositional language mediating such an experience between body-brain-mind. Instead, as Damasio argues, what mediates between body-brain-mind during an initial

experience is something akin to " images." Yet, for linguistic structure to exist there must be a set of principles from which such structure emerges: this is the search for Universal Grammar (UG). It's my contention then that any theory of UG has to account for the body-mind-brain matrix (or that language is a behavior of the organism-as-a-whole), and in doing so must necessarily incorporate emotions and feelings as objective phenomena of consciousness that predate moment to moment linguistic formulation. The way to do this is to work with Damasio's framework. Poetry (1) as a set of logical relations of linguistic constituents that (2) are products of normal language use that (3) evoke emotional responses is fertile ground for such investigations of consciousness in cognitive science.

Chapter 4

Yeats, Eliot, Graham, and the Changeling

It's now appropriate to look at some poems so that we can get a better idea of how the inner cognitive workings of the poem's re-representation of human experiences can be separated from the intentional and ideological concepts that have so dominated poetry. Furthermore, we will get a clearer picture of why many of the dichotomies mentioned previously do not work for poetry anymore and how one may go about looking at poetry in the cognitive terms mentioned beforehand.

4.1 Yeats

Let us pick up where we left off with the Yeats poem. All references are from The Collected Poems of W.B. Yeats, second revised edition and edited by Richard J. Finneran, 1989. I already quoted the last stanza of the poem in which the last line " How can we know the dancer from the dance¿ ' occurs. It is really a question on the separateness of things, of the wholeness of things that cannot be separated, and when, where, how, or can concepts and actions be separated? It falls in line with what could be called active phenomenology (Metzinger). Active phenomenology states that a person does something actively while experiencing it. Reading is a perfect example. While in the process of reading the above stanza by Yeats we all had an accompanying creative process, or more technically a re-creative process. We could have been reminded of the first time we read the stanza, or an argument for the stanza, or any million number of other things. Along with this potential of what should loosely be called association is the accompanying mental image of the tree and the dancer. This is the active phenomenology: the mental re-creation of these images while simultaneously apprehending and processing the rhetorical-and-grammatical relations of the symbols. Nothing in the symbols themselves reveals the mental images, they are arbitrary. Yet, given this arbitrariness and the multitude of operations taking place in order to apprehend the image of a tree and the word " tree" there is a continuity. Thus, the last line, " How can we separate the dancer from the dance¿ ' intimates the process of the method by which we separate

activities that are not in actuality separated. In this line, here, we have the question of a conceptual dance with a body that is in active re-creation of the concept of the dance, and Yeats wants to know how these two can be separate. But to understand if this question is an admonishment of the mechanical dualistic thinker who likes to separate such things, or if it is a genuine question, in other words if he is being ironic, we need to see these lines within the entirety of the poem. As a note before I look at the poem I must point out that it will be an exegetic analysis. " Among School Children" begins with the poet himself walking bodily through a classroom. He describes the children's learning of certain things as if he were not there until " the children's eyes / In momentary wonder stare upon / A sixty-year-old smiling public man" (lnn 6-8). The shift to stanza II immediately takes us into a daydream, as if to say the public man once seen will be pushed by such sight into a daydream. The public and private immediately begin alternating, and within his dream " two natures blent / Into a sphere from youthful sympathy" (lnn 13-14; bold italics mine) of which we cannot help but think that such youthful sympathy is both within the poetic public man's memory and within his immediate gaze and reception. The poem has set up this alternation between the poet's private vision and memory and the immediacy of objects before his eyes, of which each element informs and blends with each other. Yeats the poet is blending both private memory and vision with the immediate and public vision of schoolchildren learning their lessons. This is built up with particular effect in stanza III where the child he looks upon (ln 18) becomes the subject of his wonderment and transformed, or blended, into other worries of the " daughters of the swan [reference to Leada in line 29]" (ln 20), which quickly turns the child before him into nothing more than a child-like representation of another person that we find in stanza IV: " Her image floats into the mind" (ln 25)... " Hallow of cheek as though it drank the wind / and took a mess of shadows for its meat¿' (lnn 27-28). Whether or not the actual child has these qualities is not our worry because what we have seen is not Yeats' lust for the Leadean woman as a child, but the image of the child blended with the poet's own memory and vision so that the " blend, which is no longer subordinate to either the source (vehicle) [child] or the tenor (target) [memory/vision] but instead creates an emergent structure that exists neither in the source nor the target domains" (Fludernik, et al. 4). What we have is not the child, nor Yeats' complex vision of youthful self and lust with " Leadean kind" (ln 29), but a blend between what he experiences in his mind-brain as the mental imagery and what he experiences in his body-brain as the physical imagery of the schoolchildren in front of him. So much so that he recognizes this, he becomes acutely aware of it and says " enough of that, / Better to smile on all that smile, and show / There is a comfortable kind of old scarecrow" (lnn 30-32). Despite his torment, he comes to realize the more immediate of experiences as immediately in front of him and necessarily embodied by his physical presence, of which physical presence must always take priority unless one is to enter a pathological state where mental imagery is completely cut-off from the body, such as serious mental sickness testifies. So far we have made it half way through the poem, which is composed of sixty-four lines of eight stanzas each containing eight lines (Ottava Rima): we are in the direct middle of the poem and the cognitive journey. Yeats now insists on rejecting the sexual and emotional torment of his own self for something more appropriately in conjunction with his physical embodiment. This ensures a healthy sense of embodied meaning: the motor

controls of the body are in-line with the motor cortices of the brain and can now find agreement with the mental representations. We should remember the claim of Feldman and Narayanan that neural " areas that were conventionally considered to process only sensory information... have been found to play a major role in motor control.... It appears that premotor and parietal areas are neurally integrated not only to control action, but also to serve the function of constructing an integrated representation" (2). This is why there is a natural shift once Yeats becomes conscious of the fact that his representations are becoming increasingly disconnected from the active physical embodiment in which they are emerging. In stanza V: " What youthful mother, a shape upon her lap / Honey of generation had betrayed " (33-34)... " Would think her son, did she but see that shape / With sixty or more winters on its head" (37-38). Yeats sees in front of him a boy and imagines the mother whose lap the boy should sit upon. Yeats blends this image with himself as a man of sixty years " or more winters on its head." The progression of the poem moves from inner representations disconnected from the embodied experience to an awareness that they are disconnected, then looping back to embody the meaning of the representations within the whole framework of an embodied body-brain-mind and the context of situation. Yeats doesn't stop blending he just blends in a more embodied way: he blends himself with a young boy and mother. In the direct middle of the poem we have a recursive action of the poet who has gone out too abstractly with his images to bring back the representations and ground them in solid experience. By the end of stanza V we have come to an interesting point, for it seems the poet cannot hold on to the solid experience. He moves into more abstract territory with intellectual ponderings. In stanza VI his imagination has free reign, but it is still framed by the embodied meaning from which it arises in his musing on teachers and singers, from which lines 3 and 4 the children are learning " to cipher and to sing / To study reading-books and history" (3-4). In fact, the whole poem is embodied by the physical presence of the poet's location in time and space as well as by the neural patterns which regulate bodily functions and have a large part to play in regulating dream-like states that allow for the intensity of visions and memories to activate in the mind of the poet. The poem is embodied simultaneously by the poet discretely marking neural patterns and interfacing between brain-body-mind to construct multi-modal images of memory, vision both inner and outer, and self awareness. This is, of course, not a conscious active embodiment but can be seen as being played out on the surface of consciousness by choice and blending of specific images; images we would not be aware of if it were not for the poem that communicates them to us. Reaching stanza VII we see no different a functionality than in the other stanzas. The nuns and mothers are recalled and blended with the poet's own reveries so that a new space of freeplay is opened up: it is an " emergent structure that exists neither in the source nor the target domains" (Fludernik, et.al 4). What we do have is a moving inward to new emergent spaces " That animate a mother's reveries, / But keep a marble or a bronze repose" (51-52) by the light of candles that make images alive. Here the images are simultaneously the physical icons of the nuns and the ethereal reveries of the mother. The separateness of things that cannot be separate, such as the poet's physical and mental wanderings in the schoolroom, have become more concentrated in this double use of the word " images." It is reinforced by the tension between the actuality of solid marble or bronze images and the images of the mother as an ethereal activity, which is then substituted

again by the fact that solid marble or bronze may " too break hearts" (53). The implication that the solid and ethereal domains, or the source and target domains, are separate is intensified: they play together, as stanza VII would have us believe. Yet, once we reach stanza VIII Yeats brings up the fact that such a separation is really impossible: " Labour is blossoming or dancing where / The body is not bruised to pleasure soul, / Nor beauty born out of its own despair, / Nor blear-eyed wisdom out of midnight oil" (57-60). Yeats does not really want to know how to separate the dancer from the dance; he is instead admonishing the mechanist or dualist for making distinctions where they should not be made.

4.2 The Seed and the Neuron

On closer investigation of the last stanza of the poem it would appear that Yeats is advocating a place where the " body is not bruised to pleasure soul." It is a place that is exempt from the body, despair, and midnight oil. This may be the case but it doesn't contradict with the notion that this " place" may be the " image-schematic projection [that] creates a new realm, the blend, which is no longer subordinate to either the source (vehicle) or the tenor (target) but instead creates emergent structure that exists neither in the source nor the target domains" (Fludernik et. al. 4). Essentially, this is the domain of imaginative and hermeneutic freeplay. It is the domain from which the poet creates. It is the domain in which the poet is always threatened with a break from the actualized and embodied world. It is also the domain of Keats' negative capability, from which the subject must return to a more embodied meaning of the world within the grounding of body-brain-mind. The difficulty here is providing a neural aspect, of which I believe there is one even though I cannot provide it. Can we be sure that the experiences and image-schemata Yeats is describing for us antedate the structures of linguistic design? Better yet, can we be sure that these experiences and image-schemata come before the linguistic conceptualization or grammatical mapping that makes it possible for Yeats to write the poem and that the experiences and the linguistic data are not completely dependent on each other even if it isn't clear how independent (dislocated) of each other they may be? If we think of Damasio's account of language and consciousness as the ability to take " the phrase 'I know' and deduce from it the presence of a nonverbal image of knowing centered on a self that precedes and motivates that verbal phrase" (FW 108), then we may be able to claim that such nonverbal " images" are constructed and created at low levels of consciousness. Through the application of linguistic/poetic tools preverbal images become the specifically designed word-images they are in the Yeats poem. What we have here is the interrelationship between preverbal selfhood and the verbal selfhood mentioned earlier. Though there is no reductive proof of such a claim, we may resolve some doubt with an appeal to the poetic process, which begins (but does not originate) with an experience. Such an experience has accompanying images. But if these images were ready-made and merely shifted into an organized order, there would really be no need for poetry. For poetry, in one regard, is the working out of images through linguistic diversity that comply to experiences such that the Other may re-experience them in a re-representation. This re-representation is the course an experience follows as it is perceived, conceived, formatted in a linguistic and aesthetic

form of writing or speech, and then given to an audience. To take this one step further, when we the reader finish reading the poem (more than one time in order to familiarize ourselves with it), and we walk out of the room and away from the text, and recall the poem, it is called up simultaneously as mental images of both the textual letters and format and the cognitive images that the linguistic sign system has implied (plus the audio, but we will stay away from that). This amounts to saying that there is a simultaneous activity of neural networks that may be distinct from each other and allow us to recall images of both the poem perceived that it is a phenomenological object and as cognitive imagery. From this we make obvious the implication that there is a dislocation between seeing as and seeing that. Because it is the cognitive seeing as that we relate most obviously to the initial experience of the poet we can make overt another implication: that there is a dislocation between the initial experience and the linguistic system that seeks to refine, describe, and shape that initial experience. Therefore, if these premises are true, it holds that poetry is an extended exercise of this unique cognitive property of a dislocation between initial experiences and the linguistic systems that seek to relate these experiences no matter what or how mundane these experiences may be. If the images were ready-made and only rose to the surface of awareness we would not need poets, for they are the ones who struggle to form out of the chaos of experiential images definite and specifically designed images with emotional-rational power in both the linguistic system and the imaginative world. It is the poet that performs with this looping process the operation of " folding back" on the ineffable experience while using a logical system of description with the goal in mind to relate such an operation in a way that others may re-experience it as well. This is a recursive process born out in metaphorical levels of cognition and in literal neural mechanisms.

4.3 Eliot

To confront the question about experience and language being dislocated from each other we should move on to more poetry. T.S. Eliot's Four Quartets will now be used to exhibit some specific points. I cannot go into a full discussion of the poem here so I will only use the first part of the four-part book: Burnt Norton. To keep us focused on a single metaphor we might say that Eliot answers Yeats' question about the dancer with his line from the second part of the first section of Burnt Norton, " At the still point of the turning world. Neither flesh nor / fleshless; / Neither from nor towards; at the still point, there the dance / is, / But neither arrest nor movement" (lnn 62-66). We are being led to the notion of conceptual blending, of integration networks, when Eliot goes on in the same part of the section to say, " Erhebung [raising] without motion, concentration / Without elimination, both a new world / And the old made explicit, understood / In the completion of its partial ecstasy, / The resolution of its partial horror" (lnn 74-78). It is the new world, raised without any motion, and the old world not eliminated by the concentration of the new, along with the understanding of these partialities of apparent opposites that speaks to the process of blending. This is not a flippant setting up of opposites and unfinished concepts or worlds by Eliot. He is fully aware on some level of this blending process that the poet participates in; now made explicit by cognitive linguistics. If this is the way the mind works, by blending source and target to get a

new, unfamiliar conceptual orientation of the world, then how is it we do not spiral into this new world and fall apart under the weight of a loss of distinction between metaphorical and literal reality? Eliot answers in the next lines, " Yet the enchainment of past and future / Woven in the weakness of the changing body, / Protects mankind from heaven and damnation / Which flesh cannot endure" (lnn 79-82). In other words, it is our embodied linguistic skill in grammatical functions that can " bind time" together with present, past, and future constructs that are mapped onto higher order functions, relieving ourselves from the all but too real reality that " Time present and time past / Are both perhaps present in time future, / And time future contained in time past" (lnn 1-3, section I, Burnt Norton). Put another way, the verbal self that constructs out of grammatical design helps re-order the initial experiences of a pre-verbal self that does not distinguish between the passing of time in a conceptual way and the passing of time in a perceptual way, but only knows time in the spatial extension of temporal processes embedded in perceptual operations. And, such operations are usually too minute for us to be aware of, which gives them the appearance of a continuity that drastically transforms the conception of time. Thus, what Eliot is exhibiting is the process of cognition as it loops from the lower orders of operation to higher orders of operation and back again in a dancer dancing the dance of a dance: the initial experience happens and must be re-organized, re-represented in the mind by a linguistic-symbolic system that gives it a distinct linearity or form, which is then as a representation re-represented through writing the poem, through organizing the initial experience in a deeper way by severe recollection of this emotion-ration-feeling-experience. The result is a sign-symbol system that is a system and can be seen as cognitive imagery, yet has embedded within its structure a nonlinear operation: the verbal self metaphorically folding back on a preverbal self-experience in order to bring it back as a linguistic representation. This " folding back" is analogous to what happens in a convergence zone: At these sites the axons of feedforward projecting neurons from one part of the brain converge and join with reciprocally diverging feedback projections from other regions. When reactivation within the convergence zones stimulates the feedback projections, many anatomically separate and widely distributed neuron ensembles fire simultaneously and reconstruct previous patterns of mental activity (Damasio BL 91). These " previous patterns" are the experiences, words, and images stored in dispositional space that Damasio claims are " abstract records of potentialities" (FW 332). If dispositional space holds these records, which include " rules with which we put words and signs together" (332), then these dispositional spaces are the mediators between the poet's awareness of an experience, the images represented, and the linguistic system that can re-represent these images of awareness. Damasio goes on to say that Activity in such a network [convergence zone]... can activate a system that mediates between concept and language, causing appropriately correlated word-forms and syntactical structures to be generated. Because the brain categorizes perceptions and actions simultaneously along many different dimensions, symbolic representations such as metaphor can easily emerge from this architecture (BL 91). At this point it might be helpful to go back to the discussion of Feldman and Narayanan and their concept of embodied meaning as well as the discussion of Yeats compared to Turner and Fauconnier's concept of conceptual integration networks. It will also be helpful to refer back to the beginning comments on Damasio, specifically the concepts of " body-loop" and " as-if body loop." The

dislocation of initial experiences and linguistic systems as operating through body-loops and as-if body loops on preverbal to verbal self as mediated by convergence zones are based on these above-mentioned notions.

4.4 What you get is To be changed

What do we get from this? As the poet Jorie Graham said in a co-presentation with Antonio Damasio and Thomas Metzinger, " What you get is to be changed" (Audio CD..... Graham poem). What you get is movement within the self, flexibility, newly generating orientations to the world and self, recognition of a dislocation between levels of selfhood both verbal and preverbal. This is essentially no different from what is usually going on, except that in poetry there is a heightened awareness of this process within the body-mind-brain matrix because poetry itself is a heightened exercise of this basic cognitive functioning: " Words move, music moves / Only in time; but that which is only living / Can only die. Words, after speech, reach / Into the silence. Only by the form, the pattern, / Can words or music reach / The stillness, as a Chinese jar still / Moves perpetually in its stillness" (lnn 137-143; part V, Burnt Norton). There is a " stillness" in ourselves, but that stillness is only conceived as a representation in our higher cognitive operations as something we cannot be aware of, and probably should not be aware of. That is why the stillness is still a movement, and that is why when the form of language or music reaches into it, it does not stay still: This metaphorical stillness is nothing more than our inability to be aware of all the autonomic and precognitive operations and dispositional spaces that must occur in order that we can make representations of our world. Without the representations of our world we as human beings may never have achieved anything. Since we do not have the bulk and might or smallness and quickness of many other living organisms we may never have survived without our various levels of mental representations. It is not so wrong to argue that the exercise of mental representations, the type of exercise found in poetry, is a survival function even up to this contemporary day. Thus, it should not surprise us so much that, as Fludernik (et. al.) puts the work of Mark Turner and Gilles Fauconnier in studies on metaphor and conceptual blending, " as [dissolving] the old categorical distinction between literal and nonliteral, thus indirectly providing independent evidence for psychological empirical research showing that metaphor comprehension is as basic as literal comprehension" (5). For as I'm trying to show, even a literal re-representation in the mind, of the world, has its metaphorical quality. Skill at interpreting metaphor is an exercise in the skill it takes to interpret mental representations of the world (see Fauconnier and Turner, The Way We Think: Conceptual Blending and the Mind's Hidden Complexities). The case is this: the levels of complexity between all moment to moment interconnected levels of relations between brain and body are so much that the mind probably would not be able to handle it. If it could, there's no reason to assume that the mind would have time or space for anything else as concerns the moment to moment relations mentioned. Much of the problem would be in the awareness we have of the operations; there just would not be expendable space for us to be aware of everything that is going on in the body-brain and still retain a sense and awareness of selfhood both verbal and preverbal. In other words, its more resourceful for the mind

to adapt to problems outside the organism than spend all its resources on inner states that the brain and body can handle just fine without our being aware (Damasio FW 29). Poetry seen as an exercise of creating model representations of the world is not new, but applying new cognitive research to this idea reveals fertile ground. Moreover, this kind of study has the potential to prove that the types of cognitive operations unique to poetry are really just sophisticated extensions of how the mind processes the dislocation between initial experience and linguistic formulation. This proposition moves towards supporting the study of poetry and cognitive science together as a means for the study of active and actualized consciousness as more than an analytic set of relations but simultaneously a phenomenologically private experience and a set of analytic relations.

