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A computer-based Barthesian reader’s assistant Xebra rides Roland Barthes’ textual network of signifiers

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The Ohio State University, 1994
A COMPUTER-BASED BARTHESIAN READER'S ASSISTANT
XEBRA RIDES ROLAND BARTHES' TEXTUAL NETWORK OF SIGNIFIERS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

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* * * * *

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To Alice
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INTRODUCTION

An Hypothesis: Formulation and Inquiry

I must begin with a good body of facts and not from a principle (in which I always suspect some fallacy) and then as much deduction as you please.

Charles Darwin
Letter to J. Fiske
December 8, 1874

The Formulation

The processes of determination and use of the "facts of a text" have a long history within the field of literary theory and criticism. There have been both theoretical and empirical approaches, with each having its own set of problems to be overcome in order to produce a model that critics can apply to actual texts. Roland Barthes' reading system, as discussed and demonstrated in his text, S/Z, is a largely empirical system designed to determine, as such, the

---

"Familiar Medical Quotations, s.v. "Scientific Method".

1
facts, "signifieds" or "semantic substance"\(^2\), in Barthesian terms, of a text as opposed to how they might be shown to work in terms of an interpretation of the text.\(^3\) The system assumes as its basic principle that the text itself is the proper object of criticism.\(^4\) This principle has been stated in many different ways over the centuries, with Roland Barthes' system being one of many that have attempted to ground themselves in their own version of it.

If one accepts the principle, the problems that are left are based in the specifics of each such attempt to go back to the text. This dissertation bases itself in the hypothesis that Barthes' system, while constrained by problems, both of theory and practice, is ultimately capable of yielding sufficient value as to warrant a strong effort at overcoming those problems.

Thus, this dissertation assumes that Barthes' project is a reasonable project, as such, then it addresses certain specific problems that are inherent in his approach and attempts to bring them to a resolution which preserves the spirit, and much of the letter, of its rules, models, and paradigms, as parts, as well as of the system itself, as a whole. The value gained from this activity is reasonable


\(^3\)Ibid., 14.

\(^4\)Ibid., 12.
access to the power of Barthes' system, a power that consists of unearthing facts of a text in a systematic, comprehensive, precise manner that allows for their direct use in performing acts of interpretation on texts. While these attributes constitute the controlling goals behind any systematic reading method, it is the basic tenet of this dissertation that a Barthesian reading yields up this knowledge so completely, precisely, and consistently, and in such a useable form, that ignoring its potential value to practicing critics is an unacceptable loss.

The specific problems of a Barthesian reading are based in points of theory and practice. The fundamental arguments against the system, from a theory stance, stem from three canon: theory of structure, theory of meaning, and theory of tools. The basic arguments against the system, from a practice stance, stem from matters of size and complexity.

Regarding the theory canon, Barthes, on the one hand, deliberately violates the grammatical structure of a text, which is to be, according to Barthes, "interrupted without any regard for its natural divisions (syntactical, rhetorical, anecdotic)," while on the other, he willingly accepts the certainly greatly expansive, if not truly infinite, cascading of meaning inherent in connotation. For some theorists, both acts would be unacceptable; for others, just one. But either way, Roland Barthes' system becomes

5Ibid., 15.
anathema to them.

On a more general plane, there is the problem of what tools can or do accomplish for the user regarding specific ends. That is, given a fishnet of two inch diameter mesh, a user is likely to conclude that all fish are two inches or more in diameter, as Sir Eddington, astronomer and mathematician, stated. Such a comparison can be shown to mean that when applying Barthes system, it is only possible, at the very best, to find those entities that Barthes designed his "fishnet" to cull from the sea of words that make up any given text.

For theorists with an empirical mind set, none of these objections are necessarily a problem as long as the results of the system are useful. Usefulness then becomes the touchstone of any evaluation of the Barthesian system, that is, when given a particular definition of "useful."

As for the problems related to practice, they translate, finally, into the degree of effort on the part of the critic, which, in this instance, is significant. The performance of a Barthesian reading on even a small piece of text, such as one hundred words, can easily result in ten pages of closely written analysis. Multiply this by the three, or even four, times larger text of an average novel, and the effort quickly stretches out into something that most critics are not willing to undertake, simply from the standpoint of effort necessary to complete a given project.
Given these sets of problems, both of theory and practice, and maintaining the assertion that a Barthesian reading is a productive means to a desirable end (that is, the unearthing of the facts of texts), it is reasonable to attempt a resolution of the problems. Taking the empirical approach, one would first manage the problems of practice on the premise that, having resolved them, the problems of theory become more accessible to study. In order to overcome the practical problems, this dissertation turns to a tool which has proven quite useful in a wide variety of fields whenever a problem involves great manual effort: the computer. Thus, an inquiry into the feasibility of implementing Roland Barthes' system on a computer becomes the objective. The next section discusses the nature and substance of this inquiry.

The Inquiry

This dissertation takes as its means to an end the demonstration of a computer-based tool called Xebra (eXperimental Eclectic Barthesian Readers' Assistant), which encapsulates a solution set for the problems of practice in the Barthesian system so that literary criticism practitioners can apply it to the texts of their choice, while theorists may use it as a means for studying the benefits of deeply detailed criticism.

This approach is taken because computers exist to do work which is extensive, intensive, and repetitive; applying
Barthes' system is precisely and exactly that species of labor. By relieving the labor burden, which constitutes the bulk of the objections to the system from the view of practice, it becomes possible to focus on matters of theory; that is, in determining the usefulness of such a process.

To that end, Xebra and a test of its and the Barthesian method's utility is described in this dissertation. William Faulkner's "The Bear" serves as the test input text, because of its relatively large size, rich complexity, and strong critical history. The size and complexity of "The Bear" stretch the system to the limits, both theoretical and practical, while the critical history serves as a basis for judging the test results.

Specific test criteria for this demonstration were drawn from the text, The Act of Interpretation, by Walter Davis, in which eight sets of "facts of the text" concerning Faulkner's "The Bear" are defined which, according to Davis, must be known items for any act of interpretation regarding "The Bear."6 By comparing the results of performing a Barthesian reading to Davis' "facts of the text," it is possible to measure how well Xebra, as an implementation of Barthes' method, achieves the desired results.

While the demonstration of the capability of Xebra to successfully overcome the practical problems inherent in the

Barthesian system forms the core of this dissertation, attention to and focus on the theoretical implications of both Barthes' and the dissertation's projects, especially where the two are not one, is interwoven with this core.

**The Plan Of The Dissertation**

The dissertation is divided into six chapters. CHAPTER I consists of a detailed statement of the basic hypothesis of the dissertation, with supporting description, discussion, and argumentation. CHAPTER II is an indepth description and evaluation of Barthes' method and the proposal of a set of changes to overcome known or perceived problems with the method. CHAPTER III is a description of Xebra, other computer-based efforts in literary criticism, and Xebra's relationship to them, and how Xebra can and was evaluated as to its effectiveness as a Barthesian reader's assistant. CHAPTER IV is presents the performance of the evaluation of Xebra using Faulkner's "The Bear" as the test input text. CHAPTER V is a discussion of future directions for pushing Xebra's reach further into the world of literary criticism, defining more precisely what can be done in practice by using computers to extend critics' ability to analyze texts from a variety of views.
CHAPTER I
Barthes' Textual Network of Signifiers

Barthes' S/Z: A Reading System of Worth

In his text, S/Z, Roland Barthes demonstrated an empiric, systematic methodology for determining "the facts of a text" for prose fiction based on connotative meanings of words and phrases, or "signifiers." A precise, consistent, complete, and useable systematic approach to critical reading has been sought after with great energy for most of the 20th century, if not since the time of Plato and Aristotle. Barthes' system, however, is not the "Holy Grail of Literary Theory." First, its focus is only on that part of the process of literary criticism that precedes the actual act of interpretation, that is, the making of an inventory of the "features" of the text. Second, it is not without blemish, both in theory and practice. Even so, it is the grounding tenet of this dissertation that Barthes' system yields rewards worthy of pursuit, especially when his manual model is effectively restated as a computer-based model.

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A reading of S/Z, with its detailed account of a Barthesian reading of Balzac's Sarrasine, leaves little doubt that "the facts of the text" are, indeed, uncovered by the approach. Given the bountiful harvest of facts that Barthes presents in his reading of Sarrasine, a critic performing an act of interpretation involving the text could certainly advance confidently with the requisite supporting evidence at hand, thus avoiding being one of those "critics [who] often proceed upon insufficient or precariously selective attention to such details;"\(^3\) such avoidance being a reasonable, indeed, necessary goal of all critics.

That valuation of the Barthesian reading system having been made, it is important to note the countervailing view that Barthes did not altogether avoid problematic methods, assumptions, and assertions in the formulation of his system. As an empirical project, some features of the Barthesian system are open to theoretical objections, while others are, in fact, problems of an experiential nature.

Given these attributes of the Barthesian system, its rewards and its difficulties, this dissertation focuses on demonstrating a tool that overcomes the empirical problems, while concurrently exploring the benefits of using the Barthesian method of reading. The non-empirical objections to the approach will largely be only noted. Where Barthes himself presents a countering argument to the theoretical

\(^3\)Ibid., 9.
view of his project, Barthes' own case will be presented, without amplification, and with as little explanatory material as seems appropriate.

The following section explores the Barthesian reading system more deeply with the goal of underscoring the value of the system. It begins with a summary of Barthes' argument for the system, then proceeds with a further deepening of the point that herein lies value for the practicing literary critic, as well as the theoretician.

**Barthes' Reading System: A Further Look**

Barthes begins *S/Z* by addressing the need for a typology of texts. He notes early attempts at defining such as a way into introducing his own typology. Predicating a valuation of texts by using a definition of what would constitute an ideal text, Barthes' typology ranks texts in terms of how far they differ from this ideal, with all texts falling into one of two general categories: "the writerly" and the "readerly."4 The former, if it existed, would match his definition of the ideal text, while the latter, which Barthes also calls "the classic text,"5 contains all other texts. Thus, the classic text is "The Other" of the ideal, "its countervalue, its negative, reactive value."6

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4Barthes, 3-4.

5Ibid., 4.

6Ibid., 4.
The Barthesian ideal text, the writerly text, is a "galaxy of signifiers, not a structure of signifieds; it has no beginning; it is reversible;." The text is "what can be written (rewritten) today," not just by the author, per se, but by the reader as well, "because the goal of literary work (of literature as work) is to make the reader no longer the consumer, but a producer of the text." Having access to the signifiers, a reader of a writerly text can make meanings, signifieds, that the first author of the text has no control over. Such a reader can enter the galaxy (text) at any star (signifier) and track towards any other star (signifier) as it pleases this text producing reader.

The readerly, or classic, text is, on the other hand, "what can be read, but not written," because a reader of a classic text has "no more than the poor freedom either to accept or reject the text." Thus, such a text is a less than ideal text, differing from the ideal, the limit-text, to the degree that it bounds meaning by a structure of signifieds that has a beginning, a middle, and an end, and it is incompletely reversible (that is, not open to rewriting of meaning by the reader). The reader of a classic text is constrained to move through the text in a

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7 Ibid., 5.
8 Ibid., 5.
9 Ibid., 5.
10 Ibid., 5.
(largely) pre-ordained order, encountering, consuming signifieds (largely) as the author intended. But not necessarily totally, for even the readerly text has some portion of the ideal or writerly text within its interior.

Barthes calls this quality of a classic text its "plural,"\footnote{Ibid., 5.} which can either be "more or less,"\footnote{Ibid., 5.} that is nearer or farther from the ideal. This plural of the classic text, its degree of reversibility, of accessibility of the signifiers to the reader's will, is, for Barthes, the basis for making an evaluation of a classic text. Thus, the act of interpretation of a text is "to appreciate what plural constitutes it."\footnote{Ibid., 5.} This type of text evaluation, by definition, can only be applied to readerly texts, and not all of them. A writerly text, according to Barthes, "demolishes any criticism which, once produced, would mix with it.,"\footnote{Ibid., 5.} for in its infinite plurality it has no exteriority which could be inhabited by an evaluation.

On the other end of the scale, since a readerly text supports an act of interpretation only to the extent that there is a limited plural to its meanings, a readerly text that is truly univocal, that is, having no plural, would, like the writerly, escape the critic's grasp. By
definition, there would be but one meaning for such a text, and thus no interpretation necessary or possible.¹⁵

The question arises as to how one is to discover the plural of any given text so that one can appreciate it. The answer Barthes provides is connotation. More specifically, it is the totality of the connotations associated with the individual signifiers. As Barthes states, "connotation is the way into the polysemy of the classic text, to that limited plural on which the classic text is based."¹⁶

It is important to note what Barthes means by the term "connotation" and the term "denotation." Barthes defines what connotation several ways, beginning by referring to Hjelmslev's definition of connotation and denotation as:

a secondary meaning, whose signifier is itself constituted by a sign or system of primary signification, which is denotation.¹⁷

He then goes on to relate two prevailing views of the system of denotation. One, that of the philologists and linguists, is to declare "every text to be univocal, possessing a true, canonical meaning,"¹⁸ and thus "banish the simultaneous, secondary meanings to the void of critical lucubrations."¹⁹

In the other view, according to Barthes, semiologists

¹⁵Ibid., 6.
¹⁶Ibid., 8.
¹⁷Ibid., 7.
¹⁸Ibid., 7.
¹⁹Ibid., 7.
contest the hierarchy of denotated and connotated; language they say, the raw material of denotation, with its dictionary and its syntax, is a system like any other; there is no reason to make this system the privileged one, to make it the locus and the norm of a primary, original meaning, the scale of all associated meanings.\(^{20}\)

Barthes disputes both views in his quest to establish not just a method for reading texts, but a standard by which the method measures the value of the texts read through it.

First, regarding the connotations that the philogists would ban, he defines, in a positive sense, connotation in terms of its multivalency regarding meaning by relating sites across the text to each other and to sites in other texts. In defining connotation, he says,

it is a determination, a relation, an anaphora, a feature which has the power to relate itself to anterior, ulterior, or exterior mentions, to other sites of the text (or of another text).\(^{21}\)

Thus, a connotative meaning is a connective, a bridge, from one site in a text to others, either in the text, or in other texts. This allows a reader to connect patterns of meaning in the journey that is a reading of the text.

Further, he says:

Topically, connotations, are meanings which are neither in the dictionary nor the grammar of the language in which the text is written (this is, of course, a shaky definition: the dictionary can be expanded, the grammar can be modified).\(^{22}\)

\(^{20}\)Ibid., 7.

\(^{21}\)Ibid., 8.

\(^{22}\)Ibid., 8.
In other words, the connotations Barthes is speaking about are the secondary meanings that words and phrases take on due to their use as signifiers by writers, and their interpretation as such by readers. They are not meanings that are prescribed in some way by some official body.