4.5 Non-conscious Proto-self

We turn to Damasio's concept of a nonconscious proto-self: " the sense of self has a preconscious biological precedent... and the earliest and simplest manifestations of self emerge when the mechanism which generates core consciousness operates on that nonconscious precursor" (FW 153-154). Put another way, the organism, as represented inside its own brain, is a likely forerunner for what eventually becomes the elusive sense of self... found in the ensemble of brain devices which continuously and nonconsciously maintain the body state.... These devices continually represent... the state of the living body, along its many dimensions (22). However, this proto-self does not perceive or know anything, and is not one constant whole but a collection of devices or systems and subsystems that run the automated management of the organism (Damasio FW 23). We must remember that Damasio sees no evidence of language in core consciousness: " The contribution of language to the mind was, to say the least, astounding, but its contribution to core consciousness was nowhere to be found" (FW 108). If it is true, as Damasio claims, that core consciousness emerges from the proto-self then we must assume there is no linguistic significance within the proto-self. It is this proto-self that comes before and extends into a nonverbal selfhood. It should be obvious that some type of heavy " veil" mechanism covers the proto-self from the mind's awareness of the intricate details of the interrelations mentioned above. The proto-self is the " coherent collection of neural patterns which map, moment by moment, the state of the physical structure of the organism in its many dimensions" (FW 154). These first order collections of neural patterns on multiple levels from brain stem to neo-cortex, and the pathways that connect these multiple levels, are intimately involved with the process of " regulating the state of the organism" (FW 154). Damasio goes on to say that we are not aware of this proto-self and that it does not occur in one place but " emerges dynamically and continuously out of multifarious interacting signals that span varied orders of the nervous system... [becoming] a product of the interaction of neural and chemical signals among sets of regions" (FW 154). But it is not " aware" of anything. This proto-self in all its varied parts does not analyze anything. It is the swamp that the core consciousness of a sense of self emerges from. Proto-self also provides the basic schemata from which higher imagistic representations of body emerge from. In fact the emergent imagery representations of the body " projected" into the core con-

sciousness and beyond actually simplify the precognitive/preconscious functions of the proto-self necessary to make the representations in the first place. The simplification of processes-as-representations gives the mind-consciousness more time and space to do other things. We might also say that this base representational emergence from proto to core is the chaos that poets fold back into with the tools of linguistic systems from which the language and imagery of poetry is specifically and author-intentionally designed. The sense of " stillness still moving" is the poet's uncanny intuition of the existence of a proto-self. This is the dipping pond for the blending of images, and it is the dynamic ground for Keats' mystery without irritation of rationality and precision that he called negative capability. And, it is also the boundary of sense of place of (non)self that one must come back from to a more embodied orientation of meaning in and within the world. Besides the fact that it sounds paradoxical that a poet can intuit a proto-self that one cannot be conscious of, we have to remember what was said about the poetic process earlier: the poet is the one who through a memory of an experience seeks to recall that experience and formulate within two sign-symbol systems (one linguistic, one imagistic) a form of an ineffable thing. The proto-self is this ineffable " thing." Damasio calls it the " set of neural structures [that] can support the first-order representation of current body states... [that] provide the roots for the self... [and is] the 'something-to-which-knowing-is-attributed'" (FW 159). And as I said before, if the images were cut and dry and only rose to our awareness in their full symbolic import we would have no need for the poet or poetry. For poetry, in one regard, is the working out of ineffable intuitions of the something that knowing is attributed to into images through a linguistic diversity that complies to experiences such that the Other may re-experience them in a re-representation. This re-representation is the course an experience as an object of investigation follows as it happens, as it is perceived, conceived, formatted in a linguistic and esthetic form of writing or speech, and then given to an audience. So it isn't that we really ever are aware of the proto-self, or neural-body self, but that in the poets' abstract folding back on their selves they reach toward a boundary where the awareness of a sense of self is threatened by the profound complexity and non-continuity of the material aspect from which they emerge. In essence, if we try to reduce the self it dissolves into the proto-self, which is not consciousness. In very abstract terms we can argue that the cognitive poet is intuitively interested in this boundary of dissolution, but only insofar as they can return: return to a new orientation of embodied meaning of the self as an awareness of the body-brain-mind schemata within the world as the world is also represented within this body-brain-mind schemata. This is not, however, an argument for a perceptual universal where reality is nothing more than the systemically similar collection of perceptions, such as found in Kant. For us, the world is more like Wordsworth's insight in the poem " Lines Written a Few Miles above Tintern Abbey:" " Of eye and ear, both what they half create, / And what perceive; well pleased to recognize / In nature and the language of sense, / The anchor of my purest thoughts" (107-110). There is a real world. Half of this world is perceived through the objective mechanisms of sense organs that " transduce energy from one form, the stimulus, to another that can be handled by the nervous system" (Brown 136) such as found in the photochemical process in eyesight. In the this process a form of vitamin A, 11-cis-retinal, reacts with photons in a conformational change to something called all-trans, which in turn goes

through more biochemical changes so that the photon energy can be handled as a receptor potential energy (Brown 136). The point is that this is an objective phenomena not influenced in one bit by us. This is a transformational effect of objects in the world not belonging to our perceptual process on objects belonging to us, namely the rods that house 11-cis-retinal in our eyes. Yet, there is another half that we create " Of eye and ear... and the language of sense" that is beyond the proto-self and beyond the core-self. However, we are limited to unique extensions of this world by our biological restraints (we cannot see neurons). What exactly the limits of these extensions are is up for debate (we can create machines that can " represent" images of neurons). The fact remains that we are restrained, and it is within these restraints that embodied meaning is generated and new orientations are made. In another way, however, the proto-self concept of Damasio is important in understanding the levels beyond it because it is in these proto-areas that we first get wind of the brain forming representations of the internal state of the body (as influenced by outside forces, intercellular, and intracellular forces). This is the embodied foundation of representations emergent in other areas of high level self-conscious operations. Though it may not have any global effect, it is at least a place to begin. Furthermore, we can at least prove that, from Damasio's work, the most basic conglomeration of systems that a core sense of self emerges from are not localized in one area, they are in various areas on multiple levels; they are physically dislocated. With this foundation, we find some support for the argument that initial experiences as realized in our sense of self do not depend on linguistic organization: there is a dislocation/disposition between the experience and the conscious language that describes that experience. Thus, poetry with its emphasis on imaginative representations of experience both rational and emotional can be seen as a re-creative exercise of this basic cognitive reality. This turns poetry into a valid cognitive function itself no less necessary than the basic cognitive operations it puts into play: operations that happen to be necessary for getting along in the world. Let us recap: The nonconscious-proto-self moving into the core-consciousness-self and beyond is not a developmental model. It may be explained in evolutionary terms as proto-self preceding the other states, but this is not the whole picture. The various states of consciousness exist simultaneously and in a certain way are all interdependent, namely towards the proto-self as the necessary foundation of a neural network representation of inner body states. The emergence from proto self to core self happens when any object whether present or recalled modifies the body-based first-order proto self and becomes a second-order representation, which is how core-consciousness emerges. The core self awareness is generated for any object that provokes a certain core consciousness mechanism. Namely, it is the interaction between proto-self and an object that generates some mechanism that modifies the first-order proto-self and from which a second-order representation emerges in the form of a nonverbal image that is a new neural pattern and that we can now call core-consciousness. The major change from proto to core is that we can now be aware of the fact that there is representation. To bring this home I will quote Damasio again: " the nonconscious proto-self, which is reconstructed live at each instant, and the conscious core self, which emerges from it in the second-order nonverbal account when an object modifies it [proto-self]" (FW 173) is how we describe the feeling (awareness) of the self as a body and a concept of Self. The process mentioned above is constant because of the availability of any object in present time or recalled time, and gives an

apparent sense of continuity to the core self. This core self is our preverbal selfhood (interdependent with the nonconscious proto-self) from which higher order linguistic systems formulate sequences and create specifically designed image-symbols through the intention of the subject (author/reader). Our poet folds back to the core preverbal self as a verbal self and specifically re-creates (or re-forms) the nonverbal images through diverse linguistic systems and then re-represents them as the language-image form on paper or in voice. This abstract folding back is our Wordsworthian " emotion recollected in tranquility" (362 BritLit), where the proto-self is the dimension of emotion and core consciousness is the dimension of feeling an emotion (being aware of an inner body state in second-order nonverbal representations). Beyond core consciousness we have feelings of feelings. Remember that for Damasio, emotions are connected to a myriad of physiological responses that are for the most part public, and feelings are a private mental experience of emotion. Tranquility can be considered a private feeling where recollection of emotions becomes the second-order nonverbal modification of an object on a first-order representation of inner body states. To quote Damasio again, In short, emotional states are defined by myriad changes in the body's chemical profile; by changes in the state of viscera; and by changes in the degree of contraction of varied striated muscles of the face, throat, trunk, and limbs. But they are also defined by changes in the collection of neural structures which cause those changes to occur in the first place.... To the simple definition of emotion as a specifically caused transient change of the organism state corresponds a simple definition for feeling an emotion: It is the representation of that transient change in organism state in terms of neural patterns and ensuing images. When those images are accompanied, one instant later, by a sense of self in the act of knowing, and when they are enhanced, they become conscious. They are, in the true sense, feelings of feelings (FW 282). What we get is to be changed, to have the feeling of knowing, of being aware and sensing ownership of phenomena associated with the root cause of our image-making and emotion-feeling ability: the body. Nothing can proceed without the body, not even math. This is what the great poets know, and they know it to such an intuited level that we have yet begun to extract the wealth of knowledge about the real process of self that they have embedded in the forms of linguistic systems. And if it is true that language emerges from the organism-as-a-whole and has its genetic blueprint beginnings somewhere deep in the structure of the brain-body-mind matrix, then the language of poets is surely a rich resource for inquiry.

I have tried to show here the importance of poetry to consciousness studies and consciousness studies to poetry through a general inquiry into the nature of the route an initial experience must follow in order to become formulated linguistically. As mentioned earlier, the range of this does not include how linguistic formulation comes to be. In this inquiry I have attempted to show the reader that the body and emotions, as well as feeling these emotions, must be included in any study of consciousness. This includes linguistics. If linguistics, namely psycholinguistics, is to continue as providing relevant information for both philosophy of mind and psychology it must necessarily exert some direction in accounting for the body as a part of the organism as a whole (the body-mind-brain matrix) from which the language ability arises. Poetry is the perfect candidate for a middle ground between a phenomenological and an analytic study of human consciousness as it is formulated through the medium of linguistic

systems. The reason for this is that the experience of poetry, both writing and reading, bridges the gap between a private nonverbal account of an experience and that same experience as it is formulated within a bio-logical linguistic system.

4.5.1 The Dancer from the Dance

The first section of T.S. Eliot's Four Quartets is called Burnt Norton. In that section of the Eliot poem it might be said that he answers the question of Yeats: "How can we tell the dancer from the dance?" XXXXX At the still point of the turning world. Neither flesh nor / fleshless; / Neither from nor towards; at the still point, there the dance / is, / But neither arrest nor movement (Eliot lnn 62-66).

We are being led here to the concept of conceptual blending, of integration networks, when Eliot goes on in the same part of the section to say Erhebung [raising] without motion, concentration / Without elimination, both a new world / And the old made explicit, understood / In the completion of its partial ecstasy, / The resolution of its partial horror" (lnn 74-78). It is the new world, raised without any motion, and the old world not eliminated by the concentration of the new, along with the understanding of these partialities of apparent opposites that speaks to the process of blending. This is not a flippant setting up of opposites, unfinished concepts, or possible worlds by Eliot. He is fully aware on some level of this blending process that the poet participates in; now made explicit by cognitive linguistics. If this is the way the mind works, by blending source and target to get a new, unfamiliar conceptual orientation of the world, then how is it we do not spiral into this new world and fall apart under the weight of a loss of distinction between metaphorical and literal reality? Eliot answers in the next lines, " Yet the enchainment of past and future / Woven in the weakness of the changing body, / Protects mankind from heaven and damnation / Which flesh cannot endure" (lnn 79-82). In other words, it is our embodied linguistic skill in grammatical functions that can " bind time" together with present, past, and future constructs that are mapped onto higher order functions, relieving ourselves from the all but too real reality that " Time present and time past / Are both perhaps present in time future, / And time future contained in time past" (lnn 1-3). Put another way, the verbal self that constructs out of grammatical design helps re-order the initial experiences of a pre-verbal self that does not distinguish between the passing of time in a conceptual way and the passing of time in a perceptual way, but only knows time in the spatial extension of temporal processes embedded in perceptual operations. And, such operations are usually too minute for us to be aware of, which gives them the appearance of a continuity that drastically transforms the conception of time. Thus, what Eliot is exhibiting is the process of cognition as it loops from the lower orders of operation to higher orders of operation and back again: the initial experience occurs and must be re-organized, re-represented in the mind by the principles of a linguistic-symbolic system that gives the perceptual experience a distinct linearity or form, which is then re-represented through writing the poem, through organizing the initial experience in a deeper way by severe recollection of this emotion-ration-feeling-experience. The result is a sign-symbol system that is a system and can be seen as cognitive imagery, yet has embedded within its structure a nonlinear operation: the verbal self metaphorically folding back on a preverbal self-experience in order to bring it back as a linguistic representation. This " folding back"

is analogous to what happens in a convergence zone.

> At these sites the axons of feedforward projecting neurons from one part of the brain converge and join with reciprocally diverging feedback projections from other regions. When reactivation within the convergence zones stimulates the feedback projections, many anatomically separate and widely distributed neuron ensembles fire simultaneously and reconstruct previous patterns of mental activity (Damasio: 1992, 91).

These "previous patterns" are the neural "experiences," "words," and "images" stored in dispositional space that Damasio claims are "abstract records of potentialities" (1999, 332). If dispositional space houses these records, which include " rules with which we put words and signs together" (1999, 332), then these dispositional spaces are the mediators between the poet's awareness of an experience, the "images" represented, and the organizing principles of the linguistic system that can re-represent these images of awareness. Damasio goes on to say that

> Activity in such a network [convergence zone]... can activate a system that mediates between concept and language, causing appropriately correlated word-forms and syntactical structures to be generated. Because the brain categorizes perceptions and actions simultaneously along many different dimensions, symbolic representations such as metaphor can easily emerge from this architecture (1992, 91).

At this point it might be helpful to go back to the discussion of Feldman and Narayanan and their concept of embodied meaning through simulation events partly activated by pre-motor cortices. It will also be helpful to refer back to the beginning comments on Damasio, specifically the concepts of *body-loop* and *as-if body loop*. The dislocation of initial experiences and linguistic systems as operating through body-loops and as-if body loops on preverbal to verbal self as mediated by convergence zones are based on these above-mentioned notions.

4.5.2 Non-conscious Proto-self

We turn to Damasio's concept of a nonconscious proto-self: "the sense of self has a preconscious biological precedent... and the earliest and simplest manifestations of self emerge when the mechanism which generates core consciousness operates on that nonconscious precursor" (1999: 153-154). Put another way,

> the organism, as represented inside its own brain, is a likely forerunner for what eventually becomes the elusive sense of self... found in the ensemble of brain devices which continuously and nonconsciously maintain the body state.... These devices continually represent... the state of the living body, along its many dimensions (1999, 22).

However, this proto-self does not perceive or know anything, and is not one constant whole but a collection of devices or systems and subsystems that run the automated management of the organism (Damasio:1999). We must remember that Damasio

sees no evidence of natural symbolic language in core consciousness: " The contribution of language to the mind was, to say the least, astounding, but its contribution to core consciousness was nowhere to be found" (1999, 108). If it is true, as Damasio claims, that core consciousness emerges from the proto-self then we must assume there is no linguistic significance within the proto-self. It is this proto-self that comes before and extends into a nonverbal selfhood. It is notable that some type of heavy " veil" mechanism covers the proto-self from the mind's awareness of the intricate details of the interrelations mentioned above. The proto-self is the " coherent collection of neural patterns which map, moment by moment, the state of the physical structure of the organism in its many dimensions" (1999, 154). These first order collections of neural patterns on multiple levels from brain stem to neo-cortex, and the pathways that connect these multiple levels, are intimately involved with the process of " regulating the state of the organism" (1999, 154). Damasio goes on to say that we are not aware of this proto-self and that it does not occur in one place but " emerges dynamically and continuously out of multifarious interacting signals that span varied orders of the nervous system... [becoming] a product of the interaction of neural and chemical signals among sets of regions" (1999, 154). But it is not *aware* of anything. This proto-self in all its varied parts does not analyze anything. It is the swamp that the core consciousness of a sense of self emerges from. Proto-self also provides the basic schemata from which higher *imagistic* representations of body emerge from. In fact the emergent imagery representations of the body *projected* into core consciousness actually simplifies the precognitive/preconscious functions of the proto-self necessary to make the representations in the first place. The simplification of processes-as-representations gives the mind more time and space to do other things; namely, process mass quantities of perceptual content by *compressing* such representations into conceptual domains. In another way, however, the proto-self concept of Damasio is important in understanding the levels beyond prototypical self. In the proto-areas we first get wind of the brain forming representations of the internal state of the body (as influenced by outside, intercellular, and intracellular forces). This is the embodied foundation of representations emergent in other areas of high level self-conscious operations. Though it may not have any global effect, it is at least a place to begin. Furthermore, we can at least prove that, from Damasio's work, the most basic conglomeration of systems that a core sense of self emerges from are not localized in one area, they are in various areas on multiple levels; they are physically dis-located. With this foundation, we find some support for the argument that initial experiences as realized in our sense of self do not depend on linguistic organization: there is a dislocation/disposition between the initial experience and the conscious use natural language that describes that experience. Thus, poetry with its emphasis on imaginative representations of experience both rational and emotional can be seen as a re-creative exercise of this basic cognitive reality. This turns poetry into a valid cognitive function itself no less necessary than the basic cognitive operations it puts into play: operations that happen to be necessary for getting along in the world such as interpretation of condensed information, parsing out conceptual schemas, and basic organizing principles. Here I will recap: The nonconscious-proto-self moving into the core-consciousness-self is not a developmental model (i.e. as one grows older one moves from nonconscious states to conscious states. Rather, such states exist simultaneously moment to moment). It may

be explained in evolutionary terms as proto-self preceding the other states, but this is not the whole picture. The various states of consciousness exist simultaneously and in a certain way are all interdependent, namely towards the proto-self as the necessary foundation of a neural network representation of inner body states. The emergence from proto self to core self happens when any object whether present or recalled modifies the body-based first-order proto self and becomes a second-order representation, which is how core-consciousness emerges. The core self awareness is generated for any object that provokes a certain core consciousness mechanism. Namely, it is the interaction between proto-self and an object that generates some mechanism that modifies the first-order proto-self and from which a second-order representation emerges in the form of a nonverbal nonsymbolic " image" that is a new neural pattern and that we can now call core-consciousness. The major change from proto to core is that we can now be aware of the fact that there is representation, and that the transference between proto and core in terms of representations and re-representations sets the neural foundations for organizing principles of symbolic-linguistic forms. To bring this home I will quote Damasio again: " the nonconscious proto-self, which is reconstructed live at each instant, and the conscious core self, which emerges from it in the second-order nonverbal account when an object modifies it [proto-self]" (1999, 173) is how we describe the feeling (awareness) of the self as a body and a concept of Self. The process mentioned above is constant because of the availability of any object in present time or recalled time, and gives an apparent sense of continuity to the core self. This core self is our preverbal selfhood (interdependent with the nonconscious proto-self) from which higher order linguistic systems formulate sequences and create specifically designed image-symbols through the organizing principles emergent from core-self. Beyond core consciousness we have feelings of feelings. Remember that for Damasio emotions are connected to a myriad of physiological responses that are for the most part public, and feelings are a private mental experience of emotion. Tranquility can be considered a private feeling where recollection of emotions becomes the second-order nonverbal modification of an object on a first-order representation of inner body states. To quote Damasio again,

> In short, emotional states are defined by myriad changes in the body's chemical profile; by changes in the state of viscera; and by changes in the degree of contraction of varied striated muscles of the face, throat, trunk, and limbs. But they are also defined by changes in the collection of neural structures which cause those changes to occur in the first place.... To the simple definition of emotion as a specifically caused transient change of the organism state corresponds a simple definition for feeling an emotion: It is the representation of that transient change in organism state in terms of neural patterns and ensuing images. When those images are accompanied, one instant later, by a sense of self in the act of knowing, and when they are enhanced, they become conscious. They are, in the true sense, feelings of feelings (1999, 282).