As a native French-speaker, Barthes was probably particularly sensitive to this distinction, since French, as a language, is officially a legal entity controlled by the French government, and thus its grammar and its meanings are, at least theoretically, totally prescriptive and determined, thus determinant, thoroughly and completely. Clearly, Barthes recognizes the illusionary aspect of the French government’s project. Balzac, through the creation of new connotations in Sarrasine, obviously expanded the French dictionary and grammar, without seeking legislative approval, neither before nor after his additions were existent. Language is a living entity that grows as it is used, and Barthes’ methodology does not just recognize this fact, it makes use of it.

Then finally, Barthes says:

Topologically, connotation makes possible a (limited) dissemination of meanings, spread like gold dust on the apparent surface of the text (meaning is golden).23

Thus, for Barthes, the ability of connotation to supply multiple meanings to signifiers is the means by which texts achieve their varying degrees of plurality of meaning, which

23Ibid., 8.
is the counter, the means for valuation, of a given text.

As Barthes argues:

if there are readerly texts, committed to the closure system of the West, produced according to the goals of this system, devoted to the law of the Signified, they must have a particular system of meaning, and this meaning is based on connotation. Hence, to deny connotations altogether is to abolish the differential value of the texts, to refuse to define the specific apparatus (both poetic and critical) for the readerly texts—it is to make the limited text equal to the limit-text, to deprive oneself of a typological instrument.24

Unlike the philogists, Barthes views text as inherently multi-vocal, and indeed, sees its value in that very multi-vocal nature. Through the multiple meanings of the signifiers, one can take a variety of paths through a text, connecting a variety of sites into a pattern of meaning, with the patterns changing, indeed, the connected network of sites changing as one changes which connotations to follow in blazing the privileged path. The boredom of univocality is not Roland Barthes'; rather it is left to those philogists who must have it for their own stability.

As for the semiologists who find the splitting apart of meanings into two types, denotative and connotative, to be less than an ethical act, Barthes has yet another view to put forth of the two types. For him, the counter-balancing of the systems of denotation and connotation, where denotation is held to be the primary meaning, does two things that are important for the classic or readerly text,

24 Ibid., 7-8.
which is his target reading material.

First, it "enables the text to operate like a game, each system referring to the other according to the requirements of a certain illusion."\(^{25}\) Second, "this game has the advantage of affording the classic text a certain innocence."\(^{26}\) Thus, the systems allow a text to enter into a game of illusion, of mysteries, where the main illusion is based on the innocent belief that there is a truth to be found in the language of the text, that, indeed, language is capable of expressing truth. Indeed, it is important that, a sentence, whatever meaning it releases, subsequent to its utterance, it would seem, appear[s] to be telling us something simple, literal, primitive: something true, in relation to which all the rest (which comes afterwards, on top) is literature.\(^ {27}\)

Barthes, then, agrees with the semiologists, with regard to denotation, in that he believes

\[\text{denotation is not the first meaning, but pretends to be so; under this illusion, it is ultimately no more than the last of the connotations to who finds value in a system}\] \(^{28}\)

However, in so agreeing, he does not, like the semiologist, want to throw denotation out. Barthes' argument for keeping denotation as "the old deity, watchful, cunning,

\(^{25}\text{Ibid., 9.}\)

\(^{26}\text{Ibid., 9.}\)

\(^{27}\text{Ibid., 9.}\)

\(^{28}\text{Ibid., 9.}\)
theatrical, as it does, on its functioning structurally with connotation in such a way as to allow a text to engage in a game of illusion, and ideologically, in its allowing the game to rely on the belief in the innocence of language, is an empirical argument relying on the experiential value of denotation to a reader or to a critic. Thus, for Barthes, denotation, as well as connotation, is necessary for a proper valuation and appreciation of the classic, readerly text of Western production.

But having established the what and why of connotation, in what manner does one pay attention to the connotations, as Barthes says we must? That is a central question that leads into the heart of the Barthesian method. By definition, a systematic approach to reading must be objective and the results reproducible. That this is true of a Barthesian reading is a point to be demonstrated and is directly related to the problem of paying appropriate attention to the connotations.

In terms of application, Barthes' system approaches a text analytically, a means of fact discovery whose roots in literary theory go back at least to Aristotle. Both Barthes and Aristotle found good use in the analytic technique of dividing the large in order to conquer the small, which then leads, theoretically, to resultantly triumph over the large. In the computer science field, E. Dijkstra, a leading

\[29\text{Ibid., 9.}\]
authority on programming models, has stated why he uses the divide and conquer method in this manner:

Some people might think the dissection technique just sketched a rather indirect and tortuous way of reaching one’s goals. My own feelings are perhaps best described by saying that I am perfectly aware that there is no Royal Road to Mathematics, in other words, that I have only a very small head and must live with it. I, therefore, see the dissection technique as one of the rather basic patterns of human understanding and think it worthwhile to try to create circumstances in which it can be most fruitfully applied.30

Whether or not Roland Barthes also thought he had "a very small head" is not known, but certainly he deliberately set out to conquer the complexity of texts by dissection. He created a method (circumstance) that attempts to "fruitfully" apply dissection to the problem of text understanding. Thus, in Barthes' system, the critic divides a text into small, contiguous pieces, which he refers to as lexias, with the atomic semantic units, signifiers, acting as the guiding principle for determining where to cut. As Barthes states: "all we require is that each [lexia] should have at most three or four meanings to be enumerated."31

Having cut the text into lexias, the critic then proceeds to "star the text, separating, in the manner of a minor earthquake, the blocks of signification."32 Each such


31Barthes, 13-14.

32Barthes, 13.
"star" marks in the lexia a signifier which the critic must then label in terms of its connotation(s). For this operation, Barthes created a very specific coding or labeling grammar that categorizes signifiers into five major types. This language will be examined closely in Chapter II. For now, it is sufficient to note that the signifier is to be split out, marked, and then labeled as to type and connotative meaning(s). The labeling can also include, and often does in Barthes' practice as represented in S/Z, free text commentary beyond the "codes" Barthes invented.

In S/Z, Barthes went no further than the lexia making, starring, and coding, with commentary. However, he does state that the goal of this activity is to:

propose the semantic substance (divided but not distributed) of several kinds of criticism (psychological, psychoanalytical, thematic, historical, structural); it will then be up to each kind of criticism (if it should so desire) to come into play, to make its own voice heard, which is the hearing of one of the voices of the text. What we seek is to sketch the stereographic space of writing (which will here be a classic, readerly writing).33

Thus, the act of interpretation, while not entered into by Barthes in S/Z, is provided for, and is, in fact, the natural next step, given the "semantic substance"; that is, the facts of the text that his method reveals. While Barthes only enumerates five specific types of criticism, it is not unreasonable to assume that, by implication, all forms of criticism that need a "semantic substance" as input

33Ibid., 14-15.
to their process can be supported by a Barthesian reading.

For example, in applying a dialectic materialism-based interpretive model to a text, semantic structures involving economic values and actions are of interest. If Barthes' system is applied to a text, the atomic semantic units of those types could be identified and labeled and thus made available to the critic. Similarly, if the critical model to be applied is feminist-based, the atomic semantic units involving gender-based values and behaviors could be labeled and made available to the interpreter as well.

The key Barthesian operation, then, is identifying the particular signifiers present in a text. Explaining the systematizing of this operation via an extended example absorbs, quite understandably, the greatest amount of Barthes' energy throughout S/Z. How to actually do the operations, what problems to avoid, what pitfalls exist, what actions and habits are most likely to lead to success or failure, are largely ignored. In these matters, it will be the task of this dissertation to make explicit, when possible, that which Barthes has not.

The whole of Barthes' system, then, depends upon the hypothesis (which is never explicitly stated or simply labeled as such in S/Z, and is just assumed as true), that his signifiers can be found, labeled in terms of their connotations, and then placed, by critics, within larger structures of meaning constructed by variously connecting
the multi-valent signifiers across the text, thus forming textual networks of signifiers, of meaning, within the text—its black clouds, star clusters, and hydrogen masses. Stated differently, these signifiers, when found and labeled appropriately, are assumed to form, or more accurately, to represent, a set of facts of the text, which can then be manipulated with those theoretical tools a literary critic might use in order to produce a reading.

It is the tenet of this dissertation that, if, in fact, Barthes' hypothesis is true, then Barthes has given the world of literary criticism an empirical tool of great value. This prediction of the value of Barthes' achievement is arrived at through the application of some basic axioms, first principles, indeed, of literary theory and criticism.

First, it is an axiom of literary criticism and theory that one cannot adequately produce, construct, create, or make an interpretation of a text without knowing, observing those "features" of a text which constitute its facts. "Facts" here refer to those entities of a text that are "self-given to attentive reading and need only be pointed out for their existence and importance to be established."35

Further, these facts "are not really open to question, nor do they pose any major epistemological problems,"36 or,

34Ibid., 13-15.
35Davis, 9.
36Ibid., 9.
put differently by Barthes, himself, "the meanings I find are not established by 'me' or others, but by their systematic mark." 37 That is, these facts, or meanings that Barthes (and by extension, all criticdom) is determined to uncover are in the text, not somewhere else, and are their own sign within a system of signs that constitutes the text.

It is another axiom that making these observations of fact is "hard work" 38, requiring "careful reading and patient attention to detail." 39 Indeed, Barthes says "it is a form of work." 40 Thus, he constructed a process that, when applied to a text, systematically "propose the semantic substance (divided but not distributed) of several kinds of criticism," 41 for, "there is no other proof of a reading than the quality and endurance of its systematics;." 42

Given that the facts of a text are a "necessary prelude" 43 to the act of interpretation, combined with the known level of difficulty in discovering them, it is a short step to this assertion: a system which, in a fundamental sense, guarantees access to the facts of a text in a form

37 Barthes, 11.
38 Davis, 9.
39 Ibid., 9.
40 Barthes, 10.
41 Ibid., 14.
42 Ibid., 14.
43 Davis, 9.
that supports the act of interpretation directly, is a system worth learning and applying. As stated above, it is the basic view of this dissertation that the system which Roland Barthes created can be shown to be such a system.

But there are problems with Barthes' system; problems that need resolution. The following two sections explore the topology of these problems, first from the negative, then from the positive view. These are followed by a third section that proposes a tentative resolution set.

**Barthes' Reading System: Against**

As an empirical approach, the Barthesian reading system inevitably lays itself open to theoretical, as well as empirical, claims of fault. That is, there are problems of theory and of practice in the system that need, at the least, to be acknowledged, if not completely resolved.

Taking the theoretical first, the Barthesian reading methodology appears to violate at least two theories of text, one concerning structure and one concerning meaning, as well as a theory of tools. The claims of fault advanced under the two theories of text are based upon assertions regarding the relationship of wholes to parts, while the claim of fault advanced under the theory of tools is based upon assertions regarding the properties of filters.

For structural theory, the question is: do parts determine wholes or do wholes determine parts? This is a fundamental question of structure that has never been
answered in a way that finally and forever banishes all doubt as to its truth. That being the case, defending a practice such as Barthes' from claims of violating the characteristics of wholes is necessary. For, if one asserts that wholes determine parts, then the enterprise of cutting up prose fiction works into strings of text known as lexias, each of which is asserted to be itself composed of a finite, definite set of signifiers or meanings, comes into question. Does not the very process of text division, of lexia creation, coupled with the labeling of its signifiers deny the very existence of the whole of which each lexia is ostensibly a part? Barthes says as much when he states:

> the work of the commentary, once it is separated from any ideology of totality [emphasis added], consists precisely in manhandling the text, interrupting it. What is thereby denied is not the quality of the text (here incomparable) but its "naturalness."

More directly, Barthes, when discussing the plurality of possible interpretations of a text, says

> The interpretation demanded by a specific text, in its plurality, is in no way liberal: it is not a question of conceding some meanings, of magnanimously acknowledging that each one has its share of truth; it is a question, against all in-difference [sic], of asserting the very existence of plurality, which is not that of the true, the probable, or even the possible. This necessary assertion is difficult, however, for as nothing exists outside the text, there is never a whole of the text (which by reversion form an internal order, a reconciliation of complementary parts, under the paternal eye of the representative Model)."45

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44Barthes, 15.

Thus, Barthes simply denies the notion of a totality, of a whole of the text. At the least, then, there appears to be uncertainty as to the theoretical soundness of Barthes' approach from a structure theory point of view.

For semantic theory, a basic question is: are there such entities as connotative meanings? From this question there follows: if there exist connotative meanings, is there any limit to their number? From that: if not, is there, finally, any meaning at all? As in the wholes versus parts problem for structural theory, explorers of semantic theory have never arrived at an agreed upon position regarding either the base question or its corollaries. Barthes has his own responses to each of these three questions, which will be explored in the next section, but again, the theoretical soundness of Barthes' enterprise is in question.

Finally, for tool theory, the question is: what does the application of a filter to a stream of information actually accomplish? Sir Eddington, with his positing of a fish net of a particular size mesh returning to its user only those fish that match or exceed that size, thus forcing the fisherman to conclude that all fish are of that size or larger, has forever linked an answer to the question in such a way as to make any other answer appear as utter nonsense.

The popularization of this principle is the statement that one can only see that which one's glasses allow. Thus, if one wearing rose colored glasses, one could only conclude
that the world was colored rose. For the Barthesian enterprise, this principle appears to mean that only those signifiers that fit the mesh of the signifier net thrown into the sea of the text by the literary critic will be found, while all others, if, in truth, there are others, will be lost forever. Again, at the least, the theoretical soundness of the Barthesian enterprise is in question.

Assuming that these theoretical claims of fault can be dealt with, there remain problems that empiricists must raise in their own name. These problems arise when a Barthesian reading is attempted in the empiricist's world of experience, as opposed to the theorist's world of mind. Problems of effort required, given the size and complexity of texts, as well as problems of application involving difficulties of precision, completeness, and consistency, which again are related to size and complexity of real texts, are two basic areas that need to be addressed.

A Barthesian reading of even a small text requires significant expenditure of effort on the part of the critic. Cutting up the text, then exploring the multitude of connotations involved, since even one signifier is likely to carry with it as many as three or four, is not a simple task, especially if the text under study is both physically large and structurally and semantically complex. The prospect of having to make such an expenditure of effort is, itself, a barrier to the application of Barthes' system.
However, even more importantly, the degree of effort involved is also an indication of the difficulty of actually applying the system usefully. It is not simple or easy to attain the degree of precision, completeness, and consistency of labeling that one needs in order to be certain of having accomplished Barthes' goal of working back along the threads of meanings, of abandoning no site of the signifier without endeavoring to ascertain the code or codes of which this site is perhaps the starting point (or the goal): 46

To be successful, it would appear to be paramount that this operation be capable of precise, consistent, and complete application by its user with results that are equally precise, consistent, and complete. Barthes, however, does not say anything about how to go about assuring precision, consistency, and completeness. He does not even state that it is necessary to do so. The closest he comes is to say that a reading of a text using his approach is done under the assumption that the text has already been "read," that the first reading, the naive reading, is only one of many possible readings and that the work of the critic is to get at these multiple readings. 47 It is a by-product of reading the text multiple times that the very process Barthes applies to the text is made possible. One cannot label, as required by his system,

46 Ibid., 12.
47 Ibid., 15-16.
something in the first paragraph if one is not aware of what the last paragraph contains, as well as those in between.

At this point, it is possible to conclude that while Barthes may have made strong progress toward the end of defining a workable systematic approach to reading texts, he did not finally reach it. Even putting aside the theorists' objections, the empirical ones finally defeat him. The proof (empirical) is in the fact that other than Barthes' own extended example of a Barthesian reading in S/Z, in which he dissects Sarrasine, no others exist. A system that is not used, is a system that has failed.

Perhaps the goal is unreachable using the path that Barthes took. Perhaps the goal is, in actuality, unreachable by any means. However, before making such judgements, there is more to be said, more to be learned.

In order to deepen the case for the need to pursue such an effort regarding the Barthesian system, as well as to underscore the potential value thereof, the following section addresses, from a theoretical stance, the positive attributes of the system, as well as countering, where possible, the theoretical objections as advanced above.

**Barthes' Reading System: For, Even So**

It is an empirical truism that no two (or more) competing theoretical stances concerning a given aspect of reality ever completely stand up when taken into the world and tested in experience. And so it is with the wholes
versus parts problem concerning structures. Practice in many disciplines has shown that neither is consistently true or false. Whether one is a computer scientist attempting to design a program, or a literary critic attempting to produce an interpretation of a text, the fact remains that both the whole of the program/text and the parts of which it is composed are, paradoxically, first principles that must be satisfied simultaneously.

In practice, the computer scientist will design the structure of the whole (top down, in computer jargon) while concurrently designing its parts (bottom up, in computer jargon) whenever necessary for determining some aspect of the structure of the whole. Similarly, the literary critic will seek to understand basic facts of the text, while concurrently fitting them into a posited structure of the whole. If the part does not fit the structure of the whole, as the critic has supposed it to be, then either the posited structure is wrong, or the part is insufficiently understood, or both. In any case, the parts determine wholes, and the wholes determine parts.

At first glance, Barthes appears to have dealt with this problem of competing theories, not by giving both their due, but by denial. First, he denied the notion of a ranked plurality of meanings for a text in terms of a whole of the text. Further, he insisted that all the meanings of the text, the plurals of the text, just were, that they existed
as individual wholes which did not in some sense partake in a dividing up of the "whole of the truth" of the text.\textsuperscript{48}

Thus, the theoretical objections to Barthes' violation of the wholes determining parts principle is not refuted, but simply denied a basis in reality. Wholes of texts simply do not exist; to assert that they do is to be trapped in (false) ideology.\textsuperscript{49} He then proceeds to perform a bottom up operation on the text of Sarrasine that yields parts (signifiers) that are then to be used to aid the various criticisms in their task of producing a specific interpretation of a text. The proof of his method (he implicitly insists by giving over the whole of $S/Z$ to the reading of Sarrasine), is to be sought in experience, not in a theory of structure, of truth of texts.

A more conservative approach would be to simply accept the proof of experience, without attempting to reconcile practice with theory. However, even empiricists have the urge to retreat occasionally into the world of mind, into the realm of theoretic thought. Thus, when Barthes seeks to assert that "there is never a whole of the text,"\textsuperscript{50} he appears to attempt to do battle with the theorists on their own ground, always a difficult operation, but he appears to do so in the simplest form: denial.

\textsuperscript{48}Ibid., 6.

\textsuperscript{49}Ibid., 6.

\textsuperscript{50}Ibid., 6.
Barthes is not so simple. When he denies the totality of the text, what he really is attempting to address is the "infinity" of the text, and more specifically, the ideal text of the writerly. However, when he addresses the readerly text, he speaks of their meanings in terms of metonymic, existential attributes in a manner that is meant to illustrate the quasi-infinite capability of even a readerly text to mean or to signify. On the metonymity and existentiality of such texts, Barthes states:

To read is to find meanings, and to find meanings is to name them; but these named meanings are swept toward other names; names call to each other, reassemble, and their grouping calls for further naming: I name, I unname, I rename: so the text passes: it is a nomination in the course of becoming, a tireless approximation, a metonymic labor.

Further, as Barthes goes on to say, reading such a text consists in coupling systems [of meaning], not according to their finite quantity, but according to their plurality (which is a being, not a discounting): I pass, I intersect, I articulate, I release, I do not count.

That is, that to the degree a classic text possesses a plural, it participates in that aspect of the ideal text that enjoys the lack of exteriority, of totality. Barthes asks, "what is the sum of the text?" then answers by not

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51 Ibid., 6.
52 Ibid., 11.
53 Ibid., 11.
54 Ibid., 11.
answering, implying there is no "sum of the text," as such, but there is
a "tireless approximation" on the reader's part to reach such a sum which invariably fails.

The reason the sum is never reached for the ideal text is that it is, by definition, infinite. For the readerly text, the reason lies in two mechanisms: the limited plural of which it is composed, and the human facility for forgetting. Indeed, Barthes is very positive about this correlation between the plural of the reader text and forgetting. For Barthes:

Forgetting meanings is not a matter for excuses, an unfortunate defect in performance; it is an affirmative value, a way of asserting the irresponsibility of the text, the pluralism of systems (if I closed their list, I would inevitably reconstitute a singular theological meaning): it is precisely because I forget that I read.

Barthes' answer then to the problem of wholes and parts is not completely a denial of wholes, but a skirting of the issue: the infinite obviously has no whole we can grasp in our finiteness, while finite texts are an analogue of the infinite texts because humans forget, and thus cannot even grasp the whole of a finite object. If there is a "sum of the text," we cannot know it. So we are left knowing its

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55 Ibid., 11.
56 Ibid., 11.
57 Ibid., 11.
58 Ibid., 11.
parts, which are related to any such whole metonymically. For Barthes, not only is this true, it is good.

Barthes' definition of reading, as a ceaseless approximation of the whole of a text through the finding and naming of individual meanings, deals not only with structural theory objections, but with those of semanticists who are concerned about his use of connotation as his basis for finding those meanings. Meaning, in the sense of what Barthes refers to as the "singular theological meaning," is not what one wants, according to Barthes. Instead, one wants to participate in the ongoing process of the becoming of the text in terms of meaning. That is, instead of denying that his method might violate some theoretician's view of what constitutes texts and their meaning(s), he advances his own theory upon which he proceeds to build a system of reading. He then invites the reader of S/Z to determine whether the practice and theory are reasonable by studying, that is, by experiencing, his extended example, the Barthesian reading of Sarrasine.

It is this experiencing of the reading of Sarrasine through the mind of Barthes that must finally convince (or not convince, as the case may be) a scholar of the efficacy of the Barthesian approach. Empirical systems demand empirical valuations; to do otherwise is to deny them of their very basis, of their identity as systems in the world.

\[59\] Ibid., 11.
of experience. Certainly, this dissertation takes the stance that, indeed, there is, in the Barthesian approach, a good worthy of the pursuit.

That is not to say, however, that there are not problems, problems which are recognized as such by empiricists, and are, as it should be, resolvable through empirical methods. These problems are, as noted earlier, centered in the practice of the system and derive largely from the size and complexity of the task of applying the system to a text. There is a growth curve in effort as one moves from very small texts toward the ever larger that is, if not exponential, certainly multiplicative. As one moves along this curve, two things happen. First, the critic, realistically, gets tired. Second, the critic loses the ability to hold effectively to the task at hand. These are problems that need addressing if the system is to be used.

As noted earlier, the system needs to be used, for a practicing critic must know the text which is the object of the critical act; that is, at the very least, the facts of the text must be in the critic’s mind. Without these facts the act of interpretation, which Barthes calls "the hearing of one of the voices of the text," cannot go forward. The Barthesian project has yielded a system, which, when used, is an empowerment for those who would practice criticism, arising from its capability for uncovering those facts of a

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60Ibid., 15.
text that are essential to the critical project.

Paying detailed attention to a text is always difficult. However, the discipline and structure of Barthes' system provides a means for focusing on and addressing the text, making such problems as completeness, precision, and consistency tractable, if not simple. Further, Barthes' system has the additional benefit of providing a definition of the quarry—the facts of the text, or, as he names them, the signifiers of the text.

While it is true that this definition, based as it is on the connotative meanings of signifiers, is not a stable, absolutely determinant definition that can be applied without fear of error, of lack of completeness, precision, and consistency, Barthes would undoubtedly argue that this aspect of the definition is precisely its strength. He would so argue, because, for him, a text that is accessible to interpretation is inaccessible to a determination of a "singular theological meaning" due to its limited plural. Thus, on the premise that it takes a thief to catch a thief, it takes an unstable tool to catch an unstable object. Or, more precisely, it is, in fact, the instability of the signifiers through connotative meanings that imbues the classic text with its own instability, its limited plural, and, therefore, makes possible the act of interpretation.

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61Ibid., 11.
Up to this point, the focus has been on what a Barthesian reading of a single text might mean to the practice of literary criticism. Changing that focus toward literary theory, there are, at least, two interesting problems of theory that Barthes' method appears to promise a reasonable environment for study. First, using the Barthesian approach, it appears possible to study the question of the value of a deeply detailed critical reading. Second, the Barthesian approach appears to offer a way to study the interconnection of texts in terms of meaning.

The ability to study the first question follows naturally from what the Barthesian methodology is: a systematic approach to detailed reading of a text. However, the second question is not so obvious. Barthes created an entire language, with a grammar and a vocabulary, which he uses to encode his signifiers in terms of their signifying in a given text through the connotative meanings of each. This language reaches out into the whole world of experience, implicitly and explicitly, and so is not necessarily constrained to a single text.

For example, Barthes states that "The Kidnapping refers to every kidnapping ever written." Thus, in a Barthesian reading of The Kidnapping, all of the connotations of the phrase would be encoded, which would be valid not only for that particular text, but for all other texts in which

"Ibid., 20."
kidnappings are a part of the material substance. This fact leads to the observation that the connotative meanings that a Barthesian reading encodes might serve as stepping stones to connecting not only the patterns of meaning of a single text, but to relate that text to other texts, forming a universe of texts composed of "galaxies of signifiers". It is, at least, an open question that deserves study.

But all of the above does not indicate that no problems exist with the Barthesian methodology, as such, and as noted above, they do have to be addressed and resolved. The following section, then, outlines the approach this dissertation will take toward accomplishing that end.

**Barthes' Reading System: An Enabling Strategy**

This dissertation proceeds on the hypothesis that the Barthesian reading system has an inherent value that merits pursuit. Because Barthes' system, as he outlined it in *S/Z*, has been largely ignored in practice, empirical evidence is scarce for making any final judgements about it as such, or for showing how it contributes to the larger issue of whether the ends it is professed to serve are, indeed, feasible ends. Only in the application and use of a system are its frailties and virtues finally brought forth.

As argued in the preceding section, there is evidence for the usefulness of the system as it stands, but the

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63Ibid., 5.
evidence exists, unfortunately, only in S/Z. Even more to the point, there is strong evidence that the system, as it stands, is not useable; that it is, in fact, not being used. Thus, a way is needed to improve the system while also gathering evidence that the system, as improved, is both useable and worth using. Until these two empirical measures of value are satisfied, the Barthesian system will remain an artifact residing only in Roland Barthes' S/Z.

In an attempt to avoid such a fate, this dissertation takes a two-step approach. First, the Barthesian system is evolved through a process of clarification, generalization, and simplification, using a computer-based model as the underlying operational mode, replacing the manual-based model of the original, to achieve needed gains in usefulness and useability. Second, the evolved system is evaluated for enhanced efficacy and accessibility.

Using a computer-based model for the Barthesian methodology is a consequential change from the original model of doing everything manually. The sheer expenditure of effort required in applying Barthes’ system, especially on larger texts, is enough to discourage its manual application. This becomes obvious when the margin for execution error, which gets larger as the size and complexity of the text under study increases, is considered, mandating a labor saving device be used. By computerizing the methodology, both the actual effort and the error
potential should be reduced significantly, leading to a better tool that can be used effectively, both for critical practice and for literary theory.

In support of this position, it is important to note at this point that Barthes' system has been singled out in the past as a candidate system for computer implementation using current state-of-the-art techniques. This was done for one particular reason: the infeasibility of manual effort. John B. Smith, a pioneering and continuing researcher in the field of computer-based literary criticism, in his essay "Computer Criticism," suggested that systems such as Roland Barthes' would necessarily have to wait for computer implementation to take full advantage of any usefulness to be gained from it. His argument for this, just as the argument made here, relied on the intensity and complexity of the manual effort required, as well as the discipline that the computer mandates in terms of strictly defining one's methodology.64

The approach taken in this dissertation to reach a better Barthesian tool by evolving the Barthesian reading system from its current state via a change in its underlying mode of operation, is empirical. It is not an approach designed to satisfy the theoretical objections to the basic attributes of Roland Barthes' system. Those objections are

assumed by this dissertation to be irrelevant to Barthes' project and to the dissertation project.

Given that the Barthesian system is an empirical system, the measure to be applied to determine the degree of success of the system is likewise purely empirical: does the application of the tool, as it is evolved on the computer, give back to the user good value in terms of aiding in the discovery of the facts of the text? A second measure will be the value the tool might have for literary theoreticians.

Barthes' Reading System: An Evolution Plan

Roland Barthes created a system that generally fits the definition of processes for which a computer-based model is appropriate. That is, processes that are repetitive, intensive, and employ computable algorithms usually benefit from computer implementation. Barthes' system possesses all three attributes, in varying degrees. It is precisely that degree of variance that determines how successfully a given process can be implemented via computer.

For example, the Barthesian system requires that the text under study be divided up into units termed lexia. These units are rather vaguely defined by Barthes from the point of view of computable determinacy:

The tutor signifier [that is, the text] will be cut up into a series of brief, contiguous fragments, which we shall call lexias, since they are units of reading. This cutting up, admittedly, will be arbitrary in the extreme; . . . The lexia will include sometimes a few words, sometimes several sentences; it will be a matter of convenience; it will suffice that the lexia be the
best possible space in which we can observer meanings; its dimension, empirically determined, estimated, will depend on the density of connotations, variable according to the moments of the text: all we require is that each lexia should have at most three or four meanings to be enumerated.65

From this definition it is clear that a computer program, in order to cut a text into lexias, would have to be able to recognize a "meaning," a "connotation," a "signifier." At present, natural language processing algorithms are simply insufficient for that task, directly. But this is not necessarily an insurmountable obstacle.

There are two avenues open: invent new algorithms, or use existing ones to approximate Barthesian operations. Instead of attempting to discover new processing algorithms, which would be difficult, if not, in fact, impossible, the approach used was to adapt current computing capabilities to approximate, not just the lexia cutting, but as much of Barthes' system as feasible, with the goal of obtaining a workable, useful version of the Barthesian reading methodology, that is simpler, clearer, and, if possible, more general than Barthes' original.