What we get is to be changed, to have the feeling of knowing, of being aware and sensing ownership of phenomena associated with the root cause of our image-making

and emotion-feeling ability: the body. Nothing can proceed without the body. This is what the great poets know, and they know it to such an intuited level that we have yet begun to extract the wealth of knowledge about the real process of self that they have embedded in their forms of linguistic systems. And if it is true that language emerges from the organism-as-a-whole and has its genetic blueprint beginnings somewhere deep in the structure of the brain-body-mind matrix, then the language of poets is surely a rich resource for inquiry. I have tried to show here the importance of poetry to consciousness studies and consciousness studies to poetry through a general inquiry into the nature of the route an initial experience must follow in order to become formulated linguistically. As mentioned earlier, the range of this does not include how linguistic formulation comes to be. In this inquiry I have attempted to show the reader that the body and emotions, as well as feeling these emotions, must be included in any study of consciousness. This includes linguistics. If linguistics, namely psycholinguistics, is to continue as providing relevant information for both philosophy of mind and psychology it must necessarily exert some direction in accounting for the body as a part of the organism as a whole (the body-mind-brain matrix) from which the language ability arises. Poetry is the perfect candidate for a middle ground between a phenomenological and an analytic study of human consciousness as it is formulated through the medium of linguistic systems. The reason for this is that the experience of poetry, both writing and reading, bridges the gap between a private nonverbal account of an experience and that same experience as it is formulated within a bio-logical linguistic system.

Remark 2 *Basically, the strong hypothetical claim here is that very abstract structures like Universal Grammar (UG) are not located in any one position, but emerge from in between various dispositional convergence zones. Such convergence zones bring together complex and distinct areas of the brain that may produce novel patterns by virtue of the convergence of various complex systems. Essentially, something like UG can be reduced to sets of statistical relations between various dispositional areas responsible for different modes of language processing (e.g.: letter recognition, syllable recognition. It is widely accepted now that aspects of a sentence are processed in various regions of the brain. It is the convergence of these areas that allows one to process a sentence as a whole sentence). If we think in evolutionary terms it is completely possible that an underlying structure and its processing areas would build on each other something like the complementary building of a bridge and its scaffolding at the same time. There is no reason to assume an architect of UG that then stimulates all available material to bring its vision into reality: A strict genetic expression of language should be questioned, for it very well could be the case that UG is a structure emergent from epigenetic and genetic architecture in the brain (commonsensically this says that language's origin, or ontological status, is determined by fixed biological phenomena, dynamic biological phenomena such as inherited genetic design, and personal history such as culture, education, early linguistic development communities, abstract study and application of language such as elementary grammar and early interest in poem/story writing, and a possible host of other variables . A co-development building process between language processing areas and UG, something analogous to the RNA, rRNA and DNA phenomena is plausible. Singular language processing areas can be reduced to various neural substrate, but the underlying principles of a Univer-*

sal Grammar are of a different sort of form. There is no reason not to wonder at the possibility that UG may be defined as the relationship within something like convergence zones/dispositional spaces between language processing areas. If any formally demonstratable claim about a dislocation between language and consciousness is to be made (one that goes beyond the simple displacement of linguistic representation outside of the body) then it must be made at the level of UG. This is, however, beyond the scope of this inquiry. Any further question about the dislocation of language and consciousness will be superficial compared to the problem of UG. Yet, I believe even a superficial question will be of benefit.

Chapter 5

Can There Be a Neural Substrate for Language?

5.1 Introduction

To the question " Can there be a neural substrate for language¿ ' one feels compelled to answer " Yes." This affirmation comes in two degrees. The first is a common sense intuitive one. And once this common affirmation of a sense that the brain and the nervous system must somehow be related to all unique human activity (e.g. natural language) one must quickly depart from that common sense intuition in order to justify it. The second degree in which one may feel compelled to answer yes to the above question is motivated by the academic sense that natural language somehow comes from the brain or mind. These are subtle degrees of distinction for sure, but a distinction nonetheless: to be related is not the same in degree as being the causal or effectual agent. By intuition I tacitly assume that all private experiential experience is beyond doubt and can be said to be real: intuition is a real private experience. It is a belief and no matter how many ways a belief can be shown not to be a fact one cannot deny that a person who believes an intuition really does believe that intuition. The point is moot: a belief or intuition is not a scientific fact (or logical proof) nor can intuition alone be used for justified true belief. Once we go beyond intuition we are dealing with non-experiential experiences. For example: Calculating the size or motion of an atom requires instruments and mathematical abstraction: a person is not said to have an experience " of" an atom. The only experience the physicist has, or that the physicist can be aware " of" is through the instrumentation and the mathematical abstraction. This latter experience is " of" non-experiential objects (i.e. an experience " of" the instruments and the mathematical equations). Likewise, the linguist, neurophysiologist, or philosopher must go beyond the common intuitionist experience of language and the sense of self in order to analyze the above prescribed question in the title. Just like the physicist, a person cannot be said to have an experience " of" a neural substrate (though it is arguable whether or not one can have an experience " of" language. I want to say that this is much like something Wittgenstein (1921) says: " The subject does not belong to the

world: rather, it is a limit of the world“ (5.632), and “ You will say that this is exactly like the case of the eye and the visual field. But really you do not see the eye. And nothing in the visual field allows you to infer that it is seen by an eye“ (5.633). Basically, we “ see“ the world but we cannot “ see“ ourselves “ seeing“ the world. Likewise, we “ speak“ in the world but we do not “ speak“ of ourselves speaking. In order to “ see“ or “ speak“ ourselves seeing or speaking we must abandon our basic common sense intuition of experiential experience and move into analyses based on abstractions (non-experiential experiences). Or rather, we must move from common sense theory-making to scientific theory-making. We must make abstract models.) The reason this problem is posed to the linguist is that the linguist is at a qualitative disadvantage when it comes to the object of their inquiries. The linguist shares a very intimate relation with their object, which puts the linguist at a qualitative disadvantage compared to other scientists who do not share such an innately “ felt“ or subconscious relationship with their object of study. Language is not something we stop using, not like when the physicist or the medical doctor decides to take a break from studying. The linguist does not stop speaking when the study is over. It must be admitted that as a human being the linguist has specific emotional and intellectual biases towards their own object of study, whether these biases are implicit or explicit. This would not be as problematic if the objects were black holes or chemical bonds or chromosomes. Bayesian credence in confirmation theory would be enough to account for these psychological preferences. Objects like black holes, however, are experienced non-experientially while language systems are always within the scope of experiential experience because natural languages originate in the human being. There is no evidence at all that natural languages originate anywhere else than from the human organism . This puts the linguist in a different observational position than most other scientists. Thus, the linguist has an added responsibility to their community to attempt to approach their object of investigation with as much personal knowledge of their own prejudgments as possible. In the field of analytical linguistics this becomes an issue of evidence, method, theory, epistemology and theory-ladenness of observation. I am mainly concerned with the problem of evidence for a neural basis of language; specifically evidence of how the physical instructs the building of abstract models of the brain. In this regard the linguist and neuroscientist must always attempt to be familiar with their own implicit propositions about the physical that may or may not motivate a direction of methodological inquiry in analyzing observational judgments for evidence of neural linguistics. In other words, experiential experience influences the direction or scope of non-experiential experiences. In short, the intuitive assumptions that linguists make about the physical nature of the brain and their definitions of physical reality should be made explicit when attempting to assign abstract grammatical processes to physical distributions within the brain.

5.2 The Neural

Whether one is an extreme behaviorist or an extreme nativist the one thing that neither would deny is the use of the brain and the nervous system in relation to the natural language of humans. For my part I come mainly from the minimalist attitude with the feeling that any claim should be backed up by neuroscience. As happens, from the work

of Antonio Damasio, it would seem that both camps (nature vs. nurture) are correct. In his theoretical framework Damasio proposes what are called dispositions, convergence zones, convergence areas, and somatic markers. All of these theoretical brain areas have both innate and learned structures. And all are somehow related to language. In this domain of a middle ground between the two warring camps of contemporary 20th century linguistics one may take the middle road by looking at theoretical structures of neurons. The word neuron is the noun from which we get the adjectival form neural. This adjective refers to anything dealing with the brain and its connection to the body-based nervous system. It is as uncontroversial as the terms tectonic plates, mitochondria, or protein. It is a technical word that has crossed over into public usage and has been applied as an affix in words such as neuro-philosophy, neuro-art, and neuro-science, referring mainly to anything dealing with the nervous system and its major central component, the brain or cerebrum. The adjectival form neural works on the real-material object called a neuron. Neurons are fundamental real-material objects recognized by natural science as the basic unit or building block of the nervous system. It is made up of a cell body with a nucleus containing cytoplasm and all the organelles like mitochondria and ribosomes, a main output fiber called the axon, and input fibers known as dendrites. A synapse is formed by an axon from neuron A making " contact" with dendrites from neuron B. There are three major types of neurons that are usually organized in parallel layers or grouped together in what are sometimes referred to as " baskets;" (cytoarchitectonic is the technical term for the architectural structure of the brain at specific scales). The brain can be measured in many different ways from the small-scale of a synapse to the large-scale of hemispheres. With specific reference to neurons one gets scales of circuitry: local microcircuitry to systems of microcircuits on up to the macroscopic where one speaks of systems of systems. Large-scale circuitry is called pathways. We do not feel or intuit neurons, pathways, or even hemispheres of the brain. However, we do feel and intuit the causality of activity and function within the brain and its hemispheres, pathways, and neurons. For example, when we feel happy we are feeling the result of increased dopamine secretion. But we are not feeling the actual secretion of dopamine as it is being chemically transmitted from axon to dendrite. An analogy to this may be something like watching television: what we see on the TV screen is the result of transmuted spectrum waves received by the television component from a transmitter source and the results of electromagnetic forces from the power plug that allows the television component to run. We are not seeing the actual transmuted spectrum waves (though we do see light from the screen this light is within the allowable frequency for human eyes and is different from the light spectrum waves that carry the signal to our TV) nor are we seeing the electromagnetic force field from the power plug. What we do see is the result of these processes and not the processes themselves. Thus, our experiences as humans are two-fold: non-experiential processes such as neural activation or synapse " firing" are a causal influence on the experiential experiences we are conscious of such as the feeling of happiness. Language systems are similar in kind: there are non-intuitive non-experiential processes that somehow result in the experiential experience of language production. In looking for evidence of a neural basis for language production we are looking for non-experiential processes. In this search we must create non-experiential models of the brain in which we assign certain distributions of function or activity within the volume of the brain. Within this

assignation there is a certain bit of arbitrariness because we do not know everything about the brain and are forced to assign a functional distribution where we think it is most likely. Arbitrariness in neuroscientific distribution of the function or activity of the brain is a very important issue. The goal in determining the functional structure of the brain is to reach a level of descriptive or explanatory power based strongly enough on clinical evidence so that there is no arbitrariness at all in the way we explain its distributed architecture and functionality (e.g. why occipital lobe is where it is or why there is a bundle of nerves in one area and a layer of nerves in another area). A popular example is the concept of right-brained or left-brained people. This is the idea that the brain distributes specific computational powers in reliable ways: left for language and right for music. As a general outline this last proposition provides no problem. When applied to individuals there is no clear-cut separating line architecturally or functionally between these operations. What we are striving for is a measure for specific areas of the brain in terms of all the other areas of the brain in order to assign unique distributions of functionality that work generally and individually. But in order to do this we need to know why the brain does the things it does. The fact is that we do not know completely how or why the brain is organized the way it is. We may have a good idea of the architectural distribution and scale of the brain but we do not really know the why and the how. And the answers to the why and how of functional or connectionist distribution of specific activities may change our views on certain architectural concepts of distribution. As clinical neurological evidence grows we may most certainly need to revise previous conceptions about functional distribution of specific cognitive activities. This kind of revision fits within the Kuhnian perspective of an evolving history of science. For an example, the early neuroscientists Broca and Wernicke placed language in specific brain areas. For them the brain's language ability was distributed in local centers in the left hemisphere. This means that certain damage to those areas should predict specific inhibition to large-scale activities. But it is turning out that such predictions are not as determinate as previously thought and that Broca's and Wernicke's areas are more complicated than originally conceived. This has lead to an expansion of the distribution areas of language computation (or something of the sort) to include other areas. And if these other areas are also responsible for other kinds of large-scale activities like visual recognition of color or animal movement then there might be a connection between language and the latter activity. Also, most of our modeling of the organization of the brain has been done in terms of something like a basic Cartesian coordinate system: horizontal and vertical axes from which we may plot many points using a linear algebra. But more and more clinical evidence is coming out that says that neural pathways or networks are not linear or linear-based. (In fact, much non-linear mathematics is employed in order to create more intricate versions of brain maps; for example a method used by Hanna Damasio called BRAINVOX (2004)). Much of this evidence comes from trying to pinpoint what areas of the brain are active during specific tasks; in other words trying to distribute areas of function or computation within the volume of the brain by locating specific areas and routes of pathways. These routes seem to get more complex, non-linear, and jumbled as the technology used to model the human brain (e.g. non-experiential experiences of the brain) becomes more precise. Based on much recent clinical evidence one may not want to use a hierarchical or coordinate system as reference to distribute the organization of the brain. The brain

does what it does whether or not we get the distribution right in our models of it. The goal is that we can assign unique distribution patterns throughout the volume of the brain for specific and general functions applied to the general human population and to individuals. Language is a function and we hope to assign a unique distribution within the brain volume of what parts of the architecture are being employed to allow humans in general and individually to produce language. The old picture of central areas of language computation is starting to be replaced by a model of large-scale pathway distributions that cross and intersect in other functional areas such as pre-motor and motor cortices. Another difficulty in assigning definitive functional distributions is that we do not yet have the mathematics or the technical precision to measure the microanatomy of the brain. Because of this we do not know what is in store for us. Here, the lack of knowledge about what the physical is does not justify there being no knowledge. We have constructed concrete, mathematical, and other abstract models of the structure of the physical brain without really being too clear about how the brain works at the deep microanatomical levels. Obviously nobody wants to throw out the models. But one should admit that there may be a chance of some arbitrariness in the way we have distributed the functional areas of the brain (i.e. in the way that we build a model of the brain in order to explain specific activity in the nervous system). The goal is to keep refining the model so that one can limit the amount of arbitrariness. Take a model plane for example. Say we have an ambitious model maker who is attempting to build many models of one plane. The first model will be miniature with successive models getting larger; the larger the scale of the model the more that the arbitrary placement of structures becomes an issue. In the miniature model it does not matter much where a nut or bolt should be placed, or even if the scale permits of nuts and bolts. But the larger to real-life the model plane gets the more these nuts and bolts matter. By the time one gets to building the life size scale of the plane there can be little to no room for the arbitrary placement of the nuts and bolts. Models of the brain are analogous. First note what is meant by scale in reference to the brain is anatomical scale: does one look at a single neuron or an entire hemisphere? In model scales of the brain we do not make miniatures. What one is looking for is how the anatomical scale works as a part-whole combination: does one neuron's activity causally effect larger scales of the anatomy of the brain? What is the relationship between the small parts and the large parts? At this point such questions can not be answered. However, we can state that the large scale model of the brain admits of arbitrariness of the placement of micro-circuitry: if we are looking at the folds of the neo-cortex or the anatomical placement of the cerebellum it doesn't matter much where one neuron goes. Contrarily, if one is looking at a microanatomical neuron ensemble or at neurotransmitters it matters very much where one neuron goes. It is this latter level of measurement that some neuroscientists are attempting to get at. For this to happen there needs to be some advances in forms of mathematics and brain technologies (MRI, fMRI, PET and other devices used to take " model pictures" of a functioning brain). And in fact, once one gets at this lower scale level, one can always go deeper. Physics has advanced the pioneering into smaller and smaller scales of reality to such a degree that the neuroscientist needs to make some judgment on how small is too small. Does super string theory really apply to the neurobiology of the brain sciences? At this time the answer is no; there is no evidence at present that quantum mechanics has any role to play in regards to higher