Simpler, in this context, means that the complexity of the text does not necessarily translate directly into more difficulty when applying the system. With the computer tracking the clerical aspects of the operation, the user should find that effort is largely confined to the

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65Barthes, 13-14.
intellectual realm of determining what to label, not in managing the labels and their relationships within the text. Thus, the task should be simpler using Xebra than using a purely manual approach.

Clearer means that, wherever Barthes' directions as to how to apply the system appear ambiguous, an attempt has been made within the Xebra system to remove, or at least lessen, the ambiguity. This is not always possible, given that not only are the objects of study (prose texts), ambiguous, but Barthes chose a tool (connotation), which is, by definition, grounded in ambiguity. But where gaps appear in the original operational modes or in the grammar of the labeling scheme as defined in S/Z, Xebra has been designed with clarifications to the original.

More general means that an attempt has been made to allow users of Xebra to redefine the Barthesian system as deemed appropriate or desirable. For example, while Barthes may not have explicitly looked to link texts via the labels, a computer-based system can support such linking quite readily. Or, as another example, such a system need not be constrained to just the Barthesian label language, neither its vocabulary nor its grammar, so that other critical reading methods depending on labeling items in a text can be supported directly. Indeed, a user could make changes to the Barthesian language, as necessary or desirable. More general also means that there is support beyond the strict
line that Barthes draws between what he was doing and what critical interpretations do. That is, a more general system would support moving from Barthes' stated end goal "to sketch the stereographic space of writing" to the formal work of the practicing literary critic: that is, the performance of an act of interpretation.

The computer-based system developed for this dissertation is named Xebra, for eXperimental Eclectic Barthesian Reader's Assistant. Xebra has two major components: one to support lexia creation and another to support signifier label creation and manipulation. The lexia creation component consists of three parts, each representing three different approaches to cutting a text into lexias: punctuation mark parsing, noun phrase parsing, and, as a direct analogue of the original system, manual parsing. A user could use any of the methods on a given text, including all three. The second component is essentially a database system for storing and manipulating the lexias and their associated labels. It allows a user to discover the patterns of meanings within the text, as represented by the labels, through a sophisticated query mechanism that supports sorting and grouping of labels by various attributes, thus moving from the strict Barthesian reading into the critical act of interpretation. A fuller description of Xebra is given in CHAPTER III.

66Ibid., 15.
Given Xebra, the next step towards evolving the Barthesian reading system involves empirically demonstrating the value gained from the effort to improve the system. To accomplish this, the performance of an actual Barthesian reading with Xebra, using a strong text from the literary canon as the proving ground, would fit best with the empirical nature of both the system itself and the direction of this dissertation.

Having determined that this is the appropriate direction to take, the next step is to choose the text. The text should be relatively complex and physically large with a pedigree of critical interpretation that can be used as a standard for measuring the effectiveness of the system. Once the text is chosen, the next steps are to then perform the reading, followed by an evaluation of the results in terms of the critical test standards.

The text chosen for this demonstration of the Barthesian system, as embodied in Xebra, was "The Bear" by William Faulkner. This text was chosen for several reasons, but the most important were that it has the necessary size and complexity, coupled with a critical history that is very accessible. Indeed, Walter Davis, in his text The Act of Interpretation, outlined eight areas of factual knowledge that any would-be critic of "The Bear" must have at hand, as well as critical examples of such facts in each area.67

67Davis, 9.
From these, a standard set of criteria were developed that could be objectively evaluated against the results from a Barthesian reading of "The Bear."

Given an evolved Barthesian reading system, a text for study, and objective criteria for measuring the study's results, the project of this dissertation comes to the performance of the test reading with the goal of demonstrating the effectiveness of the system. However, one final area of concern is the role $S/Z$ plays in this project of constructing and testing a computer-based version of the Barthesian reading system.

**Barthes' $S/Z$: What Does It Do?**

$S/Z$ is many things, two of which are crucial to the present enterprise. The first is Roland Barthes' own explanation of his system by description and example. The second is his recording of a reading, a commentary of Sarrasine, produced in accordance with that system. The former, the explanation of his system, served directly, and largely unproblematically, as input into a major portion of the requirements for building Xebra, the computer-based version of Barthes' system. The latter served in that capacity as well, but it did so somewhat problematically. The difficulty was inherent in a persistent impression that, in $S/Z$, there is embedded a reading or commentary masquerading as a criticism of the text, the product of an act of interpretation.
One can easily leave *S/Z* with the belief that Barthes has performed a significant explication of the text, *Sarrasine*; that he has, in fact, given the reader an authoritative exposition of the meaning of *Sarrasine*. Thus, one is tempted to argue that Barthes does, indeed, set forth a criticism of the text, a criticism that physically exists in his notes on each lexia and its labels, this despite his statement in *S/Z* that "we shall not set forth the criticism of a text, or a criticism of this text," and his section in *S/Z* entitled "XXXIX. THIS IS NOT AN 'EXPLICATION DE TEXTE'". If one subscribes to this position, then it makes the stated Barthesian enterprise of merely pointing to the facts, the signifieds, as being problematic.

However, such an argument would need to be based on a definition of criticism of a text that is not consistent with Barthes' own. To him, such a criticism necessarily seeks to articulate "a metameaning which would be the ultimate construction" one could make out of the atomic signifiers that he seeks merely to enumerate, label, and comment upon. Instead, his labels and accompanying commentary aim simply "to sketch the stereoscopic space of writing," or, in other words, to label the signifiers so

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68 Barthes, 14.
69 Ibid., 90.
70 Ibid., 14.
71 Ibid., 15.
that each of the various kinds of critical models can "come into play, to make its voice heard," \textsuperscript{72} thus, deliberately avoiding the articulation of an ultimate metameaning of the strands of signifieds.

Indeed, in \textit{Sarrasine}, it is Balzac who has distributed the signifiers through the lexias, not Barthes. So any sketch of the stereoscopic space of the text will inevitably repeat and repeat and repeat itself, and it is the repetition of label and commentary that gives the impression of a value judgement being made by the commentator, Barthes, when in fact it was Balzac who placed a value on those signifiers thus repeatedly used through his distribution of the those signifiers. Barthes is merely reporting the fact of their existence.

Finally, after further analysis, one discovers that the real heart of the reason why one believes that one has, indeed, read an "'explication de texte'" \textsuperscript{73} is the sections of \textit{S/Z} which are set off by roman numerals. In these Barthes often gives an in-depth discussion of particular aspects of the text that some variable number of just previously rendered, labeled lexias allows the reader to understand through the labels.

For instance, section "LXIII. Psychological Proof" of \textit{S/Z}, contains Barthes' discussion of how the proceeding

\textsuperscript{72} Ibid., 14-15.

\textsuperscript{73} Ibid., 90.
fifteen lexias, numbers 332 through 346, demonstrate that "the Sarrasinean snare shifts from proof to proof"\textsuperscript{74} and that these proofs (all false) are largely psychological and self-inflicted, so that Sarrasine ensnares himself into believing that the castrato is a woman.\textsuperscript{75} Clearly sections such as this are not part of Barthes' reading, per se. They contain judgements and interpretations of the text; they are a part of an "'explication de texte',"\textsuperscript{76} though they do not, when taken together, necessarily make a complete one. They are, in fact, examples of what a critic might do with the data that the reading is identifying, labeling, and preserving for the critic's use.

Other such sections (all of which are marked off by roman numerals, thus separating them from the ongoing, continued reading, instead of being explicit discussions of Sarrasine), are discussions of a theoretical nature, either about his methodology (for example, "XI. The Five Codes"\textsuperscript{77}), or about more general topics, such as literature (for example "LXXXIV Literature Replete"\textsuperscript{78}), often using his reading of Sarrasine and his methodology as a spring board.

\textsuperscript{74}Ibid., 147.

\textsuperscript{75}Ibid., 147-148.

\textsuperscript{76}Ibid., 90.

\textsuperscript{77}Ibid., 18-20.

\textsuperscript{78}Ibid., 200-201.
Thus, *S/Z* contains, is made up of, is irretrievably woven with, the strands of at least three projects: an ongoing reading of *Sarrasine* using the Barthesian method, an explication of that method, and an argument for the Barthesian model of literature. To construct Xebra, this web, this tapestry, this galaxy of signifiers, needed to be traced, disentangled, and unwoven, in order to finally reach those aspects that were pertinent to the project of constructing and testing a computer-based Barthesian reading system to be known as Xebra.

A Barthesian reading is one process, a Barthesian criticism another, a Barthesian argument still another, and it is the task, the "labor of language"\(^{79}\) of the reader of *S/Z*, to keep these processes separate since Barthes saw no need to do so himself. Thus, once separated out, it is clear that there is, indeed, a difference between enumerating and labeling the signifieds or facts of the text and consequently drawing conclusions or making value judgements concerning those signifieds, those facts. The Barthesian methodology, and by extension, Xebra and this dissertation, is concerned with the latter, not the former.

**The Project: Chapter by Chapter**

There are six chapters in this dissertation. CHAPTER I presents the grounding hypothesis of the project regarding

\(^{79}\)Ibid., 11.
the viability of the Roland Barthes' reading system, with supporting material. It also includes an overview of what is involved in the testing of the hypothesis. CHAPTER II begins with an overview of the Barthesian system as it was presented in Barthes' *S/Z*, followed by a detailed description of that system, attribute by attribute. It ends with a detailed presentation of the problems presented by the system for anyone interested in applying it, both from a theory and a practice perspective. CHAPTER III presents Xebra, first in the context of other computer-based critical reading systems, second, in terms of its functionality, and finally, in terms of how its functionality can be and was evaluated for effectiveness. CHAPTER IV presents the evaluation itself of doing a Barthesian/Xebran reading of William Faulkner's "The Bear." Chapter V presents a discussion of where the Barthesian system, and Xebra, might fit in the future fabric of literary practice and theory. In order to do this, a review of the results of the test described in Chapter IV is given, along with suggested avenues for improvement. This is followed by a series of proposals for how best the Barthesian reading system, as embodied in Xebra, as well Xebra as a tool of more general capability, might be put to work.
CHAPTER II
The Barthesian Reading Project: Its What and How

The Barthesian System: Introduction
Roland Barthes' purpose in S/Z is to empirically demonstrate a system for reading texts prior to, and in support of, the act of interpretation. The goal of this chapter is to focus in detail on the what and the how of a Barthesian reading. This will be accomplished by first, abstracting a set of processes and rules from the context Barthes uses in S/Z, where he largely describes by demonstration, then second, by examining the abstracted set of processes and rules. However, before beginning that discussion, a review of the theoretical basis for the Barthesian system, its why, is presented to provide context for the system as a whole.

As discussed in CHAPTER I, Barthes was seeking in S/Z to put forth a reading system that was consistent with his view of text evaluation. Thus, his system is based upon a theory of a typology of texts which divides texts into two categories, the readerly (classic) and the writerly. These categories differ from each other in one significant way: the degree of plurality of possible meanings (referred to as its plural) any given text can be found to possess. In
principle, writerly texts have an infinite plural, while 
readerly texts have a finite plural.¹ It is this difference 
in plural that forms the basis for Barthes’ theory of how to 
evaluate a text, which in turn supports his reading system. 

Barthes admits two points concerning the writerly text. 
For one, "we would have a hard time finding it in a 
bookstore."² For another, the writerly text’s 
model being a productive (and no longer representative) 
one, it demolishes any criticism which, once produced, 
would mix with it.³ 

So the writerly cannot be read because it does not exist, 
and if it did, it cannot be interpreted critically because 
it destroys any such attempt because it produces, it does 
not represent. Given this, the writerly model has but one 
use in Barthes’ system: as the standard against which one 
can measure the readerly or classic text. That is, the 
value of a classic text is proportional to the degree that 
it approaches the writerly text in terms of the plurality of 
meanings it is possible to produce from it. As Barthes 
explains, this is true: 

Because the goal of literary work (of literature as 
work) is to make the reader no longer a consumer, but a 
producer of the text.⁴ 

¹Roland Barthes, S/Z, trans. Richard Miller, (New York: 

²Ibid., 5. 

³Ibid. 

⁴Ibid., 4.
Having posited that the value of a text is dependent upon the meanings one can produce from reading it, Barthes' project becomes one of discovering and examining individual signifiers that are the productive building blocks of any meaning a reader of a text can produce. Because signifiers have multiple meanings, according to the system of denotative and connotative meaning that is a primary basis for semantic theory in Western thought, their signifieds take on a variety of semantic attributes. Thus, the act of interpretation is largely a matter of tracing the results of accepting any given set of connotative meanings for the text's signifiers in relation to their signifieds. Such a set would be determined largely by the critical model applied. For example, in a Marxist model, economic connotations would be favored over any non-economic, such as psychological or archetypal.

Before entering more deeply into the following discussions on Barthes' project, it is important to note his definition of denotative meaning in relation to connotative meaning. According to Barthes,

denotation is not the first meaning, but pretends to be so; under this illusion, it is ultimately no more than the last of the connotations. 

Clearly, for Barthes, "denotative" is a name given to one of the meanings of a signifier, thus placing this one meaning,

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5Ibid., 8.

6Ibid., 9.
quite arbitrarily, in the position of "first meaning" in order to set up the play of meanings.

This play is a verbal analog to the children's game, "King of the Hill," where each child seeks to attain and then keep the top, or King, position on a hill, with all others being held as subordinant to the King-position holder. In the verbal analog, the various meanings of signifiers attempt to drown out each other, becoming in the mind of the reader the one meaning, the denotative meaning. Thus, for the Marxist, a connotative meaning of economic significance drowns out the connotative meaning of feminist significance, except of course where the two are one, which would be the case for a Marxist-Feminist critic.

Given that Barthes' base project is to discover, to find the signifiers with their sets of denotative/connotative meanings, he needed and produced a systematic approach to the process. It is precisely this systematic process, here called a Barthesian reading, that the rest of CHAPTER II explores in detail as to its what and how.

The Barthesian System Processes: Introduction

As described in S/Z, a Barthesian reading entails several distinct processes, interdependent and intertwined in space and time, which constitute the what, with rules connected to each, which constitute the how, of the Barthesian system. The processes are:

1) Text Restructuring
2) Text Rereading

3) Signifier Identifying

4) Signifier Labeling

Each of these processes are to be explored here as separate entities, as well as parts in a whole.

Viewed linearly, the first process in a Barthesian reading is a restructuring of the text that is an establishing of "a series of brief, contiguous fragments, which we shall call lexias, since they are units of reading."7 At one level, as a sub-process of the restructuring, there has to be a rereading of the text, in fact, an iterative rereading, in order to establish the lexias. Another sub-process of the restructuring is the identifying of the signifiers of the text. At a level equivalent to the restructuring, there is a text rereading process that is done in the context of the restructured text, of the lexias. The reading of these lexias consists of two processes: first, an identifying, again, of the signifiers contained in the lexias, and second, a labeling of these signifiers using a language developed by Barthes, complete with a grammar and a vocabulary.