cognitive functioning in a mammalian brain. But the problem still remains of " how small is too small" and what will be the advantage of more precise measurement? Here is where the problem of the physical enters: at what level of neuroanatomical scale do we say a human being is conscious? At what level of scale can we say a person thinks, manipulates symbols, does math, or does language? There really is no answer yet to this problem of scale because we do not know enough about the brain to formulate the necessary definition of physical for the brain; as different kinds of models of the brain are created and refined (or discovered?) this necessary definition of the physicality of the brain will emerge with new forms of evidence and support. In other areas of study such as biology or geology there are sufficient enough definitions of the physical world so that one need not worry too much. Depending on what one wants to do in the field will determine what definitional boundaries of the physical world one adopts. A zoologist works at a different level scale of the physical world than does the geneticist. Of course they often try to use each other's evidence but only in regards to how that physical evidence will support their own interest of the physical. Neuroscience, it seems, is too new to have worked out this kind of complementarity between scales of physical reality and the distribution of cognitive functions within the volume of the brain because we do not adequately understand what the brain really is doing and thus, at what level of scale in the definition of physical one should properly study correlated to the specific cognitive phenomena in question. The consequential question here is this: is natural language production a large scale system of a system, is it a system of neural pathways, is it somehow embedded in the microcircuitry of local small scale neuron ensembles, or is it a functional relation between these scales and in what ways do these relations interact? The level of scale we decide to study will determine the model distribution of the language function within brain volume. This will in turn determine the physical architecture of our model of the " neural substrate" we distribute the function of language within. Neuroscience understands many things about some areas, systems of systems, systems, and subsystems of the brain. Synapses and the action potential of neurons is understood well and so are many things about vision and the process of light rays being transformed (technically it is called transduction) into bio-molecular energy. Much of this is due to the fact that the brain and a neuron are real-material physical objects that can be studied. Having said this it should be noted that there are ethical considerations that constrain the use of invasive procedures on humans and thus limit the kinds of experimental studies that can be done. Ethical considerations also play a part in the kind of experimentation one can do to a person who has a certain natural condition such as a lesion from stroke or a person who has had surgery for left hemispherectomy to stop constant seizures. Thus, neuroscience experimentation moves slower than other fields and this slow pace can be partly attributed to the ethical constraints it places on itself and its subjects. Even if such ethical constraints were not applied there is still the limit of present science to explain everything. No science will ever be able to explain all it wants at one moment in history. Because of this one builds models. And although the neuron is as real as the heart, the physical reality of the body does not lead directly to the same kind of physical reality for neural pathways. Neural functional characteristics deal with the relationship between many neurons (somewhere around 10 power 12). With that much interrelation of neurons closely assembled it becomes practically impossible to predict everything that will happen. The terms " network" and " pathway"

refer to general theoretical models of how neurons may be functionally organized or behave at the nervous system level for specific human activities. Some models for particular phenomenon are better than others. The model for neural pathways that allow me to register a needle-prick on my left foot is a better model than something like the model that Broca's and Wernicke's areas are responsible for all natural language processing because the former has held up to falsification revisions and is more stable than the latter, which is being revised this moment. Good models explain phenomena better than rivals and also predict phenomena their rivals cannot. Lastly, it is imperative, as it is in any field of study, that one does not confuse a good model with the actual natural phenomenon that is occurring and that may be beyond our ability to satisfactorily explain or describe entirely. This amounts to a Quinean dictum: our models for the physical world will always be underdetermined by that very same physical world. Put another way, the map is not the territory. Many things are beyond explanation at some point in history. The history of science can be viewed as the constant replacement of old models of physical reality by new models. The Copernican revolution was nothing more than replacing one model of the universe with another. The orbital model of the atom gave way to the electron field model. The model we have for explaining black holes may one day be replaced. And the models we have of how neural pathways are related to large scale human psychological activity may certainly be revised. But must linguists wait for the end of scientific history to attribute universal grammars or principles and parameters to neural substrate? No. But when is the right time? We cannot know and that is why it is imperative that linguists keep informed of revisions to neuroscientific models on the chance that some complementarity may peek through. Lastly, a model is an abstraction of something that cannot be experienced directly. Just like the model airplane, we use models in order to organize the world around us into manageable sizes of content or information. We cannot rely on our normal everyday senses to clue us into how neurons and neural pathways work. In short, we have no experiential experience of low scale levels of the physical reality of our own bodies. We do not spend every second aware of the regulation of heart beat and breathing rate, though it is possible to do. The latter are large scale events compared to the millisecond " firings" of neurons. It is a great leap to make from sodium and potassium ion levels responsible for neuronal action potentials to the explanation of language production. It is one thing to say that language is genetically determined or that language is a product of the embodied mind, but it is another thing entirely to show exactly how genetic and chromosomal activity determines language or how the mind emerges from the brain and body to produce some systematic and novel symbolic manipulation that can express complex data like a Shakespearian Sonnet or a logical proposition about a white rabbit. Such attempts require assumptions about the physical world that cannot yet be confirmed. Furthermore, the special intimate relationship between the object of study and the observer in linguistics warrants a stringent focus on the philosophical predispositions of linguists. Intuitive assumptions about the nature of physical reality must be made explicit by linguists who propose to assign certain neurological distributions within the brain for the function of language production.

5.3 Substrate

The word substrate is the plural for substratum, which literally means an underlying foundation, or an under-layer. This sense of some under-layer or foundation is not what is meant in " neural substrate." The literal meaning of substrate implies some kind of hierarchy of architecture like the layers of a cake or the earth's crust. Although there is a valid cytoarchitectonic layering of tissue in the brain based on specific cellular arrangements that helps in deciding the distribution of areas, when it comes to language there is no sense in which we can say that language " happens" in some layer of the neo-cortex or beneath it at Brodman areas 22 (junction of the temporal and parietal lobes), 44 (ventral of frontal lobe) and 45 (posterior of frontal lobe) as is the classic distribution of the language function structure. (Korbinian Brodman numbered all areas of the brain and his numbering system is arbitrary in regards to importance or size; the numbers are merely reference points for different brain regions based on cellular organization. The areas 22, 44, 45 are pretty much the areas known as Broca's 44, 45 and Wernicke's 22 areas). The idea here is that we cannot simply " locate" an area for language in all human brains like we would the tectonic plates of fault lines. There is no clear-cut chunk of brain for every single human nor is there some linear pathway that language uses in all brains. It is most likely the case that what is neurologically responsible for the activity of large scale linguistic computation is a bundle of nerves and a mesh jungle of networks and pathways around and through the classical language regions with no clear lineation for every single human being (see Pinker, 1994). What must be made clear in dealing with the neuronal architecture of the activity of the brain is that it is possible that pathways or networks are not linear. The possibility that neural networks, pathways, and patterns may look like squiggly lines that run all through the volume of the brain's cytoarchitectonic organization versus straight, vertical, or horizontal lines must always be allowed. The reason for this is clear: straight, vertical, and horizontal lines are geometric concepts and are models themselves of what is found in nature for measuring and distributing the structure of the natural world: there are no straight lines in nature. For example, it doesn't matter much that the physically real geography that separates Wyoming from Colorado is not a straight line like the one we see on a map, but in the microanatomical world of neural networks it does matter if a physical connection deviates from a straight line by a micrometer or some smaller measurement. Thus, the model of brain neuroanatomy cannot misrepresent the actual physical structure of the brain because the arbitrariness at small-scale levels can produce glaring differences at the larger scales. The experiential experience of straight lines and the common sense of co-ordinate systems does not work when observing the brain. When speaking of a concept like substrate we must allow the non-experiential sense of the notion. Thus, a foundation or substrate normally conceived as some kind of solid bedrock must conceptually exist side by side with a foundation/substrate that is more abstractly conceived. A neural substrate does not have to be located in one architectural area. It can be distributed along non-linear pathways that intersect other functional areas within the entire volume of the brain. Parts of the neural substrate may also be simultaneously used for other cognitive tasks that appear to have nothing in common with language production. What is meant by neural substrate can be, given whatever real-material shape or geometry of the neuronal ensembles and net-

works, the fundamental neural organization of a specific pathway function responsible for a natural human phenomenon: in this case natural language. A neural substrate can be composed of connections or convergences (one of A. Damasio's terms) from various regions within the entire volume of the material brain (not to exclude body-based nervous system areas like the spinal cord as well). Thus, a neural substrate can be distributed across the entire human organism just like the substrate pathway that lets me know when a pin is pricking my left foot. The substrate may also be distributed within a very small location; it all depends on what function or activity the substrate is the foundation for. For example, the neural substrate for normal natural language processing should include areas responsible for hearing, areas for motor coordination of vocal flaps, tongue, lungs, diaphragm, and such. Studies have been done to see what the relation may be between variously distributed functional-structural areas cross-related with language processing. In fact, H. Damasio et.al. say as much in reference to the classical Broca and Wernicke areas.

> It is no longer reasonable, however, to accept the idea that these two language-related areas alone, connected by a direct and unidirectional pathway, translate thoughts into words and vice versa. Any current consideration of the macrosystems involved in the processing of language requires the involvement of many other brain regions, connected by bidirectional pathways, forming systems that can subsequently cross-interact (181, Damasio 2004).

Such " other brain regions" would include at least motor and pre-motor cortices for laryngeal, jaw, and tongue movement, areas also associated with memory and learning, perhaps areas associated with emotional homeostasis, and the areas (whatever or wherever they may be) hypothesized by a linguistically inspired universal grammar approach which would contain the computational structures of linguistic representation, a language acquisition device (LAD), parsing devices, neurally motivated universal linguistic principles and learned language specific parameters for morpho-syntactic information of the mother tongue as well as interfacing areas between semantic, phonologic, and syntactic structures. Noam Chomsky says something similar as well: " So whatever language is, it's at least got to interact with other systems of the body... the traditional assumption from Aristotle, in essence: sensory-motor and some conceptual-intentional interface" (157, Chomsky 2004). All of these hypothesized cerebral areas would make up the definitional content of the " neural substrate" for natural language. Any such theoretical neural substrate for a particular human phenomenon can only be a model. A model is an approximation of what is really going on in the natural world and is experienced non-experientially. Usually models are constructed in order to get beyond common sense intuitions about the world, specifically in order to get at the classical " secrets of nature." These " secrets" are exactly the things that we do not have any experiential experience " of." We build models in order to " get at" what we do not have normal access to and in turn subject ourselves to a non-experiential experience of the phenomenon: the " experience" of an atom only occurs through the instrumentation and mathematics used to " get at" the atom; both the instrumentation and the mathematics are models. A model can also exploit certain aspects and exclude other

aspects of the natural world in order to provide some kind of explanation or prediction. A model does not attempt completeness (at least in most cases) and is formally open to at least more than one interpretation; it should state the conditions under which it can be falsified, proved wrong, or show a contradiction. A direct reason for emphasizing the fact that any theoretical neural substrate for some particular phenomenon is only a model is largely dependent on our limited understanding of the brain as a physical object and on the more general problem of the definition of the physical. However, this does not constrain any advancement or revision of the model based on clinical evidence which could result in a revision of the definition of the physical for the human brain. Emphasizing the fact of model building (the fact that it happens and is the way science proceeds) allows one to state or imply hidden assumptions easier than if one claimed uncritically that there was no model and that the hypothesis or theory one proposed was the way nature worked. Though scientists may talk about their models as if that were the way the world worked a good scientist always has the fact of model building implied in the theory. For example, a map is a topographical model built to scale of an actual landscape. Emphasis on the map as model allows one to immediately assume that the map is not the landscape and thus not be very surprised when small-scale properties of the landscape are not represented on the map. Any map maker tacitly assumes this and communicates this assumption through providing a way to measure the scale of the map in reference to the assumed real landscape. Discrepancies between map and landscape will hopefully reveal any hidden or implicit assumptions the map maker had made about the process of map making in general. For example, the map maker does not assume the responsibility of including every single rock found in the landscape. This says something about the nature of making maps. Likewise, discrepancies between models of the brain's neural behavior and future discoveries of the actual neural behavior can hopefully illuminate some tacit assumptions held by the scientific community at the moment in history the model was built. A case in point is the classical brain regions of language processing. Broca's and Wernicke's areas were thought to be responsible for all language computation. This has been shown to be at the very least incomplete, as discussed earlier. Two tacit assumptions can be drawn from the classical model: (a) if only two small areas of the left hemisphere produce language then the brain probably has something like " control centers" for human activity and these " centers" should be in the same place in every individual; and (b) the right hemisphere cannot process language. Assumptions (a) and (b) are wrong. It is known now that it is possible for individuals of the same genetic and cultural history, environment, and upbringing to have different brain regions for the same activity (Pinker 1994). It is also known that a minority of people process language in the right hemisphere and that children with left hemispherectomies develop grammatically despite major damage to motor movement resulting in slurred or nonexistent speech (Curtiss, et. al. 2003). These are not definitive results but they go against assumptions (a) and (b) and have thus provided conditions under which the implicit or explicit predictions of (a) and (b) have been shown to be not true. Pinker (1994) says as much.

> For all we know the brain might have regions dedicated to process as specific as noun phrases and metrical trees; our methods for studying the brain are still so crude that we would be unable to find them. Perhaps the re-

> gions look like little polka dots or blobs or stripes scattered around the general language areas of the brain. They might be irregularly shaped squiggles, like gerrymandered political districts. In different people, the regions might be pulled and stretched into different bulges and folds of the brain. (All these arrangements are found in brain systems we understand better, like the visual system). If so, the enormous bomb craters that we call brain lesions, and the blurry snapshots we call PET scans, would leave their whereabouts unknown (322).

It seems we have a ways to go before providing definitive clinical evidence of a neural substrate for natural language.

5.4 What we don't know

We do not know much about the brain, not when we compare what we can scientifically explain against what we cannot. In the last fifty-years, however, we have come to understand things that were considered impossible by previous generations of scientists. However, any presumption of a linguist to speak of the neural substrate of real-material physical neuron foundations responsible for natural language processing must by necessity be a guide to a linguistic speculation. Contrarily, the neuroscientist has different protocols and training than the linguist and most likely has a different definition of language. In short, the neuroscientist is allowed to take for granted the leap from neuron to language. The linguist works with a different set of constraints (not mentioned here), which do not allow the speculative leap from neuron to language. Both fields are allowed to speculate about the other field, but these are merely speculations allowed by the absence of the constraints for evidence in the foreign field. If nothing else, the history of speculation about the nature of language from Jean-Jacques Rousseau's theory of climate induced phonetics to Benjamin Lee Whorf's ideas of the linguistic structure of language determining the mind's shape should urge caution. The history of speculations on the origin and nature of language abound with vacuous and mystical musings. The job of the analytic linguist is model building. As Naoki Fukui and Mihoko Zushi say in their introduction to Chomsky (2004),

> The relationship between the brain sciences and modern Generative Grammar [GG] is exactly the same as the relationship between the physiological/neurological approach and the "abstract model" approach. Generative Grammar attempts to discover the fundamental properties of the language faculty by constructing an abstract model, whereas the current brain sciences investigate the properties of the language faculty mainly at the physiological level. From this point of view it may be misleading to talk about the "relationship" between Generative Grammar [GG] and the brain sciences of language (20).

The models of GG (and linguistics in general) and the neurosciences do differ. This difference is undergirded by the difference in goals and explanation. Fukui and Zushi go on to say that GG is a subfield of theoretical brain science and that GG does in

fact adopt " an abstract model approach... which is different (but complementary to) the standard physiological/neurological approach widely assumed in other domains of the current brain sciences" (pg 20). The point, however, still remains that the linguist is constrained by making the kind of leap the neuroscientist makes because the constraints of evidence differ from that of the neuroscientist. The linguist has a different set of conditions for evidence that must be met and these conditions cannot be incorporated into the neuroscientific model at present. One reason for non-incorporation is that neuroscience still has not settled the problem of the physical definition of the brain. The other is that neuroscience does not have sophisticated or precise enough methods of measuring definitively the activity in the brain to the point that linguistic evidence can be incorporated into it. The difference is simple, generally. The two fields use different models and hence, rely on different degrees of non-experiential experience to motivate the goals, tools, conditions for evidence, and constraints of each respective field. This situation is not so different from quantum mechanics and relativity in the early twentieth century of physics. They were both good models and they were complementary but they could not be incorporated into each other. Furthermore, they both expressed widely divergent non-experiential experiences about the experiential world. The same is true of the question " Can there be a neural substrate for language¿' When we ask this question we are really asking " Have the divergent non-experiential experiences of these models come to a point where they might converge¿' or " Has the time come when we can incorporate the two models of neuroscience and linguistics¿' The linguist may be inspired by the brain science's experiments and should be well versed in them. Unfortunately, the question from the brain sciences must continue to be vacuous for the linguist. The neural discoveries are for the brain scientists and that is what they are trained to do. The linguist is trained to create (or discover?) principles and structures of natural language. Perhaps one day the two may be incorporated.

Chapter 6

Brief forays

This chapter provides a look at particular pieces of literature from varying perspectives. What ties them together, rather loosely perhaps, is the genral background of the concept of disloacted poetics.

6.1 Dislocated Poetics and Consciousness

To what extent can we say an image and a voice permeate any written text? More specifically, to what extent does the subjective inner representation by the reader of images and voices permeate a fictional novel; in this case the novel *Miramar* written by Egyptian native Naguib Mahfouz? Upon reflection one would be tempted to say that textually represented voices in general are the background foundation of any novel. Real life instances of dialogue, remembered speech, inner speech, and both direct and indirect discourse run throughout any novel in a written representation, whether highly fictionalized or not. But what makes Miramar different from other novel forms is that it's possible to perceive that inanimate objects, events, and locations also have distinct " voices." It isn't as though these events or objects actually speak in any hallucinatory way, but they are alive to an extent that is disproportional to the individual fictional consciousness of the novel's character that perceives them. Such objects, events, or locations have a concrete position in a historical sense but when understood through the personalized and internal consciousness of a character they will, as Gadamer says, " always be more than the mere historical construction of the past 'world'" to which they belong (678). Within the fictional conscious lives of the characters of Miramar certain objects, events, or locations have a fuller life than the characters perceiving them: a " voice" and image that cannot be exhausted by the one single mind perceiving them. The " voice" and image of the sea, for example, a far richer in content than any human mind can perceive. How does this get communicated through a novel that is constructed soley of linguistic representations? For example, the ocean, the black Madonna, the revolution in Egypt, and the pension named Miramar itself are embedded within a tradition and a history so rich and so temporally large that it takes at least five characters to begin to make imagistically transparent the realness of this world to

the reader. To say it is language that transmits this realness to the reader and makes possible a literature in which such realness can become transparent is nothing of importance unless we think of the job of the author as trying to relate to us normative (or non-normative) experiences in which real-world history and tradition are seen as abstract forces of external pressure influencing the formation of consciousness that are eventually internalized. The fact is that language's role in " containing" such complex experiences is really only the surface of a very dynamic process, and is in one regard a very minimal part to the conscious reception of World and Self as a specific reality. However, language true to the images representable of the fictional conscious processes of the characters' perception of self in and of a concrete historical world in the novel Miramar is necessary for the reader's apprehension of that fictional world. We might say that linguistic representation from text to reader is a necessary, but not sufficient, condition for impressing upon the reader the " sense" of conscious experience of the characters of the fiction. The language used by the author must represent the " sense" of conscious experience but cannot function simply as a receptacle that the author and reader fill up with referential (internal or external) meaning. This is the language of the poet. In Miramar we find the language of a poet-author that makes sense of the realness of the city of Alexandria and the characters who live there. It is between the distinct dialogic voices of the characters (and the above-mentioned " voices" of objects, events, or locations represented through the conscious experiential perception of the characters) that a poetic voice of interpretation, redemption and re-creation emerges. Without this, the imagistic transparency of the realness of fictional consciousnesses and worlds to the reader is impossible. In his book The Feeling of What Happens, Antonio Damasio says something extremely relevant: " Language– that is words and sentences– is a translation of something else, a conversion from nonlinguistic images which stand for entities, events, relationships, and inferences" (107). From here we begin to de-nature the mistake that language and consciousness are one in the same. Hidden in the above statement is a call to Heidegger: " Language is not a tool at his [humankind's] disposal, rather it is that event which disposes of the supreme possibility of human existence" (566). In other words, the " conversion" of language from image to linguistic symbol is an event that takes place within consciousness and gives boundaries in which we can discuss the realness of human existence as something that can be linguistically referred to, not just consciously imagined as a " supreme possibility." Linguistic expression places tentative limits on the possibility of conscious expression. To quote Damasio from the above-mentioned book again, " ...it is legitimate to take the phrase 'I know' and deduce from it the presence of a nonverbal image of knowing centered on a self that precedes and motivates that verbal phrase" (108). From Damasio we get something like a temporal-biological self that is non-linguistic in contradistinction to a historical-autobiographical self that is linguistic.