The Barthesian reading process is a complex set of operations, with important interactions among the various subprocesses, which are iterated through until the Barthesian reader is finished. It is important to

7Ibid., 13.
distinguish between the reader and the reading. The reading is only done when all possible connotative meanings have been noted, explored, and labeled. A reader might well declare the project done much sooner than that. As Barthes says:

With regard to the plural text, forgetting a meaning cannot therefore be seen as a fault. Forgetting in relation to what? What is the sum of the text? Meanings can indeed be forgotten, but only if we have chosen to bring to bear upon the text a singular scrutiny. Yet reading does not consist in stopping the chain of systems, in establishing a truth, a legality of the text, and consequently in leading its reader into "errors"; it consists in coupling these systems, not according to their finite quantity, but according to their plurality . . .: it is precisely because I forget that I read.8

Thus, there are always more meanings, more signifiers to be found, found and forgotten and read again.

The goal of a Barthesian (re)reading is "to establish a plural"9 of the text in terms of its ability to represent multiple meanings, as discussed in CHAPTER I. Having established this plural, this multivalency, and represented it via the Barthes' labeling language, the critic, armed with a critical model, may then proceed to the act of interpretation, using the signifiers unearthed in the Barthesian reading as the act's basis.10 This act, however, is not part of a Barthesian reading, but rather is

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8Ibid., 11.
9Ibid., 15.
10Ibid., 14.
subsequent, and therefore dependent upon, such a reading.

Of the four primary processes of a Barthesian reading, establishing the lexias of a text is a distinctly Barthesian act, and appropriately enough, the act that starts off any application of Roland Barthes' system. The next section explores this act of lexia making.

The Primal Barthesian Act: Lexia Making

Rereading, as such, is not a Barthesian approach only--any deeply detailed reading for the facts requires that one reread, many times. Further, all systematic reading approaches, which have the goal of determining the facts of the text, must in some way focus on small portions of the text, usually at the sentence and/or paragraph level.

However, what Barthes did was to not only define a particular space within which the rereading takes place, but one that is independent of the original syntactic and discourse-level structures of the text as a whole. That is, a lexia cuts across sentence, paragraph, section, and chapter boundaries at the will of the Barthesian reader.

According to Barthes,

"this cutting up, admittedly, will be arbitrary in the extreme; it will imply no methodological responsibility, since it will bear upon the signifier, whereas the proposed analysis bears solely on the signified. The lexia will include sometimes a few words, sometimes several sentences; it will be a matter of convenience: it will suffice that the lexia be the best possible space in which we can observe meanings; its dimension, empirically determined, estimated, will depend on the density of connotations, variable according to the moments of the text: all we require is that each lexia
should have at most three or four meanings [signifiers] to be enumerated."¹¹

By examining Barthes' practice in S/Z, one discovers that lexias are indeed small segments of text, usually less than one hundred words, though not always, that are derived sequentially from the main text without regard to syntactical structures, beginning with the title and proceeding to the last word of the text. Lexias do not overlap in terms of text content. In other words, if a portion of text is assigned to one lexia, it does not appear in any other. The size, and thus the composition, of these segments is determined by semantic structures, which Barthes refers to as signifiers, contained in the segment. Barthes states that lexias must have at least one such structure, but no more than three or four.¹²

Lexia-deriving is similar to cutting a piece of string, with a complex pattern formed by colored beads on it, into smaller pieces, starting at one end and proceeding toward the other, being careful not to cut beads, and only worrying about the bead patterns (small semantic structures) within the smaller unit, ignoring, at the time, the larger patterns of which they might be a part.

Clearly, Barthes' goal in defining a lexia, or reading unit, is to help focus all attention necessary on the

¹¹Ibid., 13-14.

¹²Ibid., 13-14.
smallest contributor to the patterns of meaning in a text as a whole. By requiring no more than three or four such contributors or signifiers, the focusing can be very strong, indeed. Further, by ignoring the larger grammatical structures of which the signifiers are embedded, Barthes' intention is to isolate them from all possible semantic contamination by larger structures. Barthes wanted, in both the lexia-deriving and the signifier labeling operations, to direct a reader's attention not just primarily, but solely on each signifier as it appears in the text, with any further global pattern discovery left to a later stage.

To illustrate, by example, what a lexia might look like, and to serve as a basis for continuing discussion concerning Barthes' method, two lexias, numbers 64 and 123, from Sarrasine (as Barthes read it in S/Z) are give here. In each case, the lexia is given in italics, as in the original, which is then followed by Barthes' signifier labels, using his "starred text" notation, for the signifiers in the lexia. Both lexias contain three signifiers, representing amongst them, all five types of signifiers as defined in Barthes' labeling language. The examples are:

(64) The old man did not want to leave this lovely creature, to whom he had attached himself with that silent and seemingly baseless stubbornness to which the extremely old are prone, and which makes them appear childish. * REF. Psychology of the old. ** SEM.

\[^{13}\text{Ibid., 13.}\]
Childishness. *** The castrato is attached to the young woman, opposite to opposite, the reverse of the coin by its obverse (SYM. Marriage of the castrato).\textsuperscript{14}

(123) Young Marianina came in, and her innocent expression made her even more alluring than did her grace and her lovely dress; she was walking slowly and escorting with maternal care, with filial solicitude, the costumed specter who had made us flee from the music room, * ACT. "To enter": 2: the entrance itself. ** HER. Enigma 3: proposal and formulation (enigmatic as they are the relations between Marianina and the Old Man strengthen the enigma of the Lanty family: where do they come from? who are they?). *** SEM. Childishness.\textsuperscript{15}

Consisting of text cut sequentially from the original, being relative short in length, and containing as they do only three signifiers each, both lexias appear to fall well within Barthes' criteria for lexias. The only questionable aspect would be that they both could be construed as being cut so as to have "regard for its natural divisions (syntactic, rhetorical, anecdotic)."\textsuperscript{16} The response to this criticism would be that Barthes' primary directive was that, regarding the definition of a lexia, "all we require is that each lexia should have at most three or four meanings to be enumerated."\textsuperscript{17} As will be shown in CHAPTER V, even this directive is not truly necessary to the proper functioning of a lexia as a unit of reading which allows it to "be the

\textsuperscript{14}Ibid., 52-53.

\textsuperscript{15}Ibid., 78.

\textsuperscript{16}Ibid., 15.

\textsuperscript{17}Ibid., 13-14.
best possible space in which we can observe meanings.18

It is important to note that these two lexias contain between them examples of all five types of signifiers that form the basis for Barthes' labeling language: semes (SEM), references (REF), hermeneutics (HER), actions (ACT), and symbols (SYM).19 The following section discusses this language, using, as much as is feasible, these two lexias and their accompanying labels as a reference point.

The Barthesian Labeling Language:
Signifier Identifying and Labeling

As seen in the preceding lexias, Barthes' reading of Sarrasine applies five codes to label each of his five types of signifiers that can occur in any given lexia. These codes make up the primary vocabulary of his labeling language. The definition for each code is:

1. ACT--Action Code, labels signifiers that are fragments of action sequences.20
2. HER--Hermeneutic Code, labels signifiers that are fragments of any enigma raised in the text.21
3. REF--Reference Code, labels signifiers pointing to

18Ibid., 13.
19Ibid., 16-20.
20Ibid., 19.
21Ibid., 19.
nameable sets of knowledge outside of the text.\textsuperscript{22}

4. **SEM**—Semiotic Code, labels signifiers whose use is \textit{connotative} in the ordinary sense of the term.\textsuperscript{23}

5. **SYM**—Symbol Code, labels signifiers that have a \textit{symbolic} significance in the text.\textsuperscript{24}

According to Barthes, signifiers relate in one of five ways to their signifieds. Each of these ways is carried out by one of these five kinds of signifiers. To describe these five kinds of relating, Barthes uses the analogy of a text being "The Weaving of Voices,"\textsuperscript{25} of which there are five types, with each voice corresponding to one of his signifier codes. Barthes' voices are the traces of or references to a text containing all of that which is already written, or as Barthes explains, they refer "to the Book (of culture, of life, of life as culture)."\textsuperscript{26}

Barthes names his voices:

1. Voice of Truth, traced by the Code: Hermeneutics
2. Voice of the Person, traced by the Code: Semes
3. Voice of Science, traced by the Code: References
4. Voice of Symbol, traced by the Code: Symbols

\textsuperscript{22}Ibid., 20.
\textsuperscript{23}Ibid., 17.
\textsuperscript{24}Ibid., 19.
\textsuperscript{25}Ibid., 20.
\textsuperscript{26}Ibid., 21.
5. Voice of Empirics, traced by the Code: Actions.27

An example Barthes uses to further his analogy is the title, *The Kidnapping*. He says that it immediately refers to, *speaks about*, all kidnappings, that it is a signifier of the REF type, spoken therefore by the Voice of Science. Thus, upon seeing the title *The Kidnapping*, a reader should delve into the *Book of the Already-Written* in order to find all that is known or *spoken* about kidnappings and then should bring this knowledge to the reading of the text.28

In precisely the same manner, the other four codes are shorthand for four distinct voices that join with the voice of science to compose, to represent, to be, all that is written. That is, together they speak, they are, "*the Book (of culture, of life, of life as culture)* [emphasis added]"29 in a very complex weaving of traces of speech into a network that not only is that Book, but is the source of all other texts.30

These voices aid in creating texts, that is, give meaning to them, by accompanying each utterance or signifier, in the text from off-stage, from that which is not the text, per se, but exists in, speaks from, the already-written texts that together form *The Book*. They

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27Ibid., 20-21.

28Ibid., 20.

29Ibid., 21.

30Ibid., 21.
lend to the signifiers as off-stage speakers, the connotative meanings Barthes is intent upon sifting out, pointing out, and labeling in his systematic approach to text reading.31

The following five sub-sections address each voice or code in turn, exploring each voice's why, what, and how in terms of the Barthesian project. Following these is a detailing of the grammar, the syntax, of Barthes' labeling language, which uses his five Codes as its primary vocabulary.

On Barthes' Voices: Truth

The Voice of Truth speaks through a text in conjunction with those signifiers where a mystery is played out from the announcement of its existence through various tactics for delaying revealment of true answers up to final disclosure. A text always contains one or more such mystery tracks, for such tracks are the forces that drive, the objects that attract, the reader through to the end of the text, and thus are the reasons that the text has readers. As Barthes says regarding one instantiation of the hermeneutic track concerning the Lanty fortune in the story Sarrasine:

had the discourse not moved the two speakers off to a secluded sofa, we would have quickly learned the answer to the enigma, the source of the Lanty fortune (however, then there would have been no story to tell).32

31Ibid., 20-21.

32Ibid., 31.
Barthes found six such mysteries or enigmas, that a reader must decipher in *Sarrasine*. Besides the source of the Lanty fortune, there are five other questions: 1), To whom or to what does the title "Sarrasine" refer?, 2), What is the secret of the old man, the grandfather?, 3), Who are the Lantys?, 4), Who is the Adonis in the portrait?, and, 5), what gender is La Zambinella?

The reader seeks Truth regarding these six mysteries by paying attention to Truth’s voice print (the signifiers related to their unraveling), while the text attempts to hide those Truths. The hiding of the Truth, as well as the revealing, is done through the exploitation of the denotative and connotative meanings of the signifiers that refer to the signifieds of the mysteries.

Thus, denotatively, by the rules of Italian, the name La Zambinella must refer to a woman. In fact, however, it refers to a castrato, a male who has been surgically held at the pre-puberty stage in order to keep his voice capable of the ranges normally reserved in adulthood to women. The clues to the deception depend on the reader determining that connotatively, any individual who carries a female name and is an opera singer in 18th century Italy, is, in truth, such a castrato. Such a stage name as La Zambinella was an affectation of the opera of that time and space.

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Ibid., 75-76.
On Barthes' Voices: The Person

The Voice of the Person speaks, unlike the other four voices, consciously and deliberately in the connotative mode. It takes direct advantage of this scheme of Western thought wherein there is a denotative meaning versus a connotative meaning for each signifier. The denotative is, theoretically, the authoritative or legal meaning, while the connotative is a shadow meaning, that, while there, is not the real or legal meaning. Connotative meaning thus allows a signifier to have multiple meanings.\(^3\)\(^4\)

When Balzac, deliberately it must be assumed, chose the name "Sarrasine" for his main character, a male, in a story about castration, the connotative meaning of the name is important for several reasons. One, in the French language it points to "femininity" with its final "e."\(^3\)\(^5\) Two, it also contains the "Z" sound in its center, which in French is the sign of mutilation, thus connotatively pointing to the castration problem that Sarrasine will be faced with in the story.\(^3\)\(^6\) Third, the "Z" sound is not in the name graphically, as the character "Z," which it should be according to French onomastics, but is, instead, present connotatively in the "S" sound.\(^3\)\(^7\) This connotative aspect

\(^{3}\)\(^{4}\) Ibid., 7-9.

\(^{3}\)\(^{5}\) Ibid., 17.

\(^{3}\)\(^{6}\) Ibid., 106-107.

\(^{3}\)\(^{7}\) Ibid., 106-107.
of the presence/non-preservation of the "Z" underscores that gender determination is going to be a problem in the story.

Clearly, Barthes himself believed that the "S" and "Z" of the title were central to the whole of Balzac's story. First, he featured them in the title of his own work, joined and separated simultaneously by the "/" grapheme: S/Z. Then, in the text itself (one whole section, recursively titled "S/Z"), he addresses directly the meaning of the use of "S/Z" in Balzac's *Sarrasine*, particularly in the title.38 The Voice of the Person, then, is an important voice in and of itself, and in fact, can be the Voice off which an entire text plays, with the other four singing harmony, or being background voices, as it were.

Barthes says that semes, the voice print, the trace of the Voice of the Person, are used to cite in the same sense as "the citar is the stamp of the heel, the torero's arched stance which summons the bull to the banderilleros."39 That is, for example, with the Balzacian seme of Wealth, Balzac "cites the signified (wealth) to make it come forth, while avoiding it in the discourse."40 As Barthes says,

The *Party*, the *Faubourg*, the *Mansion* are anodyne data, seemingly lost in the natural flow of the discourse: in fact they are touches designed to bring out the image of

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38Ibid., 106-107.
39Ibid., 22.
40Ibid., 22.
Wealth in the tapestry of the daydream.\textsuperscript{41}

In this manner, Balzac does not have to say: "Hey, everyone, the Lanty's are wealthy." Instead, through semes, signifiers that connotatively point to that which he wants known, the signified, he brings out an impression of wealth, much as a painter, through judicious use of mere particles of paint brings out the impression of a tree, or of a person. Indeed, Barthes says of the use of semes as citars:

the narrative technique is impressionistic: it breaks up the signifier into particles of verbal matter which make sense only by coalescing: it plays with the distribution of a discontinuity (thus creating a character's "personality"); the greater the syntagmatic distance between the two data, the more skillful the narrative.\textsuperscript{42}

Barthes also says that

the (ideological) goal of this technique is to naturalize the meaning and thus to give credence to the reality of the story: for (in the West) meaning (system), we are told, is antipathetic to nature and reality.\textsuperscript{43}

Thus, at least on one level, the "Person" Barthes is referring to in his phrase "Voice of the Person," could be thought to be the author of text, such as Balzac in his \textit{Sarrasine}, using language to paint impressionistic pictures by employing the secondary meanings or connotations of words, deliberately and knowingly.