6.1.1 Monsour Bahy

Getting back to Miramar: One of the most beautiful descriptions of the above-mentioned processes comes around the middle of the novel when the radio script writer Mansour Bahy wakes up in the morning: " I woke up to a terrible noise, which for all I knew might have been a projection of my own [internal] troubles. But the noise outside was

of a quite different kind“ (Mahfouz 76). The “ noise“ outside was the verbal fight in the hallway between Sarhan, Sarhan's fianc, and Zohra. The “ noise“ that might as well have been a projection of internal problems was M. Bahy's difficulties with his own introversion and of his love affair. The point here is that M. Bahy's thoughts are not of normal linguistic or partially linguistic sense; they are perceptions in the form of “ noise.“ To continue, Zohra and M. Bahy converse shortly after the fight in the hallway and he finds out that she is going to try to study reading and writing. He then notes that “ It was raining heavily outside and the sea seemed to rage in a strange broken language“ (77). It is the movement from a “ noise“ of verbal arguing as a something that may have been “ projected“ onto the outside world from inside M. Bahy's mind to a “ broken language“ as a quality of that outside world that interests me here. One cannot have a conversation with the sea; one can only perceive it through the body, brain, and mind. Thus, “ translated“ into a human language the sea becomes strange and broken. When there is no immediate or ideological partner in language we can most easily see the folly of inextricably weaving linguistic forms to consciousness as a perceiving aspect of our entire organism: we sometimes perceive sounds as linguistic form and vice versa. Simple examples of this is the parrot who seems to “ speak“ or a dog that barks the word 'rough' or the owl that constantly questions 'who?' or the foreign language that seems to be spoken extremely fast or sounds like barbarian jibberish. M. Bahy's experiences show our preferentially linguistic folly in his perception of “ noises“ and “ broken languages.“ When M. Bahy realizes the broken and strange language of the sea we get a glimpse of a clue to him that suggests that his own emotional world is at times too much for him and that his real problem is that he cannot convert deeply embedded nonlinguistic images to words, and that because of this he looses himself: “ ... condensing back into the stagnant shape of my habitual moodiness. Thus rising at once recalls falling, strength recalls weakness, innocence recalls depravity, hope recalls despair“ (Mahfouz ??). This quote sounds suspiciously like something Heidegger might say in his illogically expressive force. But here our character does not have the capacity for poetic language to satisfy his rich inner life, even though he is a writer of radio scripts. M. Bahy is a linguistic manipulator who does not have the power to convert the coalescent moments that make up his rich internal life into a working linguistic representation. It should be noted that linguistic ability is much different from having the ability to convert deep-conscious images into a working linguistic representation; linguistic manipulation is not a guarantee of poetics. Thus, the sea speaks through M. Bahy's conscious perception of the sea despite the fact that the man himself cannot interpret the “ broken language.“ This kind of voicing gives the reader some sense of the character's conscious experience while also giving the reader a sense of the transparency of the realness of the fictional world: we the reader can imagine this world in more richness than the character whose mind perceives this world for us can. Although we see the world through M. Bahy, we also see things in that world that M. Bahy cannot. Thus, the world of M. Bahy has a richer “ voicing“ than M. Bahy himself has; we the reader are privy to this.

6.1.2 Hosni Allam

The opposite of M. Bahy is Hosni Allam, the man who lives inside each moment as if it were a poem dedicated to the sea. But Allam does not have the patience or ability to reflect on anything too deeply. Hosni is much too involved in the temporal-biological displays of converting his sensual images to a working linguistic representation for him to be a powerful and rich interpreter of the world on a scale beyond his own lusts. But, if M. Bahy and Hosni Allam could fuse together, they might be the hero of this book; the one who can convert the temporally dissipating images to a working language, write this language down in an act of fidelity to the initial images in hopes of finding some imagistic transparency in which past memories and present images are simultaneously contained in symbolic images supported by the language. That there is not one person who can do this in Miramar is no reason to assume that it doesn't happen in the novel (taken as a collection of the voices of the five main characters.)

6.1.3 Amer Wagdi

Amer Wagdi is very aware of the history and tradition in his Egyptian culture and he is also open to the ground of hermeneutic free-play. He is the perfect character and image of this concept. He is a described somewhat as mummy-like old man in a mummy-filled old land but he is also a man of the revolution now some years past. And while the wide horizon of Egyptian tradition and culture is not lost on him, neither are the moments of free creative play. This is why Wagdi can accept the independence of the female Zohra while at the same time reminding her always of the continuum of history and the inevitability of tradition, culture, and death: " These days that have passed have given her more depth than all the preceding years of her life. ... Remember that you haven't wasted your time here... think of it all as having been a sort of magical way of finding out what is truly good for you" (Mahfouz 130). Then Wagdi recites a piece of Koranic poetry: " ...and He hath set the measure, That ye not exceed the measure... nor fall short thereof..." (131). These two statements well summarize the struggle of the female Zhora who wants her financial and intellectual independence despite the sexist cultural restrictions. This has extreme emotional significance within the narrative of the novel, and particularly to a point T.S. Eliot makes about the power of the poet to create significant emotion: " ... unless he lives in what is not merely the present, but the present moment of the past, unless he is conscious; not of what is dead, but of what is already living" (503). Amer proves himself in this regard by the previously quoted words to Zohra, which happen to be the last words of the novel. But the quotes above also speak to the sense in which the conscious construction of the past world to which Amer belongs is still so much temporally larger than him. Within the fictional conscious life of this character Amer, the image of the mummy, the revolution, and the whole of Egypt as well the Koranic reference give us the reader a glimpse into the " voices" and images that cannot possibly be exhausted by the one single fictional mind perceiving them. We have to ask ourselves if the author has not given us the reader the pleasure of internally representing the realness of Alexandria through the fictional consciousness of Miramar's characters by showing us how real-world locations, history, and tradition are abstract forces of external and ideological

pressures that influence the formation of consciousness which eventually internalizes the incompleteness of the history and traditions through representations of objects, events, and locations that speak louder than the fictional consciousnesses that perceive them and that allow us to imagine them?

6.1.4 The no-body

There is no poet as a person in the novel. But we do find a poet within its pages, even if it is a dislocated poet: Hosni has deep down the poet's spirit, M. Bahy has the poet's discipline for reflection and linguistic training, and Amer Wagdi has the tradition and emotional experience needed for the poet. The location of a poet is not physical within the world of Alexandria, but the poetic voicing is maintained nonetheless through a combination of physically located fictional characters that are actually represented linguistically by the written text of the novel. Between the three men mentioned above the voice of interpretation and redemption does speak, and speak to Zohra of all people, which is particularly significant if we transform Zohra into a symbol for Egypt. If Miramar works as a novel because the realness of fictional consciousness is affirmed through its representation in the text and the fidelity with which the actual author-poet has converted images of fictional or non-fictional experience to linguistic forms through the creation of a dislocated poetic voice. The book itself seems to convert the temporally dissipating images of fictional consciousnesses to a working language, while we know that Naguib Mahfouz wrote this extended linguistic representation down in an act of fidelity to fictional images in his consciousness in hopes of finding some imagistic transparency in which readers with real bodies can experience the realness of fake minds.

6.2 Dislocated Poetics and the Fugue

Footfalls echo in the memory / Down the passage which We did not take / Towards the door we never opened / Into the rose garden. My words echo / Thus, in your mind. (T.S. Eliot, Four Quartets: Burnt Norton lnn. 11-15).

With the emergence of voices from literature we can make an analogy to the fugue musical form. This metaphor works best when we realize that it is in remembering the voices of the novel that a fugue is created. While we read the words on the page we are not simultaneously reading other words as well, this is not optically possible for the normal mature adult. The key here is how we interpersonally vocalize the things we read. Knowing how the mind-brain-body can produce sounds inside the body would do us well. In this case, it is not even the matter of remembering an audio perception, no, what we visually read we can also " read into" it a voicing, a voicing that is purely created from within consciousness. Once this is established, we can then see how a fugue is such a good analogy: while maintaining the visual reference of reading, and simultaneously reading into the perceived text a voice, we are also able to compare this immediate voicing with the voicing history that has previously been created in the mind. Once reading the text is done we recall the voicing we had created; this is similar to a fugue. Thus, the voicing of the novel becomes multilayered, polyvocal, heteroglos-

sic, polyphonic. In short, a fugue happens inside the mind, and it is made completely from the nuanced voicing that we consciously read into the text. A few thinkers have used as metaphor for consciousness the orchestra or the fugue. Cognitive and computer scientist Douglas Hofstadter has said in his book Godel, Escher, Bach that the very different contributions of the mathematician, artist, and musician have created " an intellectual construction which reminds me... of the beautiful many-voiced fugue of the human mind" (719). Noted Professor and Head of the Department of Neurology at the University of Iowa College, Antonio Damasio, states " I propose that there is also an orchestral score in the private mind, only now the concurrent stacking of musical parts corresponds to mental streams of images" (88). Beyond the metaphor of the fugue M.M. Bakhtin, literary theorist from Russia, tries to place a musical fugue inside our bodies and claims that on a verbal cognitive level the mixing of different voices is imperative to the construction of our consciousness. In a literal sense he calls this polyphony. The term is strictly taken from music and in the glossary Bakhtin's The Dialogic Imagination, which is written by Michael Holquist, it is labeled under " Orchestration: Bakhtin's most famous borrowing from musical terminology is 'polyphonic' novel, but orchestration is the means for achieving it. Music is the metaphor for moving from seeing... to hearing" (430). Polyphony is the multiple layers of detailed voices or instruments in an orchestration that have to be heard as a whole in order to be understood. An extension of this term that will connect Bakhtin to Damasio in the sense that one cannot create a conscious voice that contains meaning outside of the time and place of the physical body is " Heteroglossia: The base condition governing the operation of meaning in any utterance.... there will always be a set of conditions - social, historical, meteorological, physiological - that will insure that the word uttered in that time and that place will have a meaning different than... under other conditions" (Holquist 428). The metaphorical and literal use of orchestral terminology to understand consciousness is by no means a coincidence. A fugue is probably the most complex and difficult orchestral type of arrangement to create and to play. It consists of starting with a single line of melody, tone, and theme which is played against itself. " This is done by having 'copies' of the theme played by various participating voices" (Hofstadter 8). A fugue begins with the first voice, and when this voice has finished its round another voice counter to the first begins while the first repeats itself. One can add as many new voices in as many variations of speed, rhythm, tone, or melody as the structure will allow. Once the voices are introduced they can do whatever the author wants them to do. In terms of consciousness, Bakhtin states that " consciousness never gravitates towards itself but is always found in intense relationship with another consciousness" (Problems of Dostoyevsky's Poetics 32). For our purposes we will consider consciousness here as a voice, and thus, no voice can itself be alone. It needs others in the multi-voiced orchestration of polyphony. This is exactly what a fugue is made up of. This is what is found in a polyphonic novel, and through such, it is possible to bridge the continuum between consciousness, language, voice, and literature. In this continuum we will see that a polyphony and a heteroglossia of voices stemming from the novel creates a fugue-like reception in the consciousness of the reader, and thus a direct relationship between literature and consciousness can be maintained on these grounds. Miramar, by Naguib Mahfouz, is a wonderful example to show us how a voice in a text can become dislocated from any speaking character. We do not need an actual

character speaking for us, nor do we need a specific consciousness to birth this voice. It is possible that between the layers of voicing in the novel, if we use the fugue and other orchestral metaphors, a voice can be constructed between the competing voices of the characters. The construction of this voice is solely due to the fugue-like aspects of a polyphonic text and the fugue-like aspects of recalling the voicing the reader had " read into" the text. Because of these characteristics the voicing that a reader " reads into" the text becomes polyphonous and heteroglossic when remembered in its whole. Much like a real fugue, the listener constructs a type of voicing based on the complex synthesis of the singular voices. The focus on any one singular voice ruins the holistic sense of the experience. A good example is a crowded room with many people talking at once. If one steps back and listens to the whole of the room another kind of voicing develops, the voice of the whole of the room, which sounds a bit like a wave. However, in the creation of fugues and novels there is a conscious construction of all the singular voices into a whole. The difficulty with making this claim for a novel lies in how the reader " reads into" the text the many voices of the characters and then how that same reader remembers these voices. While we read the singular lines of a singular voice we have also within us the voices of the other characters in relationship with the singularly perceived voice. Or, if there is dialogue, we switch from voice to voice. But this is not the trick. The interesting thing is what happens to these voicings (that we as readers have created for ourselves) after the book is finished and we are recalling it in our minds. We conjure up the images and voicings, but it is not a linear process. It's my contention that this recollection of the previously read text is much like a fugue: all the characters speak at once in a total re-creation of the text itself in our memories. This is what gives us the sense of a novel or poem in its entirety without having to recall each line verbatim. A specific meta-voice emerges from the recollections of the competing and unfinished voices we as readers have constructed from the text. Miramar contains five sections, four of which are from a character's perspective, point of view, consciousness, and voice. I have argued elsewhere that between three of these characters a poetic voice of interpretation, re-creation, and redemption emerges (Dislocated Poetics and Consciousness). It does so specifically because all three characters have a part of this poetic voice and vision within their voice, but none of them is completely poetic in the constraints I had laid out. Thus, the reader's reception upon remembering the text as a whole has a mixing together of the three characters' voices. It is through this mixing together that a poetic voice emerges because each of the three voices counterbalance each other, and it is only through this fugue-like synthesis in the reader's memory that the poetic voice emerges. Common to these characters (including the fourth whom I have not looked at) is their relationship with the young woman Zohra. Her importance goes beyond this, though. She is significant not only in a symbolic way (as the feminine body of Egypt), but in her silence. She is represented and we hear her speak, but only through the other male characters. And if it is through the reader's memory of these male characters that a fugue of voicing is created, it is only possible because of the backdrop of Zohra's misrepresentation and subsequent silence. She is silent because we never see things from her perspective, we never hear her voice. We only hear her speak through another character's voicing. Though the four men are also represented through their counterparts, we as readers are given the chance to compare that portrayal with the character's own voice. Thus, their voicing is

created multi-dimensionally through others and themselves, while Zohra is only represented through others. It is not a strict silence, but in the world of the fugue if you cannot sing you might as well be silent. For under the fugue if others sing for you, you are still not represented; you are not on stage, so to speak. This type of absence of Zohra's voice plays an extremely important role in being the backdrop of which the other voices come out and the meta-voice emerges. Simply put, there has to be a silence from which the fugue can come from, but in a book nobody is specifically silent or absent. This is why from here on out we need to speak of degrees of silence and absence. Heidegger writes " We - mankind - are a conversation. The being of men is founded in language. But this only becomes actual in conversation" (566). This comes very close to Bakhtin's idea of voices running up against each other; the dialogic nature of consciousness. The reason we can " read into" a text so many voicings is that the verbal self-hood of our consciousness is always dealing with other voices: appropriating, denying, parodying, satirizing, recalling, retelling, etc. We do this in each context with a heteroglossic sense of language through our body's placement in time and space. But we also do it in con-text, with each text. We have the ability to place ourselves " as if" we were really somewhere listening to somebody because strictly speaking we have been somewhere listening to somebody and we have had the " sense of a feeling self... created in our minds" (Damasio 279). With this feeling self we can simulate voices " as if" they really did contain an emotional background and a feeling foreground. Based on neural patterns developed previously in the change of body states, " the body landscape is changed and is subsequently represented in the somatosensory [body-sense] structures of the central nervous system" (Damasio 281) by what is called a " body loop." This is the actual event where the mind-brain-body is in a receiving environment in time and place; this is where heteroglossia happens and we hear actualized voices with real emotional content and learn what a happy or angry tone is. However, it is possible to skip this actualized event and re-create happy or angry tones based on previous body states: " The 'as if' mechanisms are not only important for emotion and feeling, but also for a class of cognitive processes one might designate as 'internal simulation'" (Damasio 281). It is this internal simulation by an " as if" mechanism that can re-create emotions and feelings through the re-creation of tones of voicing that the reader " reads into" the text. Thus, if we are creative readers and the text is rich enough, a variety of nuanced simulations of voicing should occur, and the recollection of this simulation as a whole that has been constructed over the time it took to read the book should appear like a fugue, with each voice having it's own nuance within the simultaneous re-presentation of all the voices. Taken one step further, the awareness of this recollection should produce an overall effect in the form of a meta-voice, and it is this meta-voice that is the emerging poetic voice dislocated from any actual speaking character or narrator. In short, the dislocated poetic voice is nothing more than our " impression" of Miramar. Zohra is so important to Miramar because she never directly speaks to us without the filter of another conscious character. Thus, the close reader will recognize that they only know how to create her voicing by dislocating it from the character we hear her through. She acts as a catalyst and a micro-example for the entire process I am describing. We as readers get a sense of Zohra only because we recognize that we have to dislocate her voice from the actual text. The only way to go about doing this is to pay attention to what she does say

through others' consciousness and extract a certain vision of her in relationship to the four characters we read her through. Once we establish her as a character who has a consciousness in " intense relationship with other consciousness," we can dislocate her voicing from that relationship and create in our own minds a voice for her. But, this does not happen until the end of the novel. We do not have sufficient information about her nor have we looked at her through all the characters yet. Once the novel is over, and we start to recall it in the fugue sense I am proposing, we realize that Zohra played a much larger role than she was given; her voice stands out more clearly at the end of the novel than its own representation inside the novel. This seems paradoxical: How can a voice that has only been represented through other voices become the most prominent voice in recalling the novel? She certainly did not have more words than the others, she did not do something so integral to the plot that it would not exist without her, and for all intents and purposes it seems at first glance that the novel could have been written without her. But it is when we try to take her out that we realize she has one of the strongest voices of fugue recollection. The reason for this is because she is more than a voice or character, she is the degree of absence or silence the fugue of voices is recollected over; she is the backdrop of our recollection of all the characters. She is the degree of silence that makes the music possible. We can see an example of this on the last pages where Amer Wagdi is talking, supposedly to himself or the reader:

> 'I am going to a better place,' she says - and believes it. 'God bless you!' She gives me a tender smile. 'And I shall never forget you as long as I live.' I motion to her to bring her face nearer to me and kiss her on both cheeks. 'Thank you, Zohra.' Then I whisper into her ear. 'Remember that you haven't wasted your time here. If you've come to know what is not good for you, you may also think of it all as having been a sort of magical way of finding out what is truly good for you' (Mahfouz 130).

It's clear in this excerpt that Zohra is being narrated to us by Amer Wagdi. This is more or less the case throughout the whole book (i.e.: she is narrated to us by the four male characters). What we have are characters narrating the life of another character who is present and able, but since she doesn't get her own chapter she doesn't get to represent herself. We have layers of narration of here. And with layers of narration we can say that the degree of absence and silence that Zohra has is twice removed from that of the other characters. She exists twice removed from the direct voices of the text because she is only heard through the first level of direct voices. I propose that because Zohra is the backdrop of the book (i.e.: she is narrated by other characters, we hear her only through them, she has twice the degree of silence because she is on a lower level of narration) that when we recollect the voicing of the novel she becomes the background on which the other voices emerge (which has the resemblance of a fugue). But strangely, because of this background role she carries with her the most significant part of the structure of the fugue-like recollection. However, this doesn't keep the reader from recalling the fugue in its entirety and allowing a meta-voice to emerge from all the voices including Zohra. What this implies is that perhaps there are key elements that must be followed in structuring a text with the goal of eliciting a fugue-like reader response (namely, that there have to be levels of narration and degrees of absence and

silence in voicing, along with Bakhtin's polyphonous and unfinalized world views manifested through consciousness in competing voices). Along with key elements in the structure of the text, there are specific structures in the human brain-body-mind that orchestrate in a way that resembles a fugue, and by extension, gives us the possibility that when we remember the voicing of a text it may very well resemble the orchestral arrangement of our neuroanatomical and somatosensory mechanisms. None of this is very far from what T.S. Eliot says in Four Quartets: " or music heard so deeply / That it is not heard at all, but you are the music / While the music lasts" (" Dry Salvages" —). It is also no wonder that Antonio Damasio has this quote at the beginning of one of his books. A methodology that not only looks at the structural aspects of the text, and not only the aesthetic, emotional, mundane responses of the reader or the philosophically relevant " data," but now has the power to look inside at the mechanisms of neuroanatomical and cognitive processes is a complex and rewarding endeavor. It is subject to the use of metaphor perhaps more than most critical techniques because its job is to relate a diverse number of phenomena along a continuum of experience that we all can intuitively sense is " there." By using terms of orchestration, specifically the fugue, we are not saying that there is a fugue in the mind, or that texts consciously attempt to create fugues (like Joyce's " Sirens" episode in Ulysses), but that the properties in orchestration and fugues resemble the complex relations between what is in a text, the reader and that text, the text and the world, and the reader and the world. Damasio speaks of the relation between a person and their core emotional body state as a relation between subject and object. With this, naming our own low-level emotions objects, we have pointed the magnifying glass even further inwards. But for however far we point inwards, we must also be willing to go outwards. Wolfgang Iser quotes Northrop Frye, " Whenever we read anything, we find our attention moving in two directions at once" (109), centripetal and centrifugal, and he is right. Literature is perhaps the most sophisticated free-play we have for refining our emotional lives and our inner sense of self. We do this through " reading into" a text whichever voicing seems appropriate between us and the text and the world, and in recalling it we understand it through the tension of what Hans Georg Gadamer says is between " the whole in terms of the detail and the detail in terms of the whole" (678). We understand actual musical orchestration in the same way, in the same hermeneutical looping. By this way we are thrust into history and time and place and tradition and forced to understand the world better. And from this it is easy to claim that such an activity is to our evolutionary benefit. By extension, it is to our benefit to understand science in terms of literature, and literature in terms of science; for some of us have been historically talking about the same things. Thus, to incorporate the fugue orchestration as a metaphor extended along the continuum of phenomena between science and literature, we are fulfilling what Nietzsche claims when he says

> The more I have come to realize in nature those omnipotent formative tendencies and, with them, an intense longing for illusion, the more I feel inclined to the hypothesis that the original Oneness, the ground of Being, ever-suffering and contradictory, time and again has need of rapt vision and delightful illusion to redeem itself.

He is talking about the counter-subjectivity between the Apollonian and the Dionysian.

His illusions may as well be our " as if" mechanisms of " inner simulation." They are the same inner simulations that allow us to read voices into Miramar, and recall them, and by doing so, refine our own emotional/rational lives through the tension between structures of our brain-body-mind consciousness and the structures of texts like Miramar, which are productions of consciousness. These are the same structures that resemble the orchestral fugue, which is a wonderful metaphor for literature, consciousness, and cognitive neuroscience.

6.3 Universal Waves: Kant Rides the Storm

History as a concept both objective and subjective has itself its own history. In Europe this history reached an apex of thought that unwittingly put Europe at the center of the universe as regards the concept of History. In Immanuel Kant we can read about the " Idea for a Universal History" and that " Man is an animal which, if it lives among others of its kind, requires a master... who will break his will and force him to obey a will that is universally valid" (17 italics mine). However, this universalizing of History and " will" did not take into account the rest of the world, and preceded from an assumption of Europe as the center of this Universe: A center from which the will of man will be broken by masters of the race, literally. One only needs to think of the history of slavery to see this kind of Universal History at work. In fact, as Derrida says, " History [Universal] has always been conceived as the movement of a resumption of history, as a detour between two presences [Beings]" (291). These two presences are the human master of the will and the human slave of the will. This is where the method of de-centering the master-slave relation in historical interpretation becomes useful as a tool of interpretation. The kinds of legitimizations of master-slave relations used over the centuries can be traced through Kant, and his tradition, back towards the Judeo-Christian biblical foundations of European and Western Society. It is this history of the concept of History, from the promise of Jerusalem to a " Universally valid will" set in motion by human masters, that makes Derek Walcott's poem " The Sea is History" so interesting. By consolidating biblical allusions with the traditional structures of Eurocentric History and the ecological history of the West Indies or Caribbean, Walcott has brought to light the serious flaws of a supposed Eurocentric Universal History. More than this, he has at least shown that this Eurocentric concept has been de-centered by creole presence (the ethno-cultural synthesis of master and slave) and that this de-centering can at least imply a new structural concept of History. The title of the poem is our first signal that Walcott intends to shift the paradigm of what can be considered under the concept of History. The sea is History because it was the medium of travel for slaves and colonialism, which founded Walcott's home in the Caribbean. It is a place where one could venture to see a nightmarish and literal playing-out of Kant's proposed " master, who will break his [human's] will and force him to obey a will that is universally valid, under which each one can be free." Although not particular attention was paid to such horrific events in the formal study of History in Walcott's time, a considerable shift has occurred in these studies, thanks mainly to postcolonial literature. Derrida, in his essay " Structure, Sign, and Play in the Discourse of the Human Sciences," goes on to say that " the appearance of a new structure, of an original

system, always comes about... by a rupture with its past, its origin, and its cause.“ This is overwhelmingly evident in Walcott’s poem. In the beginning we hear a voice asking for “ monuments, your battles, martyrs“ (Walcott ln. 1). These are the traditional signs of history, meaning they are European structures that point to the previous existence of human beings. In the very next line we are asked for “ tribal memory“ (2). This we can take as an oral tradition, stories, which were eventually written down to preserve the fidelity of the “ tribal memory.“ The significance of these questions to the poem is that the Caribbean at Walcott’s time did not have such artifacts, which in the Eurocentric view are necessary for a people to prove that they have a history. And so, it appears that there is no visible past, origin, or cause for the new Caribbean citizen to rupture with in order to create Derrida’s “ new structure... original system.“ However, Walcott refuses the Eurocentric guidelines, and instead, the response to the questions transfers the static signs of a central history to the ocean: “ Sirs, / in that gray vault. The sea. The sea / has locked them up. The sea is History“ (Lines 2-4). The beginning stanza has what appears to be two voices, but not so. The sense of two voices is nothing but the two sides of the poet Walcott. In this way, neither voice is the poet himself, but aspects of him. It’s this that allows Walcott to keep the poem de-centered through narrative devices of irony and what M.M. Bakhtin calls double-voicedness: “ The writer is a person who is able to work in language while standing outside language, who has the gift of indirect speaking“ (Speech Genres 110). Not only just indirect speech, though, but the double-voicedness of Walcott reveals his double-consciousness as dual ethnic identity, an identity with at least two histories. Here it is that “ To see and comprehend an author of a work means to see and comprehend another, alien consciousness and its world, that is, another subject“ (Bakhtin 111). Walcott reads this subject as this split between two conscious historical “ presences,“ one the offspring of masters, the other of slaves. And so, there are not two people in this poem, but two voices of two histories that reside in the same creole body. The result is that Genesis, in all its biblical and etymological terms, is literally the “ heaving oil, / heavy as chaos; / then, like a light at the end of a tunnel, / the lantern of a caravel [Portuguese slave ship]“ (Walcott lnn. 5-8). What we have here is a parallelism between the Caribbean and the European creation. Yet, it is not a synthesis. It isn’t until later in the poem that this happens. At the point of a synthesis between the “ two presences“ of History, according to Derrida, what should happen is a massive “ rupture“ to create a new form. This will result also in a de-centering of the dominance of the Eurocentric experience and its guidelines for what a proper concept of History is. In Bakhtin’s terms, in his The Dialogic Imagination, we would reach what he calls heteroglossia (literally other tongue or new tongue), which is “ as close a conceptualization as is possible of that locus where centripetal and centrifugal forces collide“ (428). The centripetal force, for Bakhtin, is what draws things to a center of “ homogenizing and hierarchicizing,“ while the centrifugal forces do the opposite by de-centering these (425). And so, the synthesis of the two voices in Walcott is an area of great tension and conflict. We can find this beginning to happen between lines 25 and 37. Up to this point the parallelism of the Caribbean slave history sunk in the ocean and the European biblical history is nothing more than drawing comparison’s and contrasts. However, there is a specific linguistic change that begins the process of the two voices combining. “ Then came the men with eyes heavy as anchors... and that was Jonah, / but where is your Renaissance¿‘

(26-33 Italics mine). It is this " but" that signals the beginning. Up to this point, the question and answer framework was upheld by the separation of sentences. This sentence has the answer and another question within it, implying that the addresser and addressee are the same person. The very next line changes from a plural to a singular body " Sir, it is locked in them sea sands" (34). And then, " strop on these goggles, I'll guide you there myself" (37). The compression of question and answer into one syntactic structure, the change from plural to singular addresser/addressee, and the use of a more relaxed syntax (" them sea sands") and local slang (" strop" for strap) imply not only a synthesis of the two historical presences and a play between the centralizing and de-centralizing forces within them, but also an indirect invitation to the reader being addressed by the poet (I'll guide you [the reader] there myself"). In order to get a true double-voicedness, in Bakhtin's sense, we need a synthesis. One word or utterance must contain the two voices of the two historical presences. Much like irony, there has to be a simultaneous centering and de-centering: a heteroglossia. Much like the parallel of " packed cries, / the shit, the moaning: / Exodus" which creates a contradiction, we need two directions at once: freedom and slavery. Except, unlike this example, there has to be a synthesis within the utterance and not just a compressed contrast between opposites like slavery and freedom. The easiest place to see this happen is when " His son set" (58). Previously we read that the framework of this son setting is " at evening" (55). The Euro-biblical son of God and the West Indies sun in the evening are both setting. We have a synthesis of both histories here in three words. The two voices have come together, and in the lines following we have a true double-voicedness in the words " The white sisters clapping / to the waves' progress, / and that was Emancipation... but that was not History, / that was only faith, / and then each rock broke into its own nation" (lnn. 59-67 Italics mine). This gives way to the heteroglossia and the de-centering of the Eurocentric viewpoint. This heteroglossia allows Walcott to express a break with his past and attempt to create (or at least imply) the new structures Derrida speaks of. This is evident by the ending of poem as it says that " the salt chuckle of rocks / with their sea pools, there was the sound / like a rumor without any echo / of History, really beginning" (lnn. 77-80). The absence of echo is the loss of the past, or the rupture with it, that gives the rumor a unique and original presence. It is this new presence that is the new beginning. It wouldn't necessarily do to say what this new beginning is because any attempt would inevitably be immature. However, when pressed, we could say that the new structural concept of History, as conceived by the de-centered creole presence, is one that incorporates more fully the interdependence of human relations with each other and the ecological environment with which they live in. Thus, there is no one-voice in anything. Nothing is left monological, it is all dialogical. The end of the poem is much more complex than we have room here to go into, but the basic sense of a parallelism between the Eurocentric " universally valid will" and the creole experience breaking down into a synthesis where the central role of Euro-biblical images must conform to a de-centered position is evident. Kant and biblical imagery are wrong, when interpreted in a literal sense. And the central role that monuments and written texts and battles and martyrs play in creating a concept of History is quickly combined by Walcott with barnacles and tidal waves. He takes it further into colonialism and post-colonialism and finds the synthesis as strange. In fact, the latter become almost majestic in their own sort

of way. The images and signs used to signify and refer to the artifacts of the creole's presence in History are particularly not biblical, or European. In this way, Walcott does much to contribute to a new structural concept of History by de-centering the Eurocentric fetish with an " exotic" synthesis of biblical and West Indian imagery. The paradigm has been shifted through a rupture with the origin of the past; a rupture that is heteroglossic because it uses the homogenizing centripetal force of the Euro-biblical and the de-centering force of the creole presence simultaneously to make a new form. This new form, or structure, is that force that goes in and out at the same time, like a wave. In essence, History is the sea.

6.4 The Riddle of Process: Indeterminate Guilt

As with all great works of literature it is possible to analyze The Trial by any means and come up with a coherent and interesting paper. Also, as with any truly great work of literature, it is possible to see the book as nothing more than the process of being human. In this it should be remembered that our text is a text that has been re-structured and translated. The original pattern of chapters will never be known, but the original title is known: Der Prozess. It doesn't take a fluent German speaker to realize that the word " prozess" is cognate with English " process" (Brink). This is a significant, but underappreciated, aspect of the nature of reading this book in translation: a trial is also a process, and Josef K. seems to go through just as much a process as a trial, if not more. He has been charged with guilt, but any traditional attempts of reacting towards this charge do not work. Nothing works, and Josef K. ends up seeking his punishment, which is forbidden him too. But not! For he dies in the end! And so, it seems, this process, Der Prozess, is still nothing more than life itself. This is why Kafka is seen to have written a religious parable. However, there doesn't seem to be much religion or justice in it. So maybe it is existential, or absurdist? I suppose so. It seems, though, that the crux of the matter of reading (and interpreting and translating) The Trial is the crux of Josef K.'s life process too - that it is indeterminate. Or, as George Steiner says of the text it " links the instability, the ghostliness of modern urban existence to the new physics of indeterminacy" (xvii The Trial). In which way is the work indeterminate? Well, that is ambivalent; it may move in at least two directions of indeterminacy (indeterminate innocence, or indeterminate guilt). And so, the vagueness and opaqueness of the novel begin to weigh heavy on the shoulders of the reader and critic. And as for these readers and critics, they too will one day be relieved of this heaviness on the shoulders, perhaps in the same decapitous way as Josef K. That's fine for them, but for us we need to come to some determinate answers, some definition. And so we will: Josef K. is involved in a complex process of movement through an indeterminate world with only an indeterminate cognitive process to guide him. He cannot tell whether the sign of his guilt is true or not because he cannot seem to come to any definitive conclusion about the world and himself. Is it the physical world that is indeterminate, or is it cognition? Josef K. may pretend to make great gestures of rebellion, but deep inside he cannot come to any answer whether he has actually committed a crime or if he is being falsely accused by a state apparatus. In essence, there is no truth for Josef K. because the relationship between signifiers and signifieds do not hold. There is no concrete

link between his guilt and the action that could have produced it. Even further, there is no determinate link between the guilt and the body which has created the accusation. Josef K. is stuck in a riddle of process between indeterminate guilt/innocence, and indeterminate world/cognition. Thus, this indeterminacy becomes ambivalent. The first great example of an ambivalent indeterminate process comes in the first few pages: perhaps among all the furniture, rugs, china, and photographs with which it [Fraulein Burstner's room] was crammed there was a little more free space than usual, yet one did not perceive that at first, especially as the main change consisted in the presence of a man (2 Italics mine).

We cannot ignore the fact that either " perhaps" there was some more free space or that this perception took place. Yet, as the sentence goes on it becomes increasingly obvious that the indefiniteness of the perception is pushed aside and taken for granted, almost it seems because of the " man who was sitting at the open window...." A theoretical perception that " perhaps... there was a little more free space" gives way to a definite sense that this space is real because it is not noticed at first due to the real man at the window who is spreading out in real space. Plus, the theoretical space is undermined by the real space in the way that " especially... the main change" certifies an actual hierarchy of change: there is the main change which is the man, and the secondary change which makes the " free space" real. And so, there is an ambivalence in whether Josef K. perhaps perceives, or does perceive a " free space." All in all, the interplay of Josef K.'s perception of space (and time) is caught between some " free space" and the real man at the window. It is as if both spaces are created and validated by each other; interdependent. Thus, in Josef K.'s perception the indeterminacy of space is ambivalent because there is an interplay between what can easily be assigned a material existence and what is due to a certain belief in cognition. The point here is that the technique for beginning the story relies on the indeterminateness between the world and how K. sees it. This contextualizes the rest of the book within a framework where we cannot be too sure about anything, even the arrangement of objects in a room. And in fact, Andre Philippus Brink will say so much about the opening paragraph of Der Prozess: "It is like discovering... all is uncertain; that the too, too solid flesh must soon be resolved into a dew; that the solid table on which I lean consists, 'in reality', of a vast collection of subatomic particles moving about at a dizzying speed in unpredictable directions" (190).

> It would be a mistake to forget that the original readings of The Trial, those by Kafka to his friends, were visited by heavy laughter. The author and audience, perhaps benefiting from the tone of voice in the writer, found much of this extremely comical, in a horrific way: In the world of the Kafkan, the comic is not counterpoint to the tragic (the tragic-comic)... it doesn't accompany the tragic, not at all, it destroys it in the egg and thus deprives the victims of the only consolation to be found (Kundera 105).