\textsuperscript{41}Ibid., 22.
\textsuperscript{42}Ibid., 22.
\textsuperscript{43}Ibid., 23.
On Barthes' Voices: Science

The Voice of Science speaks in a text whenever there is a reference made to bodies of knowledge, to cultural keepers of truth, of behavioral norms, to authoritative sources, including such texts as actual science or history or critical texts, outside of the text itself. For instance, Balzac at one point relies on the reader having the common human experience of "fairy tales." At another, he expects the reader to possess a knowledge of Literature, more specifically, of Lord Byron. Connotative references to the Common Book of Human Knowledge are strewn throughout Sarrasine, and, indeed, it could be argued that one could not fully appreciate Balzac's work without access to that Book.

References, the voice prints of science, are used for many different purposes or functions, in a text. However, there is one that is certainly not intended, and is specifically tied to references to cultural codes, codes that quickly become, in essence, stereotypical, and thus ideological. Balzac relies on such cultural stereotypes as: Parisians as cynics, art as a constraint, youth as an effervescence. As Barthes says:

If we collect all such knowledge [cultural codes], all such vulgarisms, we create a monster, and this monster is ideology. As a fragment of ideology, the cultural code inverts its class origin (scholastic and social) into a natural reference, into a proverbial statement.

Ibid., 205-206.
the cultural proverb vexes, provokes an intolerant reading; the Balzacian text is clotted with it: because of its cultural codes, it stales, it rots, excludes itself from writing (which is always a contemporary task): it is the quintessence, the residual condensate of what cannot be rewritten.45

Thus, the cultural codes referenced in Sarrasine can, in fact, keep a reader from being able to read, or in Barthesian terms, rewrite, the novel.

However, if the Balzacian text is, indeed, capable of vexing a reader by using cultural codes, it nevertheless makes eloquent use of historical codes, making references to actual historical figures. Barthes uses a quote from Proust on Balzac, wherein Proust complains of Balzac's use of historical figures in a minor way as a way of introducing his own view of this narrative technique:

It is precisely this minor importance which gives the historical character its exact weight of reality: this minor is the measure of authenticity: Diderot, Mme de Pompadour, later Sophie Arnould, Rousseau, d'Holbach are introduced into the fiction [Sarrasine] laterally, obliquely, in passing, painted on the scenery, not represented on the stage; . . . [thus] they give the novel the glow of reality, not the glory: they are superlative effects of the real.46

Interestingly enough, it is the code of the history of music, and more specifically, of Italian Opera of the Eighteenth Century, upon which the entire hermeneutic chase of the reader (and of the young lady, Mme de Rochefide, who is the object of the narrator's passion and whose desire to

46Ibid., 101-102.
know the answer is the reputed reason for the telling of the tale) through the story of Sarrasine and La Zambinella is based. Balzac depended upon his readers, along with his character, not knowing that castratos were used to sing female parts in operas.

In general, references to knowledge codes outside the text are used to manipulate the reader's response to the text. One goal is to get the reader to accept an illusion of reality for the text as a whole. Another is to help the author communicate to the reader through a common knowledge base on a variety of subjects, to set the scene by reference to the familiar. For instance, Balzac compares Marianina to the sultan's daughter in the story of the Magic Lamp to secure the reader's understanding of her beauty.47 Finally, the codes can be consciously used by the author by playing them off against themselves and each other in order to introduce irony or parody, or, as in the case of the Italian Opera Code, mystery.

On Barthes' Voices: Symbol

The Voice of Symbol speaks in the text whenever a signifier is used in terms of a structure, either created in the text, or pre-existent in the already-written (The Book) and is used to enter into a symbolic field, such as the human body. In other words, such a signifier does not stand

47Ibid., 32-33.
alone, but is related to other signifiers in the text that
together form a nameable, visible, tangible object in the
text. This object is a key used to open exploration of a
certain kind into a given world (field), replete with
culturally known, or shared, meaning on a symbolic level.\footnote{Ibid., 214-215.}

In *Sarrasine*, the symbolic field used is that of the
human body. The body contains (is stamped with, is replete
with), from the already-written, many known symbolic values
that Balzac uses to make his own points. One such is the
value that states that violation of the natural separation
of gender via castration leads to disasters of several kinds
(devaluation of the meaning of life, threats to the survival
of the race, faulty economic valuations, etc). Belief in,
or at least knowledge of, this value is vital to a reader
gaining an understanding of the text.

Balzac, according to Barthes, uses three attributes of
the body that are replete in symbolic value: its position
as the basis for meaning itself; its position as the basis
for reproduction (or sexual creation); and its position as
the basis for economy. Three structures give entrance into
this symbolic field: the rhetorical figure of Antithesis
explores the body in terms of the creation and sustenance of
meaning for individuals and the race; the cultural figure of
the Castrato explores the body in terms of reproduction as a
need of individuals and the race; and the cultural figure of

\footnote{Ibid., 214-215.}
Wealth explores the economic role of the body for individuals and the race.\textsuperscript{49}

Antithesis is used heavily in \textit{Sarrasine}, with the human body as subject. Barthes says that this rhetorical figure's apparent function is to consecrate (and domesticate) by a name, by a metalinguistic object, the division between opposites and the very irreducibility of this division. . . . the antithesis is the battle between two plenitudes set ritually face to face like two fully armed warriors; the Antithesis is the figure of the given opposition, eternal, eternally recurrent: the figure of the inexpiable.\textsuperscript{50}

But the wall of the antithesis can be transgressed according to Barthes, in a narrative text, and it is in \textit{Sarrasine}. Ironically, it is in the breaching of the antithetical wall that meaning is produced. Barthes informs us that

\begin{quote}
 it is fatal, the text [\textit{Sarrasine}] says, to remove the dividing line, the paradigmatic slash mark which permits meaning to function (the wall of the Antithesis),\textsuperscript{51}
\end{quote}

which implies that one "meaning" of the text is that we dare not transgress the antithetical wall in the real world. The story (\textit{Sarrasine}) shows the effects of doing so by transgressing in the symbolic field of the human body.

Early in \textit{Sarrasine}, the body of the narrator, sitting between the outside and the inside, between the wintry garden outside and the warm, even hot, party inside, acts as the mediation point between the opposing abstract plenitudes

\textsuperscript{49}Ibid., 214-215.

\textsuperscript{50}Ibid., 27.

\textsuperscript{51}Ibid., 215.
symbolically represented by the outside and inside of the mansion where the party is being held. Barthes says that mediation upsets the rhetorical—or paradigmatic—harmony of the Antithesis (AB/A/B/AB) and this difficulty arises not out of a lack but out of an excess: there is one element in excess, and this untoward supplement is the body (of the narrator).\(^5\)

The narrator transgresses, breaching the wall of the antithesis by describing the differences in the world outside the mansion and the world inside: death and life; cold and heat; outside and inside. The scene thus set, by way of this excess [the narrator] which enters the discourse after rhetoric has properly saturated it that something can be told and the narrative begin,\(^6\)

Balzac is signaling or signifying, that the story is centered on the different symbolic values that the narrator is mediating, and, in fact, that this centering is really on the results of the breaching of these antithetical values.

Later, two other bodies, that of the young lady the narrator desires, Mme de Rochefide, and the castrato, whose story she desires, are brought together, in fact, they touch. Thus, there is a transgression of the wall, the antithesis that the two represent in their bodies, when they meet and she touches him. Symbolically, the young lady (her body) means life, heat, and insideness, while the castrato means death, cold, and outsideness. Upon touching, the physical contact between these two . . . produces a

\(^5\)Ibid., 28.

\(^6\)Ibid., 28.
catastrophe: there is an explosive shock, a paradigmatic conflagration, a headlong flight of the two bodies brought together in so unseemly a manner: each of the partners forms the locus of an over physiological revolution: . . . the depths are emptied, as in vomiting.54

According to Barthes,

this is what happens when the arcana of meaning are subverted, when the sacred separation of the paradigmatic poles is abolished, when one removes the separating barrier, the basis of all "pertinence."55

That is, meaning is lost. Mme de Rochefide's response to the narrator's tale, in which Sarrasine dies due to the culpability of the castrato as a transgressor of the antithesis between maleness and femaleness, is to suspend herself in life, to remain "pensive" while she awaits death. For her, the destruction of the antithesis barrier between the two meaning systems, maleness and femaleness, leaves no meaning to life.56 It is left to the reader of Sarrasine, to accept or reject her response.

Antithesis is but one of the symbolic narrative methods Balzac uses, the other two methods focusing on the body in terms of its reproductive and economic symbolic meanings. The young lady, Mme de Rochefide, is the embodiment of the capability of a future for the human race--she is capable of reproduction, and she is sufficiently attractive to ensure that she can and will reproduce. The old man, the castrato,

54Ibid., 65.
55Ibid., 65.
56Ibid., 216-217.
represents the null future where bodies are not used for reproduction, for love, but instead for economic gain— he is a rich man, but he has no offspring— there is no future for him through children.

Related to the latter is the economic contract between the narrator and the young lady—in return for his story concerning the body which served as the model for the figure of Adonis in the painting, she is to yield herself to the narrator. She, of course, breaches the contract, something that is only possible because of the removal of the barrier between antithetical plenitudes— one where it is never ethical to breach contracts, and another where it can be.

The Voice of Symbol allows the Balzacian text to explore the loss of meaning, of value in the world, through the depiction of an event (the death of Sarrasine), thus, of all humankind, that occurs through the mutilation of the human body, and by extension, the mutilation of all that the human body represents to humanity.

On Barthes’ Voices: The Empirics

The Voice of the Empirics speaks in a text whenever there is action. The Empiric voice within a text speaks the logic of cause and effect, that is, a given action will have a given effect. This is a logic that is well known and fleshed out with a multitude of examples in Western thought and writings and so quite accessible as a source to Western
authors and readers. \(^5\) Like the Voice of Symbol, the Empiric voice is spread across the text in fragments that are clearly related, that form sequences. To fully comprehend them, one must bring together the signifiers of each part of each sequence of actions.

In *Sarrasine*, Barthes found forty-eight separate, unique action sequences spread out over the lexias, to each of which he gave a unique name, such as: "To be deep in," "To laugh," or "Dressing." Each element of a sequence, like "To be deep in," was given a qualifier (not necessarily unique within the sequence), as well, such as "To be absorbed" or "To come back again." In other words, the sequence "To be deep in" could occur over several lexias, with several qualifiers being used to differentiate the elements of the sequence in terms of their role in the sequence.

In the first lexia, the element might depict a subject being absorbed, while in the next lexia, the subject might be coming back from being absorbed. In both cases, the action was part of a sequence named "To be deep in." By looking at the lexias which are part of an action sequence, one can see the logic of cause and effect being worked out for an action in terms of the text's discourse, and in comparison and contrast to similar sequences in other texts.

In *S/Z*, Barthes discusses the concept of action sequences in terms of their folding and unfolding through

\(^5\)Ibid., 18.
the text. A reader follows the unfolding of a sequence through the text to its end, but in order to name that sequence, the reader must fold it back up. For example, in the following text, Barthes explains what is meant by this:

What is a series of actions? the unfolding of a name. To enter? I can unfold it into "to appear" and "to penetrate." To leave? I can unfold it into "to want to," "to stop," "to leave again." To give?: "to incite," "to return," "to accept." Inversely, to establish the sequence is to find the name:58

Thus, given the sequences "to appear" and "to penetrate," one needs to find a name that acts as an umbrella for the constituents. In this case, the constituents are part of a sequence where the individual actions have to do with "entering," thus the name "to enter" for the sequence.

Barthes maintained that these sequences were in an order that is dictated by culture and language:

The unfolding of the sequence, or, inversely, its folding, occurs by and through the authority of the great models, cultural (to give thanks for a gift), organic (to disturb the course of an action), or phenomenal (the sound precedes the phenomenon), etc. The proairetic sequence is indeed a series, i.e., "a multiplicity possessing a rule of order" (Leibnitz), but the rule of order here is cultural (habit, in short) and linguistic (the possibility of the word, the word pregnant with its possibilities).59

In other words, in a sequence with the name "Farewell," the contingent actions of "to say farewell," "to confide," and "to embrace" are all actions that are culturally dictated to be part of a series of actions that results in one or more

58Ibid., 82.

59Ibid., 82.
people parting company from each other. The author does not invent them, but merely uses them as the story being written requires their presence. Similarly, in the world, our world, during thunderstorms one sees the lightning then hears the thunder; thus, one would expect an action series named "Thunderstorm" to have those actions, in that order.

The task, then, of a Barthesian reader regarding the Voice of Empirics is a two-part operation. First, one must recognize the individual actions of the series within each lexia. Second, one must find or choose the appropriate name for each series. Having done this, the Empiric Voice print will thus be established and noted for future reference.

On Barthes' Voices: A Statistical Picture

Below is a table that shows how often Barthes' Voices occur in Sarrasine, the number of related sequences, and the average, smallest, and largest number of labels in a sequence. For instance, there are 135 HER labels used for six unique mysteries presented in Sarrasine, by Barthes' count, for an average of 22.5 references per mystery, with the smallest number being two and the largest being 84.
This table shows that within a single, given text, such as *Sarrasine*, Barthes' signifiers are boundable, that is, they are not infinite in number—they are determinable. Thus, the statistics in the above table constitute an empirical basis for believing Barthes' system is applicable to a text.

However, when one considers all texts existent in the world, together, as a single unit of study, the number of unique labels and the frequency with which they occur is not so readily bounded. This is important because of Barthes'
definition of connotative meaning, of which all five codes are a label for a type. His definition implies (actually, parenthetically, it states) that connotative meaning is a relation between two or more sites across texts:

Definitionally, it [connotation] is a determination, a relation, an anaphora, a feature which has the power to relate itself to anterior, ulterior, or exterior mentions, to other sites of the text (or of another text [emphasis added])

Thus, one could conclude that Barthes had reason to believe that his system could be used as a tool for analyzing texts in terms of their use of his five kinds of connotative meaning. Presumably, this could be done by comparing the sets of labels for two or more texts, searching for patterns between or among them that reveal interesting critical insights in terms of how the texts differ or are the same.

For instance, by studying the use of a particular seme, such as "Wealth" or "Femininity," in two or more texts, one might be able to come to some interesting conclusions about how these semes are used by male authors versus female authors. This is, of course, just one possible use of such a cross-text analysis based on a set of Barthesian readings. However, while the statistics in the table above support the single-text analysis done using a Barthesian reading, more study would be needed to see if the cross-text analysis makes any empirical sense. The problem of a possibly infinite number of semes, action sequences, hermeneutics,

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60 Ibid., 8.
symbols, and references needs to be explored.