In a way it makes sense that the public readings of Der Prozess would be visited by laughter: it is a way to distance what the story brings to light about the experience of existence. We may laugh at it because it is not happening to us, nor anyone else that is not a character in the story, at least we hope. This laughter becomes a horrific laughter, a recognition of the horror of such a process of K.'s and the simultaneous defense

against it. But what does a horrific laughter reveal about the indeterminate processes of cognition in K. and his defense or submission to the absurd claims on his guilty state of existence? At times, words cannot express the fright, the frustration, the anger, or the horror of a situation. And so, it could be said we laugh to distance the absurd claims that words have on our experiences. If so, why doesn't Josef K. simply laugh off the court? Because he cannot, it will not work. Laughter is a sign, or an attempt to assign, triviality to events. And if Josef K. could laugh off his accusers it would make the world he lives in as trivial as the laughter, thus ruining the special sense of reality that the book needs in order to draw us in. If Josef K. were to laugh off his accusers, not only would it not work, but it would turn that world into a fantastic world and denature exactly the seriousness of what is trying to be communicated. If the same kind of arrest were to happen to any person in our world, they would hardly laugh it off, at least not at the moment. Because to laugh it off would make it too fantastic for the moment, and as Sartre says, " no one can enter the world of the fantastic except by becoming fantastic" (69). It is Josef K.'s normal self, his banality, that allows the guilty charge to carry the correct weight, while simultaneously showing us how comically horrific the world that accuses him is: " Josef K., in The Trial, is a normal man. The advantage of this technique is apparent. It sets off, by contrast, the strange character of the new world" (Sartre 69). This allows the reader to see " the fantastic from the outside, as a spectacle, as if waking reason were peacefully contemplating the images of our dreams" (70). In this there is an ambivalence of cognition between dream-life and waking-life that can at times be synthesized. Also, in both of the perceptive worlds of dreamness and awakeness there is the capability of indeterminacy. And with this ambivalent indeterminacy the fantastic world can shift around within a fully reasonable framework, giving us the horrific laughter mentioned above. Lastly, an ambivalent indeterminacy that allows the fantastic to roam freely within the framework of a reasonable world lets us assign guilt in the most fantastic sense and get away with it feeling horrified. And so, we will never forget that Josef K. is in the process of defending his life against a fatal guilt, but we will also never forget that the court process assigning this guilt is as fantastic and comically horrific as anything we've read before. A question comes up about the processes of the court system in The Trial: does it represent an ambivalent indeterminate process between cognition and the world? Is it victim to the problem of signifier not actually representing the signified because neither can be brought into a framework of central judgment? Well, yes. To begin, an excerpt from a book written in 1959 by an Iowa State Prison convict:

> The prisoner standing in front of the board seems confused, and he is. For, in spite of the fact he has been well recommended by the prison officials, in spite of the fact he is a rehabilitated long termer, the board has just refused to listen to him. Iowa's parole board bases all decisions on prisoners' records, not on what they have accomplished.... Iowa has a so-called " indeterminate sentence" law; the penalty for each type of crime is determined by law, but any prisoner may be released any time.... Its use has become perverted until we don't even begin to understand what we have to do to get paroled (Neese 113 italics mine).

I wonder if this man had read The Trial, because the language of his experience

sounds frighteningly similar to K.'s. It has the same use of indefinite qualifiers (" seems," " may") and the same centrism on " records" and not the physical person. Also, there is the problem of penalty being " determined by law." Capitalize the " l" and this sentence could be surgically implanted in Kafka's book; it has the same sense of the enigmatic and unknowable determination of an entity without qualifying what exactly this entity is. But the strangest part of this quote is the " indeterminate sentence." One could imagine it a penalty if denied an " Ostensible acquittal and indefinite postponement" (Kafka 156). With its strange logic of " the penalty for each type of crime" being determined by " law," " but any prisoner may be released any time," the " indeterminate sentence" provides the same type of uncertainty and process that K.'s trial does. Furthermore, we see here the absence of the sense of a central judgment because the " law" that determines the penalty is here an empty signifier with no concrete referent. And of course, we have to question whether this inmate really understands the processes behind an " indeterminate sentence," and whether the problem is not just his own cognition of the " law" from the perspective of a prisoner, or if the " law" and the " parole board" really are ambivalent entities that dole out " indeterminate sentences." The actual definition of indeterminacy in physics (quantum theory) is too much for us. It is enough to know that it's related to uncertainty and complementarity. There are some metaphorical aspects of indeterminacy as a quantum theory that allow it to be used as a functioning tool to help us explore Der Prozess. Roughly, it's possible to say that " knowledge of the past [velocity of an electron] is of a purely speculative character, since it can never (because of the unknown change in momentum caused by the position measurement) be used as an initial condition in any calculation of the future progress" (Heisenberg 20 italics mine). The quote is from the actual quantum theory posited by Heisenberg and in it the translated language is useful. The two words " momentum" and " position" are of importance. Relative to each other, only momentum or position can be measured reliably, never the two at once. However, in K.'s process we know neither the momentum of the trial or his position in it. We get only speculation. Because of this, the future outcome is indeterminate, a mystery. And, it is ambivalent because we as readers can never be sure to what extent this indeterminacy is caused by K.'s cognition of the world or the indeterminate nature of the court itself. However, within the actual world of the novel, we can be sure that it is the court that manufactures these kinds of indeterminacy. In Walter Benjamin's essay on Kafka he discusses to what extent the prehistoric world is forgotten, and how much of this forgetfulness is affected in that the prehistoric world still influences this one. In this framework he discusses the variable roles of " messengers:" " None of them has a firm place in the world" (117). He goes on to say of these messengers that " There is not one that is not either rising or falling, none that is not trading qualities. . . not completed its period of time and yet is unripe. . . " (117). These messengers can be anyone in The Trial who informs K. of the court. What these characters point to is some sort of understanding beyond human depths. The result is something akin to what Benjamin would say is Dostoyevsky's Grand Inquisitor:

> So we have before us a mystery which we cannot comprehend. And precisely because it is a mystery we have had the right to preach it, to teach people that what matters is neither freedom nor love, but the riddle, the se-

> cret, the mystery to which they have to bow - without reflection and even against their conscience (qtd. in Benjamin 124).

This leads Benjamin to question whether or not " the trial is the punishment?" And of course it is. In fact, the trial as punishment could be called the mystery of the " indeterminate sentence" if we wished. No measurement can be taken of its progress, momentum, position, or state. And even if we think we get a glimpse into one of these we are smashed down by the realization that they are all relatively uncertain to each other and that the only true perspective is a total one. And so, the messengers (whether in the form of warders, magistrates, lawyers, or painters) can only give us at best an indeterminate measurement of an aspect of the entire riddle of the process, which is based on nothing more than their past experiences. In essence, the messenger only relates the uncertainty of " future progress." This is why Benjamin goes on to quote Willy Hass in saying that " the real hero of this incredible book (The Trial) is forgetting" (131). And if we remember, it is the fact that K. cannot forget his trial that really draws him away from his real life and into the process. This is K.'s motivation, and it is through desire and the inability to forget the indeterminateness of the court's secret processes that brings him from an unsure past to the possible future that is always " yielding a constant flow of new, strange products" (Benjamin 137). There is no central judgment. Not even the messengers who speak to K. of the court can give a determinate measurement of how it works. Because of this, we as readers have to wonder if the messengers themselves are not caught up in a process of cognition that relates everything as if it were subatomic particles randomly moving through space, or if the court really does work in the most indeterminate way, leaving its officials and the accused suffering from such constructions. If this is so, the hope for justice, jurisprudence, or anything we would expect from a court of law would be grossly out of order. There is no possible way one could come to anticipate a fair judgment in a world ruled by indeterminacy because the main qualification for fair judgment is a concrete framework. It's from this framework, or frame of (past) reference, that we should come to apply an interpretation of the law (legally speaking): " The work of interpretation is to concretize the law in each specific case –i.e., it is a work of application" (Gadamer 329). This application is impossible in K.'s world because the interpretation of the law is impossible due to its concrete inexistence (i.e. the only thing we are sure of is that there is a text we have not read). Thus, everything we get from the " messengers" is speculation on the past, which leads to an indeterminate future application. What we really need, says Gadamer, is a sense of accountability for the judge, which is " part of the idea of a rule of law that the judge's judgment does not proceed from an arbitrary and unpredictable decision" (329). This is what is known as " legal certainty –i.e., it is in principle possible to know what the exact situation is" (329 italics mine). This is opposite in The Trial. Not only do we never meet a physical judge, nor see a physical text, but we never know the crime, and thus, the exact situation. This ensures that the outcome will be uncertain, indeterminate. No possibility of legal certainty is open because we have no way of interpreting an original text or word, and thus acting on what may be hermeneutically called the fore-sight and pre-judice of traditional applications. Here, the past is only a speculation, and so are all the interpretations of court processes by Titorelli, Huld, Franz, Willem, and the prison chaplain. And so, without any original text or crime, we

cannot say for sure whether K. is actually guilty or innocent, these are ambivalent, and indeterminate! It is as Derrida says " that the center could not be thought in the form of a present-being, that the center had no natural site, that it was not a fixed locus, but a function, a sort of nonlocus in which an infinite number of sign-substitutions came into play" (280). In The Trial there is no " present-being" from which a judgment or a supplement to the law comes from; no location, no center. Further, instead of " sign-substitutions" being replaced at a mythical center of judgment in The Trial, we will say that what is functioning here is a system of interpretation-substitutions that can be supplemented for other interpretations. And thus, each interpretation-substitution points to a direction not previously located in the " Law." It is here that the chapter " In the Cathedral" holds much importance. We read the parable, which implies a center of law. Yet the interpretations given by the chaplain keep us constantly at the first gate because none of these interpretations are definite (determinate), or yield progress. The fact that this parable and its interpretation-substitutions are the preface to the law says much about the (non)existence of a central judgment in the court processes, and the actual possibility of progress within the law. In the sense of a noncenter, and the fact that signifier does not concretely refer to signified, Derrida would say there are two styles we can see: one is the " lost or impossible presence of the absent origin, this structuralist thematic of broken immediacy is therefore saddened, negative, nostalgic, guilty" (292). The " broken immediacy" is the im-mediation between the signifier and signified not being fulfilled: the sign of guilt for K. has no immediate action to be signified, nor is there an original body to reference the guilt. The other style of a noncenter for Derrida is " the affirmation of a world of signs without fault, without truth, and without origin which is offered to an active interpretation." It's the " active interpretation" that K. is allowed to glimpse near the end of the book with the chaplain. Derrida goes on to state that " This affirmation then determines the noncenter otherwise than as loss of the center... [and] surrenders itself to genetic indetermination " (292). Although I can't be certain what Derrida means here by " genetic indetermination," it seems if anything could have been K.'s salvation from execution it would have been this affirmation that surrenders to indetermination. K. would have simply affirmed the indeterminate nature of the process at the beginning and forgotten or left it behind. Yet for K., the riddle is too enticing to forget and he must venture into the indeterminate world looking for a definite center of judgment. Both styles, the nostalgic guilt and the active-interpretive noncenter, are parts of the book. It seems, though, that the first is bound to the world within the book, and the second is more a method for the reader reading Der Prozess. And this is true, we as readers can come to the conclusion that the book has no definite interpretation, and so, affirm it and leave it. Whereas with K., it is his world, and he cannot leave once he begins the journey into indeterminate guilt. It is difficult to have any sense of completeness when exploring ambivalent indeterminacy in Kafka's The Trial. By nature the subject is somewhat elusive to conclusions and definitions. Usually the best thing to do is attempt the journey and try to forget it as quickly as possible; what Benjamin prescribes for almost all Kafka's characters. But we are not Kafka's characters (in a practical sense), and even if we haven't literally lost our heads, we may have come close to losing our minds in the process of determining not only indeterminacy in The Trial, but the idea that indeterminacy is ambivalent as regards K.'s guilt/innocence, world/cognition, and even to some extent between the

signifier/signified. Yet, we come out alive, if at least not weary from the effects of a comically horrific story. There should be no surprise at this kind of conclusion about the riddle of process. It is fair to say that K.'s ending, though fatal, is still indeterminate as regards his actual guilt. It seems the common feeling is to accept (like K.) this fatality and move on without much regard to the by now torturous question: What did Josef K. do? As far as we the reader can tell he did nothing illegal or criminal, surely nothing requiring a private and somewhat humiliating decapitation. And so, we are left with the question of his indeterminate guilt. It is obvious that he surrenders to his execution, and this is enough to put him in the guilty domain. He may not be sure if it is the court or his own indeterminate cognitive process to blame, but it hardly matters in the end. Yet, this kind of guilt does not stick, and the converse innocence we would like to assign to him does not work out either. If this innocence were a viable alternative, the question and concept of indeterminate guilt would not haunt us so. If K. were obviously innocent we would have our ending: the unfair and evil dictates of detached authority. It would be Derrida's " broken immediacy" within a structuralist theme, making this a negative reading where we could assign guilt to the state apparatus. But it is not, or at least not completely so, because there is also an affirmation of the indeterminate process and surrender to it. Somewhere, somehow, the pieces all fit together. Yet, we can never be quite sure if it is the entire riddle we are reading, or if it is our process of interpretation for the riddle that is lacking. But one thing is certain, whether it is the process of riddle, or the riddle of process, it is an incomplete venture even into death.

6.5 The Material and the Mode: The Sentiential Mode in Seamus Heaney's Death of a Naturalist

The Sentiential mode is, as far as I know, one of my own designs (sentiential: having the faculty of sense perception and experience.) This mode is detectable in the poems of Seamus Heamey's Death of a Naturalist (1965) and has four basic characteristics. I will define this mode in greater detail by giving an example of its strict use in " Scaffolding." Then I will move on to other poems that deviate from the strict definition to see if the concept holds under the pressure of variation. I have set up three categories that the 27 poems of the book fall under according to their adherence to the basic rules of the mode. Before setting up the conditions for the sentiential mode it is important to stress the dependency of this mode on the poems and thematic content of Death of a Naturalist. To begin with, the poems of this book are all object poems: they all deal in some regards with describing objects. Also, the title of all the poems usually has a one-to-one correspondence with what the poem is about. For example, " Scaffolding," " The Barn," or " Turkeys Observed" are all apparently about what their titles suggest. The same can be said of the title of the book. In fact, the main theme of the book happens to be some reflection of the poet's sense that as a poet, a man with a pen " Between my finger and my thumb" (" Digging" ln 29), he is engaged in a very different kind of work than was his father and his community. The poet continually observes and reflects on the memories of his childhood and the rural, natural, animal-filled land-

scape in which he matured. It is because of this that we have to take the naturalist seriously. Though the death of him is metaphoric, the activity he is or was engaged in is not: a naturalist by definition is one who describes the natural world in such a way so as other's may be informed about it. Usually accompanying a naturalist's handbook are sketches and drawings, but since Heaney is a poet he must sketch for us with only words. Furthermore, because Heaney is a poet, he is also bound to sketch for us both the actual landscape and the emotional landscape. A naturalist is a field biologist, a scientist who depends on some sense of objectivity when making descriptions of the plants and animals inhabiting a location. I take this activity literally when Heaney talks of the death of a naturalist and have used it to section off the poems accordingly: category one are the poems I feel come closest to what a naturalist may write. These poems are judged by me under the conditions and expectations of a naturalist. Category three, on the other hand, contains the poems I feel deviate greatest from a lack of apparent objectivity. The middle category speaks for itself. The major tool used for this taxonomy rests on Turner and Fauconnier's concept of conceptual integration networks, or blending. Blending is a notion based on supposed mental " spaces" and the transference of qualities or characteristics between these spaces; and also which qualities or characteristics are left out. This is a theory of metaphor and attempts to account in a specific way some of the basic cognitive processes that are at work when one is moving from source to target in the making of analogic forms (and so even though the emphasis is on metaphor more forms are implied: synechdoche, metonomy, analogy, simile, symbol and such.) My three categories are defined by the amount of imaginative work necessary to simulate an image or images found in the poems (1 = minimal; 2 = moderate; 3 = intense). A naturalist's job is to provide detailed description of plants and animals so that one can recognize these objects in the world. The naturalist wants to minimize the imaginative work needed to produce an image so that a close correspondence between linguistic signifier and actual signified develops. The poet, however, is given the allowance of producing descriptions that either minimize or maximize imaginative energies needed for simulating an image in the mind. The poet is also under no obligation to verify the correspondence between mental image and the real world image of any object. But of course, it is in the poet's best interest not to stray too far from real world correspondence. As a naturalist scientist my job is to describe objects in such a way that the reader does not have to integrate too many conceptual networks. I want a clean and easy description such as found in " For the Commander of the 'Eliza'" : " In whines and snarls their desperation // Rose and fell like a flock of starving gulls" (lnn 12-13).The reader need not stretch the imagination too much in order to understand. This kind of easy integration is what is included in category one. On the other hand, for category three, we find creative descriptions the likes of which no respected scientist would support but a poet would be proud of: " Between my finger and my thumb // the squat pen rests; snug as a gun" (" Digging" lnn 1-2). The reader must work to integrate both concepts, and because this description comes at the beginning lines of the poem the reader must also suspend their integration of the two conceptual qualities of the objects until the context can be called on for help in determining what kind of network to establish in the integration between the pen and the gun. Furthermore, because these are the first lines of the book, and we happen to know this book is called Death of a Naturalist and we also know that guns are used for killing, we are invited to include

the entire book of poems in our blending of the pen and gun concepts. For category two the blending is less intense. In the poem " Trout" we are given a description that we must assume is a trout because of the consistency at which Heaney has established the one-to-one correspondence between title and object of poem. In this description of the trout we read " slips like butter down // the throat of the river" (3-4). I want to propose that although " butter" and " throat" are not immediately close concepts to " trout" and " river" they still cause less work to integrate. The physical movement of a trout in a river and the food and body inferences within the description are not that far away " spatially;" it does not take an intense effort to integrate the two. With that said about the method of grouping and the theoretical assumptions motivating the grouping I want to turn now to the four basic characteristics that must be met in order for a poem to employ a sentiential mode. a). A description of an object near or at the beginning of the poem; b). An object-subject relation; c). First-person subject; d). A " lyrical turn." Object poems are poems that employ the sentiential mode; at least for Heaney. They are not merely descriptive poems. They may contain description, generally at the beginning, of a real-world material object. This object is in relation, by necessity, to a subject. This relation is necessary because included in the object poem is a " lyrical turn" from which a first-person subject elaborates on their personal experience of the object. Categories one to three are determined by the extent to which the lyrical turn is made. It marks a shift, or shifts, from the object's description to its status as psychological content within the mental state of the subject: the object and the subject now have some relation dependent on the mental state of the perceiver and the supposed objective qualities of the object. Both meet in some " spatial" middle ground where they comment on each other. A transfer occurs between the object's description and its status as psychological content. The result is a folding, or a breaking down of the boundaries between objective and subjective world. The best example of the strict sentiential mode is " Scaffolding." It is a very simple poem made up of five two-line stanzas with fairly consistent iambic pentameter ending in heroic couplets and containing a majority of one syllable words. One cannot get more basic than this in English verse. We begin with a reference to our title's subject: " Mas 'ons, when 'they start up'on a buil 'ding, // Are 'care ful to 'test 'out the 'sca fold 'ing;" (lnn 1-2). The next lines mention in detail the " planks" at " busy points" and " ladders" and " bolted joints." We move then into the scaffolding coming down to reveal walls of " solid stone." But then in stanza four we begin the lyric turn with the introduction of a moderate, albeit idiomatic, blending: " So 'if, my 'dear, there 'some times 'seem to 'be // Old 'bridg es 'break ing 'be tween 'you and 'me" (lnn 7-8). The apparent objective quality of scaffolding and walls, of which he had no reason to suspect of referring to anything other than actual objects in the real world (as if reading an engineer's report), begins to turn in on itself. In fact, the objective quality of the poem turns in on the poet himself. We must assume that this is Heaney or a persona of himself: it is surely in first-person. To signify this lyric turn, a turn into the emotional and reflective world of the poet's feeling or memory of the perceived experience of the world, the end of line eight enjambs unexpectedly with line nine: " 'be tween 'you and 'me // Ne 'ver fear." The lines previous to this all had solid stops highlighted by the rhyming couplets; Pope would have been proud up to lines eight and nine. As Heaney continues into line nine and ten we are now instructed to shift from category one minimal conceptual blending to a category two blending:

" Ne 'ver fear. 'We may 'let the 'sca ffolds 'fall // Con fi 'dent that 'we have 'built our 'wall." All the rules for sentiential mode have been fulfilled: a). A description of an object near or at the beginning of the poem; b). An object-subject relation in the metaphoric sense of actual walls and psychological walls; c). First-person subject; d). A " lyrical turn." Here we see that in the strict sense (d) entails (b). A lyrical turn needs some relation between an object and a subject to " turn" on. It as if the poem is at first pointing at something outside of our reference and then suddenly turns this extensional perspective inwards to an intensional one. And in fact, the lyric turn is the most distinctive attribute of the sentiential mode: it entails all the other aspects. This leads to speaking of a " metaphysical priority" of the poem that the sentiential mode necessitates. That there is real world is not doubtful for our concerns here. But it is absurd to say that a word like " bridge" is the actual thing of a bridge: this a semiotic confusion for sure. However, an object poem the type of which contains a sentiential mode capitalizes on this simple fact. Approaching the poem we must recognize that we are already at a disadvantage: we must, in order to understand it, play its " language game." One of the rules of this " game" is that we presume that the language of the poem is somehow metaphysically prior to the real world: we are asked to submit, if only for a moment, to the reality of the language itself. We are asked to suspend judgment about the material world and charitably assume that the poem somehow is true of the objects it speaks about. And thus, in " Personal Helicon" when Heaney speaks of wells we must assume that the poem is correct in its appreciation and description of wells. We must give " metaphysical priority" over to the poem by attributing to it some reality beyond the manipulation of meter, words, rhyme, and such. Without this " metaphysical priority," which results in our own gullibility of the fact that the poem is referring to real objects " out there," we could never be surprised by the lyric turn; nor could we be emotionally moved by the turn from extensional meaning to intensional meaning. " Personal Helicon," which is another beautiful example of lyric turn, is category three poem. Although it meets the criteria of a category one in the many descriptions of wells such as " So deep you saw no reflection in it" (ln 8), " Fructified like any aquarium. / When you dragged out long roots from the soft mulch / A white face hovered over the bottom" (lnn 10-12), and " one was scaresome for there, out of ferns and tall / Foxgloves, a rat slapped across my reflection" (lnn 15-16), the poem's lyrical turn is dramatic enough to warrant a considerably intense conceptual shift. In the last stanza, after four free verse stanzas of naturalized description of wells, the poet relates a specific activity of prying " into roots, to finger slime, / To stare, big-eyed Narcissus, into some spring / Is beneath all adult dignity" (lnn 17-20). The set-up of a lyric turn is evident in the introduction of the non-literal figure Narcissus, at least by the standards of conceptual integration use that a scientist is allowed. And in fact, another perfect example of a lyric turn is what we get in the last line and a quarter: " I rhyme / To see myself, to set the darkness echoing" (lnn 20-21). Besides the nice mythic play between Narcissus' reflection and the figure of Echo found in mythological history, we also have the poet making a very demanding stand against the consideration of " adult dignity." It is this dramatic quality within the lyric turn, as well as the use of the word " helicon" in the title - a word meaning a circular tubular shape and not very common in the lexicon - and " personal," which is a fairly moderate to intensive conceptual image, that causes to me classify this as a category three. All in all, " Personal Helicon" is

a good example of a performance of the sentiential mode. The form of the poem has end-line alternating rhyme, abab, cdcd, efef, ghgh, ijij, for the five four-line stanzas of free meter; another pretty common English form. Interestingly, with this poem, is the use at the beginning of the three middle stanzas of what seems to be an apostrophic turn to the object: wells. It is these seeming apostrophic addresses or secular-like invocations of memory, " One, in a brickyard" (ln 5), " As hallow one under" (ln 9), and " Others had echoes" (ln 14), that setup the object-subject relation. This relation, by necessity via the lyric turn, is collapsed or turned inward by the last line where we must shift from wells in the real world to a well that exists within the poet to which and from which he himself rhymes to see himself and set the darkness of himself echoing. As mentioned previously, because the first-person subject perspective, the description of an object, and the relation between object-subject is entailed by the lyric turn, I will focus again on this defining characteristic of the sentiential mode in " Docker." I have given strict examples of the lyric turn, but in " Docker" we see something that seems to be much more common in the poems: the lyric turn is not so dramatically placed at the end of the poem. Again, we have another poem with four line stanzas, this time with a total of four stanzas, a possible iambic pentameter, and no end line rhyme scheme. The major reason that this poem does not exemplify the strict lyric turn definition is also dependent on its classification as a category two poem (though this relation of deviant lyric turn and class two relation does not hold for all the poems): the class two moderate conceptual blending begins at line two and continues throughout the poem. This results in there being no line or lines where we see a reversal of meaning from extensional to intensional; though this does not mean that there couldn't be one. " Docker" begins with a dietic apostrophe to an assumed fellow perceiver (deviation here against the poet as the only perceiving subject recognized by the language of the poem): " There, in the corner, staring at his drink" (ln 1). The following three lines of the stanza are descriptions of the docker: " The cap juts like a gantry's crossbeam, / Cowling plated forehead and sledgehead jaw. / Speech is clamped in the lips' voice" (lnn 2-4). These descriptions are moderate class two because the metaphors are still in some sense located within the range of objects associated with what a docker might do: " crossbeams," " sledgehammers," and " clamps" may not be used directly by a docker but they relate enough of conceptual synonymity that it is not difficult to obtain an image of the man. And what it is important here for classification is the amount of difficulty or imaginative energy is takes to intuit a mental image from the descriptors employed. (Thus contra to a class three such as found in the opening lines of " Lovers on Aran" : " The timeless waves, bright sifting, broken glass.") The moderate blending continues in " Docker" with " That fist would drop a hammer on a Catholic" (ln 5). Also, the dialogic sense is carried along with the rest of the stanza's emphasis on grammatical forms of address to some unknown listener: " Oh yes, that kind of thing could start again; / The only Roman collar he tolerates" (lnn 6-7). The " he" in the latter sentence acts as grammatical " pointer" : an extensional performance trying to grasp meaning " out there" in the world; namely, form the docker himself. In stanza three a slip into a class three metaphor starts us off and signifies as well a lyric shift: " Mosaic imperatives bang home like rivets" (ln 9). What are " mosaic imperatives" ? It takes a bit of thought. However, the line is consistent with class two moderation because we still have an industrial worker lexicon in " rivets." What the appearance of

a class three metaphor signals to us is the lyric turn: the rest of the three lines of stanza three is now from the docker's perspective: " God is a foreman with certain definite views / Who orders life in shifts of work and leisure. / A factory horn will blare the Resurrection" (lnn 10-12). This shift of first-person perspective to a vague perspective from the point of view of the docker, or an imagined view of the docker from the poet, is consistent with the deviation from the strictly first-person poet view. The last stanza brings us back to the poet's perception: " He [the docker] sits, strong and blunt as a Celtic cross" (ln 13). The fourth and final stanzas finishing three lines are an elaboration on the docker. So it is, in the " Docker" that we see how the lyric turn can be employed in the middle of the poem and is underscored by the class two blending. What does a sentiential mode help us with when it comes to interpreting the poems in Death of Naturalist? The word sentience means to be able to perceive or experience, and the word sentient and has largely been used to refer to living beings. In this regard the sentiential mode is derived from the Lyric genre and is completely dependent on the fact that some kind of lyric turn takes place in the poem. This means that a previous build up of extensional meaning in the poem is them turned inside towards what the poet feels about the extended world " out there." In the kind of descriptive words used in a poem a close reader is able to gather a sense of the mental state of the poet; depending on how the psychological content, which is the perception of an object and the feelings accompanying it, is treated. Furthermore, depending on how conceptually broad the networks of description are we can make a judgment on how deep or profound the perception of the poet as first-person subject in the poem happens to be. This does not mean that a class one poem is any less profound, but that the poet is inviting us to stray to far from the profundity inherent in the material itself. When a class three is employed, we are perhaps being asked to rethink and reconceptualize something that has been taken for granted or something that the poet perceives as more imaginatively constructed. In poems like " Scaffolding" Heaney wants us to see the simple power of the idea of scaffolds and walls and bridges as metaphorical heuristic devices that exist between the relations of two people. There is no more conceptual distance we need to go; Heaney see this, or asks us to see " Scaffolding," as competent the way it is. However, in " Docker" Heaney invites us to go a bit further past the close to invisible dock worker or industrial worker to imagine something more than the simple ruggedness that is obvious. Heaney is inviting us to imagine that the docker's body, ideas, and concepts are almost literally in the shape and lexicon of the environment that he inhabits: the docks and hammers, clamps, rivets, and crossbeams. For the third class of poems we are invited to refashion the entire way we think of certain objects: digging potatoes, and old pictures on the wall. But the third class is also used exclusively in other poems to signify shifts of lyrical attention or to approach more abstract concepts like " Valediction" or Personal Helicon." From my use and reading of a sentiential mode I want to say that it holds as a valid mode specifically employed for poems that incorporate some aspect of an object and the description of that object as it effects the perception of the viewer. In Heaney's book the strict definition seems to hold very well in specific instances and has value as a guide for understanding the relationships between object and subject. For this to occur one needs a broad definition of object, at least broader than a naturalist scientist would have. In this regard, I would say that this is Heaney's major point: the development of a poet from real world rural

objects necessitates a metaphorical death of the literal description without killing off the power and play that literal-like description may have.

Class 1 *Conditions of the Naturalist; descriptions have less of an abstract analog such that they come close to a one-to-one correspondence between word, mental image, and real world object. Poems include: Scaffolding, Poem (because the poem itself is the object under investigation), For the Commander of the " Eliza" , Mid-term Break.*

Class 2 *Class 2: The Middle Ground: descriptions are metaphoric with slightly abstract transference between source and target. The conceptual spaces used are not very far apart. Blending is moderate. Poems include: An advancement of Learning, Blackberry Picking, Churning Day, The Early Purges, Follower, At a Potato Digging, The Diviner, Turkeys Observed, Cow in Calf, Trout, Docker, In Small Townlands.*

Class 3 *Class 3: Reconceptualization: Conceptual blending is intense, abstract, and the conceptual synthesis required is of two spaces not intuitively associated. Poems include: Digging, Death of a Naturalist, The Barn, Ancestral Photograph, Dawn Shoot, Twice Shy, Gravities, Lovers on Aran, Valediction, Honeymoon Flight, Personal Helicon.*

6.6 Writing Back to the Past in Ngugi's *A Grain of Wheat*

Everything seemed a visitation from the past (Ngugi 43).

Time and space collide inside the text itself, inside the minds of its characters, within colonial relations. The past is consistently brought back to play its role in the present. In fact, the past is never really in the past for these characters; it is what is alive and what the present and future is bred from. We could venture to say that the past is a character itself in that it has a specific role to play in determining the outcome of Uhuru (Independence), and that the persons of the novel are the faculties of this character, or force. In this way, " writing back" could be seen as a rhetorical device used to resurrect memory and the past. There are many forms of memory: cultural memory, institutional memory, individual memory, and spatial memory (the space of home and community-tribe). With Ngugi, we read a mixture of all these, with heavy emphasis on individual and spatial memory. It is these memories that give the narrative time of the novel its longevity. Overall, the book covers something close to five or ten years, but in real time it moves through only a couple days; these being the days right before Uhuru-Independence, in which reflection of the past years would not only be natural but also a major force in shaping the newly acquired Uhuru-Independence identity. In this dimension, " writing back" as a device for incorporating memory and past-time is legitimate. It may not be the proactive reaction of writing back as a response, as is commonly understood in postcolonial studies. But for this novel it seems a significant way to take advantage of the duplicitous, or ambivalent, nature of language in terms of the phrase " writing back." And so, Ngugi " writes back" to the past through his characters' memories to re-present the (post)colonial situation and the possible course of the future in terms of a multifaceted history of individual and spatial memory. The first thing that needs to be brought to light is the context of the biblical quote that Ngugi

starts the novel with. It's from Paul's letter to the Corinthians (book 1): Thou fool, that which thou sowest is not quickened, except it die. And that which thou sowest, thou sowest not that body that shall be, but bare grain, it may chance of wheat, or of some other grain (15:36). This quote, in the context of the chapter, is a discussion of the problem of raising the dead. The dead represent the past, the way things were, and they carry with them memories. In the quote, the allusion to the future form of what is sown is strong; an allusion that parallels the end of the book: " He thought about the wedding gift, a stool carved from Muiri wood. 'I'll change the woman's figure. I shall carve a woman big – big with child'" (247). Opening and closing the book within such a context of past-time and future-time makes it difficult not to see the novel in these terms. In a sense, Ngugi must " write back" to the past in order to move forward. But one cannot move forward unless confidently grounded in the present. So, " more important than the past itself... is its bearing upon cultural attitudes in the present" (Said 17). Or better yet, there must be a creative transformation of the past and present in order to take control of the future. This, Ngugi seems to be saying, is the only way to move from colonial to postcolonial nation-space: A creative acceptance and transformation of the past to present, is the only way to take back the land for the future. Gikonyo must carry along the stool he has intended to make for Mumbi. At the end of the novel, though, his attitude changes about what it is to represent. Instead of his love for her, it will stand for the general principle of generation and birth: a pregnant woman. However, Gikonyo's attitude could never have changed if it were not for the process of remembering. Not only this, but the process of remembering the past has allowed him to accept it, which gives way to future progress and the impregnation of the new Kenya: land, spirit, and body. Body, spirit, and land are actually one. And the impregnation of the body is the impregnation of the land, which is hope for the future. But the text is a body as well, with its own space and its own time. Thus, the weaving of narrative time is specific for the novel. And this makes the novel a type of analogy for the land, for the body, for the spirit. So, the novel represents its own space and time, giving it its own legitimacy and making it a cultural image that can join the real-time events of the material world it seeks to re-present. In this real-time material world, the novel writes back as a response to colonial representations of the Kenyan character and spirit. But within the book, the " writing back" is a temporal pursuit. A journey into a represented past to reveal how this past informs the present on a level impossible to see in real-time materiality. Thus, the book itself as an object is a represented space, seen as an object of response, while what happens within the pages of the book is a suspension of real-time to allow for a temporal journey that investigates the process of memory and images of the past and their impact or relation with a supposed present. Because of this, ghosts take on life and haunt the new independent landscape of Kenya:

> As Gikonyo left the road and took a path into the fields, he could still hear the echo of his steps on the cement pavement four years back. The steps followed him all through the pipe-line, for in spite of the confession, Gikonyo was not released immediately.... Would the steps always follow him, he wondered, suddenly scared of meeting someone he had known in the old days (Ngugi 113).

In this passage we see that Gikonyo is held back by his connection to the past. The

future is not and independent future, it is a future dictated by the past, a colonial past; it is not a true independence: " Koina talked of seeing the ghosts of the colonial past still haunting Independent Kenya" (220). Ngugi brings us through, as he does some of his characters, a process of acceptance of the past that allows a more independent movement, but it is not easy. Thus, because the text is free from a chronological, or monological, order it can also help free the characters from the oppressive memories of the past ,as related to the actual land, by showing that a single space can contain many different histories at once. All one needs to do is find a way to live within a multifaceted history (easier said than done). Overall, Ngugi seems to be trying to explain the transcendent nature of time and space as refers to a palimpsest within specific spaces. He shows that this one space, inhabited by many people, is also inhabited by many memories (histories). Thus, Mugo's history is multifaceted, and so is Mumbi's and Gikonyo's and others'. Ngugi shows us the human nature of communication between what we are inside and what is outside, and that in the end, it is always polyvalent. In order to deal with this polyvalence of the past as represented by personal and social images, we must somehow be able to blend space and time in a way that it is not so much balanced, but synthesized into a new form: " it may chance of wheat, or of some other grain." However, this is not supposed to really happen in text, but in the mind of individual and collective people; the text being only a general re-presentation of what is happening in the real-time materiality of an individual Kenyan's consciousness. The view that " writing back" to the past can serve as an investigation into the nature of consciousness as it deals with and (re)defines itself in different contexts and different perspectives may seem very Western. As it stands right now, given Ngugi's experience with Western ideology, it seems hard to claim that the temporal perspective of " writing back" is not at least informed by Western philosophy. Contrarily, I would argue that the nature of human consciousness is so alike between all humans on the planet that it only finds itself expressed in different area-specific forms. Again, this seems close to the universalizing tendency of colonial ventures, but this differs from the universalizing fetish of Western culture because it does not seek to define a proper and international form of consciousness. We only seek a process and function of consciousness. At most, we assume that time and space are very important aspects to human consciousness as represented in literature. In fact, Bakhtin has a term called " chronotope," which literally means time-space. It is " a unit of analysis for studying texts according to the ratio and nature of the temporal and spatial categories represented" (Holquist in Bakhtin 426). That the (post)colonial experience has felt more deeply the polyvalent and dizzying effects of shifting spatio-temporal consciousness is well justified in a Grain of Wheat. The book has its specific forms (or mixing of forms) of geographies and cultures, and it has its specific horrors a. nd experiences, but through all this, we read the drama of human struggle with memory, self, time-and-space, and other. Thus, Ngugi's temporal " writing back" through his characters' memories to re-present different images of individual and spatial history works only because he believes that time and space are inherently defining characteristics of human consciousness and can be used as tools of investigation into the state of the human condition in specific times and places

Appendix A

The First Appendix

Appendix B

The Second Appendix

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Afterword