On Barthes' Voices: A Summation

For Barthes a text is not simply what it says, as, for instance, strict constructionist lawyers, univocalists to their core, would have it. Instead, a text is the reverberations, echoes, pointers, and references to and of other places in the text and in other texts. Secondary meanings, the connotations of words and phrases, are the key to these other "sayings," of Barthes' five Voice prints in the text: Empirics, Truth, Science, Person, Symbol.

Barthes' codes (ACT, HER, REF, SEM, SYM) are labels that name these sayings, these utterances, these Voices, of meanings of the text. Or, as he says: "the convergence of the voices (of the codes) becomes writing, a stereographic space where the five codes, the five voices, intersect."  

The voices, or codes, "whose origin is 'lost' is vast perspective of the already-written," are a perspective of quotations, . . . , are themselves, always, ventures outside the text, the mark, the sign of a virtual digression toward the remainder of a catalog (The Kidnapping refers to every kidnapping written); they are so many fragments of something that has always been already read, seen, done, experienced; the code is the wake of that already. Referring to what has been written, i.e., to the Book (of culture, of life, of life as culture), it makes the text into a prospectus of this Book.

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61Ibid., 21.
62Ibid., 21.
63Ibid., 20-21.
Thus, a text is "the weaving of voices," is a compilation, a comprisement of texts that the author has heard, seen, and experienced. It becomes a newly-shaped, newly-designed, never-before-existent tapestry. One might compare this to the art of quilting, where a quilt is constructed from "fragments" of other, already-existent articles made of cloth, into a pattern, a whole, that has never been before, which, in its own time could quite likely become part of some other quilt or article of cloth. The following subsection details the grammar of the language Roland Barthes created for noting each of the traces of those interwoven voices in a text.

The Barthesian Grammar: The Codes

Roland Barthes created a language for labeling the traces, the signifiers of his five voices. Earlier, two lexias and their accompanying labels were given. These are repeated here, on the next page in Table 2, for ease of reference.

64Ibid., 20.
TABLE 2

LEXIA LABELING EXAMPLES

(64) The old man did not want to leave this lovely creature, to whom he had attached himself with that silent and seemingly baseless stubbornness to which the extremely old are prone, and which makes them appear childish.

* REF. Psychology of the old.

** SEM. Childishness.

*** The castrato is attached to the young woman, opposite to opposite, the reverse of the coin by its obverse (SYM. Marriage of the castrato).65

(123) Young Marianina came in, and her innocent expression made her even more alluring than did her grace and her lovely dress; she was walking slowly and escorting with maternal care, with filial solicitude, the costumed specter who had made us flee from the music room,

* ACT. "To enter": 2: the entrance itself.

** HER. Enigma 3: proposal and formulation (enigmatic as they are the relations between Marianina and the Old Man strengthen the enigma of the Lanty family: where do they come from? who are they?).

*** SEM. Childishness.66

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65Ibid., 52-53.

66Ibid., 78.
Lexias 64 and 123, in Table 2 above, were found by Barthes to contain three signifiers, with at least one from each of the five voices. As the examples show, each of the five label types can vary in form, but there are common attributes. While Barthes made no attempt in *S/Z* to detail his language formally, it is clear that a formal grammar can be described. Table 3, below, presents such a grammar. Following Table 3 is an extended description of the labels in terms of the grammar presented in the table.

Table 3 uses production rules to present the syntax of Barthes' language. These production rules are given in a modified form of that normally used in linguistic and formal grammar applications, since Barthes' language is much simpler than those normally explored in those disciplines. The primary modifications are the substitution of English terms for many of the symbols normally used, in conjunction with the dropping of many of the operations/symbols that production rule syntax presentations generally use.

A production rule is a presentation of the components of a language and the relationships those components can enter into in order to form a given component of the language. A set of production rules that describe how all the components of a language are formed is sufficient to described the syntax of that language. An example of a production rule for a simple noun phrase syntax might be:

**NOUN PHRASE** is produced by ((**ARTICLE** followed by **NOUN**) or (one or more sequential **NOUNS**))
This rule says that a noun phrase can be constructed of an article (such as "the," or "a") followed by a noun, or it can be a sequence of nouns. The rule assumes that the definitions of article and noun are in the set of production rules for the language being presented, or that they are terminal symbols that do not need definition. Vocabulary terms in any given language normally constitute the set of all terminal symbols for that language.

In this case, both noun and article are not terminals, since the listing of all possible articles or nouns in the language could serve as the definition of either of them. By definition, non-terminal symbols must appear somewhere in the set of production rules on the left-hand side, since they are made up of other components, while terminal symbols can only appear on the right hand side, since they cannot break down into smaller components.

The "()" symbols are used to group parts of rules together, similar to the presentation of equations in mathematics. In this example, they are used to show two disjunctive means for forming a noun phrase, one with an article and noun, another with only nouns.

In Table 3, as in the example, terminals are in bold, either uppercase, lowercase or a combination, and contained in double quotes. Non-terminal symbols are in bold uppercase, only. Production rule operations are in italicized lowercase.
TABLE 3

BARTHESIAN LABEL LANGUAGE GRAMMAR RULES

1. **LABEL** is produced by **CODE** followed by **DESCRIPTOR**

2. **CODE** is produced by "ACT" or "HER" or "REF" or "SEM" or "SYM"

3. **DESCRIPTOR** is produced by (ACT_DESCRIPTOR or HER_DESCRIPTOR or ANTITHESIS_FIG or DESCRIPTIVE_TERM) optionally followed by **NOTE**

4. **ACT_DESCRIPTOR** is produced by DESCRIPTIVE_TERM followed by **NUMBER** followed by DESCRIPTIVE_TERM

5. **HER_DESCRIPTOR** is produced by "Enigma" followed by **NUMBER** followed by **ENIGMA_TYPE**

6. **ANTITHESIS_FIG** is produced by "Antithesis" followed by ("A" or "B" or "AB") optionally followed by **DESCRIPTOR** optionally followed by (DESCRIPTIVE_TERM)

7. **ENIGMA_TYPE** is produced by ("question" or "theme" or "formulation" or "proposal" or "promise of answer" or "snare" or "ambiguity" or "disclosure" "suspended answer" or "partial answer" or "jammed answer") repeated

8. **DESCRIPTIVE_TERM** is produced by any word or phrase that describes the signifier.

9. **NOTE** is produced by any phrases, sentences, or paragraphs that further describes the signifier

10. **NUMBER** is produced by set of all integer numbers
Rule 1 shows that a Barthesian signifier label is produced by two components: CODE and DESCRIPTOR. Rule 2 shows that the CODE component can be produced by any one, but only one, of the five three-letter terminal signs given. Rule 3, in conjunction with Rules 4, 5, 6, and 8, shows that the DESCRIPTOR component is produced by terms of the labeler's choice, though in the ACT, HER, and ANTITHESIS forms, as given in Rules 4, 5, and 6, there are certain nuances as to how the terms are arranged, specified. In all cases, the labeler has the option of amplifying or further describing the signifier being labeled by adding a NOTE to the DESCRIPTOR field of the label.

The lexias in Table 2 show several ways the grammar of the labels may vary. The REF label in Lexia 64 has as its DESCRIPTIVE_TERM, a phrase: "Psychology of the old," and the DESCRIPTIVE_TERM for the SEM label in both lexias consists of one word, "Childishness," with no NOTE attached to any of the three. The SYM label in Lexia 64, however, has a NOTE before the actual label begins, while the HER label in Lexia 123 has a NOTE at the end. The position of the NOTE is clearly immaterial, as its function is the same regardless of position--clarifying the information that the DESCRIPTIVE_TERM is to convey.

The DESCRIPTOR field for ACT labels, as in Lexia 123, and described in Rule 3 and 4, contains information from more than one DESCRIPTIVE_TERM. Most label types in the
language have but one such field, the ACT label being an important exception. The Lexia 123 ACT label is:

ACT. "To enter": 2: the entrance itself.

As Rules 1 and 2 require, it begins with one of the five codes, "ACT," than as Rule 3 and 4 require, this is followed by a DESCRIPTIVE_TERM. "To Enter," which is the first use of a DESCRIPTIVE_TERM in the label, is the DESCRIPTIVE_TERM for the entire action sequence of which the particular signifier being labeled is a fragment. That is, in Sarrasine, there are fragments of a single action, labeled as "To Enter," that are spread across two or more lexias. The action fragment being signified here is the second such fragment in the sequence as one reads the text from beginning to end. This fact is recorded in the label as a number, "2," in the NUMBER field of the ACT_DESCRIPTOR.

Following the NUMBER field, there is a second DESCRIPTIVE_TERM which describes the particular fragment being signified; that is, "the entrance itself" is signified in this lexia. Thus, while the action sequence as a whole concerns itself with the action of entering, Lexia 123 contains a fragment that is an actual entrance taking place.

Finally, while this particular example has no NOTE, it is important to remember that it could have had one according to the grammar of the Barthesian language.

The DESCRIPTOR field for the HER label is, like the ACT_DESCRIPTOR field, somewhat more complex than the normal
Below is the Lexia 123 HER label:

HER. Enigma 3: proposal and formulation (enigmatic as they are the relations between Marianina and the Old Man strengthen the enigma of the Lanty family: where do they come from? who are they?).

First, after the CODE field containing the sign, "HER", the HER_DESCRIPTOR field follows. The HER_DESCRIPTOR field is unlike any of the other DESCRIPTOR fields, containing as it does the word "Enigma" as part of the label. This is redundant, of course, since by definition, HER labels always refer to enigmas. Nevertheless, Barthes consistently used it in his examples in S/Z.

What is not redundant, at this point, is the integer in the NUMBER field that follows the word "Enigma." This integer is the number assigned to the particular Enigma being connoted in this lexia. In Sarrasine, as noted before, there are six such Enigmas that the reader is invited by the text to unravel. Thus, unlike the ACT label where a DESCRIPTIVE_TERM is used to label the whole action sequence of which the label is but a fragment, for the enigmas a number is assigned as the sign of the whole. In Barthes' handling of Sarrasine using his labeling method, Enigma 3 happens to be the question of who the Lanty family might be. As can be seen in this example, Barthes chose to carry this information in his NOTE field for HER labels.

Following the enigma number, HER labels contain one or more of the terms shown in Rule 7, the ENIGMA_TYPE rule. As rule 7 allows, and the example in Lexia 123 depicts, the
possibility of more than one of these terms being applicable exists. A question can be 'proposed' and a 'formulation' be given, for instance, all in the same lexia.

In this example, there is a proposal (a raising, according to Barthes) of the question of just who the Lantys are. Further, the question is formulated by giving descriptive details about how two of the Lantys relate to each other in public. There is no answer here, but rather clues as to how to state the question.

In general, the terms 'theme,' 'formulation,' and 'proposal' are qualifiers of the term 'question,' though all four can stand alone, or the first three can appear in a label with 'question' or with each other. When 'question' stands alone in S/Z, it usually stands in for 'proposal.' Thus, a signifier can point to the theme or subject of the enigma, and be labeled 'theme.' Or, it can state the question, and thus be labeled 'formulation.' And finally, it can simply raise a flag, saying that there is an enigma here, but that is all that can be discerned in the lexia.67

The terms 'Promise of answer,' 'snare,' 'ambiguity,' 'suspended answer,' 'partial answer,' and 'jammed answer,' are used to signify a delaying action in terms of disclosing the answer to the enigma. According to Barthes, it is the goal of the text to hide the answer from the reader, and from certain of its characters, as well, as long as

67Ibid., 84-86.
feasible. Delaying actions, taking the form of particular rhetorical devices, are usually employed by the author for this purpose. The terms listed here are Barthes' names for these devices.

Finally, 'Disclosure' or 'answer' are used to label the signifier that gives the reader and/or the characters the answer to the question.

Closing out the examples and the label types are the SYM labels. These usually consist of the terminal sign "SYM" in the CODE field, followed by a DESCRIPTOR field containing a DESCRIPTIVE_TERM, with an optional NOTE field, as in the example in Lexia 64 in Table 2. But there is one major exception to this rule.

The exception is in the case where the rhetorical figure of Antithesis is used as a symbolic structure. For Antithesis used symbolically, Barthes clearly wanted to be able to note which of the two, or both, terms of the antithesis structure was being signified in a lexia, as well as the kind of information about the Antithesis being given in the lexia by the particular signifier being labeled.

To illustrate this concept, an example of a lexia, Lexia 55, and the Antithesis label given it in Barthes' treatment of Sarrasine, complete with a NOTE field, is given below, which is followed by a discussion of the whole:

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68 Ibid., 75-76.

By one of those tricks of nature, the half-mournful thought turning in my mind had emerged, and it appeared living before me, it had sprung like Minerva from the head of Jove, tall and strong, it was at once a hundred years old and twenty-two years old; it was alive and dead. * SYM. Antithesis: AB: mingling (the wall of the Antithesis is breached) 70

The Antithesis signified here is the one between Death (term "A") and Life (term "B"). The only way to know this is to be aware of earlier terms of the same Antithesis where Barthes made it clear that there is an Antithesis structure in the text that has these two terms as its components. The label shows by having the terminal sign of "AB," in the ANTITHESIS FIG field as described in Rule 6, that both terms of the Antithesis figure are being signified.

In the lexia itself, the narrator manages to "mingle" the two terms, "A" and "B", to make them one. In the classic Antithesis rhetorical figure, this is a transgression of the wall that holds the two terms apart. The word "mingling" in the DESCRIPTIVE TERM is then used to signify that in fact the Antithesis signifier in the lexia signifies a transgression of the barrier via a mingling of the two terms. The NOTE field following the DESCRIPTIVE TERM clarifies this further.

The Barthesian Labeling Language: An Example Application

In this section an example application of the Barthesian labeling language will be worked out using Lexia 259

70 Ibid., 49.
generated from William Faulkner's "The Bear." This lexia was produced using Xebra as part of the evaluation of the combined Barthesian/Xebran system. At this point, the goal is to show how a user of the language might decide what signifiers need labeling and how those signifiers can be labeled using the Barthesian labeling language. Table 4 contains the lexia as it was generated via Xebra, followed by its associated labels as constructed for the evaluation of the system as performed for this dissertation.
TABLE 4
SIGNIFIER LABELING SAMPLE

259 "What?" he cried. "What? I'm not going." "Yes," McCaslin said, "we're going out tonight. Major wants to get on back home." "No!" he said. "I'm going to stay." "You've got to be back in school Monday. You've already missed a week more than I intended. It will take you from now until Monday to catch up. Sam's all right. You heard Doctor Crawford. I'm going to leave Boon and Tennie's Jim both to stay with him until he feels like getting up." He was panting. The others had come in.

<table>
<thead>
<tr>
<th>ACT</th>
<th>To Go Back</th>
<th>11</th>
<th>To refuse to go back, against the orders of your leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>HER</td>
<td>Enigma 8</td>
<td>Snare</td>
<td>Sam isn't all right</td>
</tr>
<tr>
<td>SEM</td>
<td>Blindness</td>
<td></td>
<td>They are all blind to Sam's future, except Isaac</td>
</tr>
<tr>
<td>SYM</td>
<td>Endings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYM</td>
<td>Antithesis</td>
<td>AB (Ideal/Non-Ideal Nature)</td>
<td>Uplift, Preservation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Isaac is to attempt the uplift, preservation of the dialectic for the Ideal--Boon, McCaslin attempt to halt it</td>
</tr>
</tbody>
</table>

*Ibid., 248
Lexia 259, above, is labeled with four of the five label types, with only REF missing. The first such label is an ACT label. When reading the lexia, it is clear that Ike is in the midst of refusing to go back to town, because, as the reader knows from earlier lexias, he wants to stay in the woods in order to witness the death of Sam Fathers. This is a death that he is certain will occur, as previous lexias have revealed, and which does occur, as subsequent lexias will show. Because this action fragment is but one in a series, it is labeled in the first DESCRIBVE_TERM field as a member of the "To Go Back" series.

There have been other times in the text when the action "To Go Back" has been cited, ten times, to be exact, as can be seen from the NUMBER field in the ACT label. Barthes is not completely clear in his practice of the numbering of action sequences. Sometimes, as in his "To Narrate" action sequence, he numbers all "To Narrate" fragments as part of one continuous action sequence, though in the text of Sarrasine one could be justified in finding several subsequences that are more related to each other than to other "To Narrate" fragments. Other times, as in his three sequences, Door I, Door II, and Door III, he breaks a sequence of the same sort of action into three components.71 In the evaluation of the Barthesian/Xebran system done for this dissertation, the former practice of numbering

71Ibid., 255-257.
continuously, without sub-sequences, was the chosen practice. Thus other "To Go Back" action fragments do not necessarily apply to Ike's refusal to go back to town at this point in text, which would have been a sub-sequence had the other method been used.

The specific action taking place in this fragment of the "To Go Back" action sequence is Ike's refusal to do so, despite orders to the contrary. Thus, the second DESCRIPTIVE TERM contains a reference to that effect.

McCaslin attempts to assure Ike that his return to town is a reasonable action, that Sam will be all right, so there is no need for Ike to stay. This attempt on McCaslin's part is two signifiers at once. First, it is a HER signifier, proceeding towards the goal of catching the reader in the "snare" of believing that maybe Ike is wrong, that indeed Sam is going to live. Second it is a SEM signifier, citing the "Blindness" of all the adult participants to the true nature of Sam's sickness. Characters in "The Bear" are continuously falling prey to this weakness of being able to see through to the truth, and the SEM "Blindness" serves to mark each instance of this problem.

In the SYM label arena, two symbols are found to be actively signified in this lexia. First, the symbol "Endings" is cited, and second the symbol of Antithesis, with its A Term of Ideal Nature, represented in Ike and Sam Fathers, and its B Term in McCaslin and Boon. Endings are
seen to be wrenching, demanding affairs, that require the participants to act out their roles--Ike must participate in the coming death of Sam Fathers.

Concurrently, Ike's struggle to take up his role with regard to Sam is symbolic of the whole struggle between Ideal Nature and Non-Ideal Nature. In this lexia he is attempting to stay behind to aid in the action of canceling, uplifting, and preserving of the two terms via the deaths of Old Ben, Sam Fathers and Lion: the Holy Spirit, God, and Christ vis-a-vis Ideal Nature, respectively.

It should be clear from the above discussion, that most of the labels could not have been generated without the labeler having read and analyzed all the other lexias in the text for their constituent signifiers. For instance, one needed to realize that an enigma concerning Sam's fate was underway in order to code the HER label. Further, one needed to know that McCaslin was wrong in his diagnosis of Sam's state in order to see that the SEM "Blindness" was cited in the lexia. Still more clearly, one needed to know that throughout "The Bear" there is a struggle of two antithetical terms being played out, of Ideal and Non-Ideal Nature, before the SYM of Antithesis could be attached to this lexia. Even the ACT label could only be fully formed with the knowledge of other such "To Go Back" fragments if the numbering within the sequence was to be correct. Only the SYM for "Endings" depended on no other knowledge of the
text of "The Bear" itself, and even it should not necessarily be attached if this is a unique, non-recurring symbol in the text.

Applying Barthes' labeling language to a series of lexias is an exercise in continual reading and rereading and noting and renoting of recurring signifiers and signifieds. It involves the labeler in a ever-deepening process of applying terms, re-thinking terms, re-structuring terms, until finally one has exhausted the possibilities. This aspect of the Barthesian reading system, that is the types and degree of effort required will be explored in greater detail in this and later chapters.

The Barthesian Labeling Language: A Closing Summary

The Barthesian labeling language has one purpose in the Barthesian reading system: noting signifiers in the text being read using his five codes. This noting of signifiers is the primary substance of that process identified earlier as the "Signifier Labeling" process. Before any signifier can be labeled it must be identified. Yet this is a "chicken and egg" type of situation. As stated earlier, Barthes notes that, in order to "fold" an action sequence back into its "name," that is, its label, it is first necessary to "unfold" it, then work back to a common umbrella term that manages to encompass the spirit of the
action as a whole. To do this requires naming each fragment, but in order to do that properly, the name of the whole is useful. Thus, the process of identifying and labeling the signifiers can be a highly recursive procedure.

In terms of the language itself, it is clear from Barthes’ practice in S/Z that he was not absolutely concerned with consistency within the language in terms of its grammatical structure. He often used whatever form seemed most convenient to him for any given signifier.

However, he often took care to make certain that labels that might later need to be collated together across lexias, especially the ACT and HER and SYM Antithesis labels, could be easily brought together by any subsequent user of his data stream for that text. Thus, the primary goal of producing a useable set of data points to be used by future interpreters of the text determined his labeling practice.

Those few exceptions where Barthes did not follow the general form of particular label types (and there were several such for each type) can be thought of as outliers in the statistical population represented in S/Z. Any future user of Barthes’ system, whether manually or via a computer-based tool, such as Xebra, should avoid such ambiguities, since they can cause confusion in what is already a complex undertaking. It was the design goal for Xebra, in fact, to make such usage errors difficult to execute.

72Ibid., 82-83.
As noted earlier, re-reading is not specifically a Barthesian act when reading for the facts of the text. What is important, however, in the Barthesian context, is that rereading is involved in every step of a reading as Barthes prescribes it. To review, the four acts of a Barthesian reading are:

1. Text Restructuring
2. Text Rereading
3. Signifier Identifying
4. Signifier Labeling

In order to restructure a text, that is, make lexias, the Barthesian reader must reread the text, iteratively, looking for and identifying signifiers, because the space of a lexia is defined by the number of signifiers it contains, ranging from one to four. In order to label the signifiers, the reader must again reread the text, looking for clues as to what would constitute reasonable names for the signifiers. Then, in order to put all of this together, the Barthesian reader must, at least one more time, reread the text in order to produce a final laying out of the lexias and their accompanying labels.

Barthes views that act of reading a text as necessarily consonant with rereading:

rereading is here suggested from the outset, for it alone saves the text from repetition (those who fail to reread are obliged to read the same story everywhere), multiplies it in its variety and plurality.
draws the text out of its internal chronology ("this happens before or after that") and recaptures a mythic time (without before or after); it contests the claim which would have us believe that the first reading is a primary, naive, phenomenal reading which we will only, afterwards, have to "explicate," to intellectualize (as if there were a beginning of reading, as if everything were not already read: there is no first reading, . . . . Rereading is no longer consumption, but play (that play which is the return of the different). If then, a deliberate contradiction in terms, we immediately reread the text, it is in order to obtain, . . . , not the real text, but a plural text: the same and the new.73

Rereading is the first act, the middle act (repeated many times), and the final act of a Barthesian reading. Indeed, it is, in a Barthesian sense, the only act.

This act of rereading is both the strength and weakness of the Barthesian reading system. Only through good reading can fact gathering be done well: a Barthesian reading requires a great deal of reading, in a structured manner. From a fact gathering view, this rereading helps to ensure the accuracy and completeness of the rereading process. From Barthes' view, it is the necessary and sufficient act for appreciating the plural of the text. On the other hand, the requirement of performing so much rereading can be difficult to fulfill, or as Barthes says: "to read, in fact, is a labor of language."74

The rest of CHAPTER II focuses on this and other problems of the system, having in the first half described, first in theory, then in practice, what the system is and

73Ibid., 16.
74Ibid., 11.
how it is applied.

The Barthesian System: Its Problematic Attributes

The Barthesian system is problematic in two areas: in its theory and in its practice. In CHAPTER I, the discussion of the problematic aspects of the system was general and abstract. At this time, the goal is to enter more deeply into the what and how of those problems in terms of their existence and functioning within the Barthesian reading system.

However, not all the problems referred to in CHAPTER I are addressed. As stated in CHAPTER I, the theoretical problems that are based in rationalistic objections to empirical solutions, such as those found in the Barthesian system, were only noted at that time, and are not to be addressed any further, as this is an empirical study of an empirical system. The theoretical aspects of the system that are troubling from an empirical view, however, will be addressed in the following discussion.

The major premise of this dissertation, as stated in CHAPTER I, is that problems of an empirical nature within the Barthesian system can be productively dealt with by the use of a computer-aided version of the system. CHAPTER III gives a complete view of Xebra, the computer-based Barthesian tool that is the result of implementing this premise. However, at this point, the discussion is focused on the particular qualities of the problems in the
Barthesian reading system that are to be addressed within the Xebran framework and not on the Xebra-based solutions.

The Barthesian System: Its Problematic Theory

There are three kinds of problems with the Barthesian system that have a problematic basis, both in theory and in practice. These are: precision, consistency, and completeness. From a theory perspective, one needs to understand how one should approach a Barthesian reading in terms of these three attributes. From a practice perspective, one needs to know whether the Barthesian system is, in fact, sufficiently precise, consistent, and complete in and of itself in order to actually do what the system is intended to aid a reader in doing. Finally, in addition to these problems, there is another separate area of concern, that, while not particularly troublesome in practice, can nevertheless trouble a theorist. This is the issue of parts and wholes: how should one view the relationship(s) of one to the other? What follows is a discussion of these issues.

Barthes In Theory: Precision, Consistency, Completeness

Barthes was silent regarding the need for precision and consistency during the production of a Barthesian reading. One can only infer his view from his practice. From it, one sees that he was concerned with both. He displayed a strong precision and consistency in his work, first, in terms of label content, particularly in the descriptive terms used,
and second, in the signifiers chosen and labeled.

As for completeness, Barthes addressed this issue in the section, "V. READING, FORGETTING" in _S/Z_, wherein he celebrates the practice of forgetting what one reads. He appears certain that forgetting and reading are inevitably, inextricably intertwined, saying "... it is precisely because I forget that I read." It is the finding of meanings, the act of nominating the meanings, then letting them go, that comprises the act of reading for Barthes.

Why is this so? The answer lies in the Barthesian question, "What is the *sum* of the text?"

Certainly, for Barthes, it is not the meanings found and named in reading. This handling of a text is merely "a nomination in the course of becoming, a tireless approximation, a metonymic labor." It is a labor that has no end, can have no end, for to end it would "reconstitute a singular, theological meaning," which Barthes denies as possible. Instead, there is "an irresponsibility of the text" constituted in a plurality of meanings. A singular,
theological meaning does not admit irresponsibility, incompleteness in the chains of meaning nominated.

Finally, for Barthes, there is "no sum of the text," no completed, denominated, denoted system of meaning for the text that is, at the last, capable of being summed or totaled, and thus made representative of the whole of the text. Reading is not a matter of accounting, of receivables and payables balanced and checked, one against the other, resulting, in the end, in a single number, or even multiple numbers, that somehow sum up the text. Thus, there is no responsibility of the Barthesian reader to not forget any meaning that might be identified, noted in the course of reading the text.

However, things are not really that simple. Barthes goes on to say in the next section, "VI. STEP BY STEP," that his goal is to study individual texts "down to the last detail." To do this, he wants to proceed in a step-wise fashion, unfolding the text's meanings gradually, "abandoning no site of the signifier without endeavoring to ascertain the code or codes that of which this site is perhaps the starting point (or the goal)." Detailed analysis, taken step by step, with no abandoning of

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82Ibid., 11.
83Ibid., 11-13.
84Ibid., 12.
85Ibid., 12.
signifier sites, implies strongly a necessity, not only for precision and consistency, which Barthes' practice indicates he is interested in, but completeness as well. Otherwise the goal he states in the "STEP BY STEP" section would appear to be rendered unreachable.

But are Barthes' two insights, that forgetting is inevitable and necessary, but so is complete analysis, incompatible? Not necessarily, if one agrees with Barthes that regression down the chain of meanings is infinite, and that the goal is "that play which is the return of the different," which is only attained by going as far down as one can through rereading, while not worrying about that bit of the text that gets away from one during the chase.

The truth is, that as one reads S/Z, the impression is strong that Barthes, in fact, missed no signifier, no codes or threads replete with meaning within the text of Sarrasine. The power and scope of his mind is evident, and can certainly lead one to believe that only a mind of his genius could possibly be successful in such an endeavor as that which he undertook with Sarrasine. The sheer amount of textual details that had to be preserved in an orderly fashion, always accessible, ready to be put to work, is certainly sufficient to tax any competent reader.

But such a reaction, which assumes only genius can perform the work, would not be a true Barthesian vision.

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86Ibid., 16.
Certainly, a Barthesian reading requires a much effort. However, one should not ignore the Barthesian principle: "it is precisely because I forget that I read." Everyone forgets, so everyone must read, and reread, in order to understand the meanings of the texts before them. Anyone who can read, in the ordinary sense, can perform a Barthesian reading. Only the level of the performance, as experienced and judged by others, truly differs from performance to performance and performer to performer. This difference is largely relates to how much the effort involved interfered with the production of the reading.

The goal of any tool based on the Barthesian system should be to lower the required effort in order to raise the performance level. Thus, the function of a computer-based tool like Xebra is to make the Barthesian reading act productively accessible to any who would perform it. What follows, then, is a catalog of the types of aid a computer-based Barthesian system, such as Xebra, could render a prospective user of the Barthesian methodology.

The Barthesian System: Sufficient To Its Purpose?

Whether Barthes' system is indeed precise, consistent, and complete enough to be used for its intended purpose is a matter of theory regarding practice. If it is not, in any or all of these three, than it will fail when applied, at

87Ibid., 11.
least in some, if not all, cases. The problem comes in attempting to determine the answer to this question of sufficiency. It would appear that abstract thought alone cannot aid in solving this particular problem. Quite possibly, only empirical testing will reveal the facts of the matter. However, one can determine the boundaries of the problem and possible empirical solutions by exploring the question in the abstract, theoretically.

If the syntax used in the five categories of labels (ACT, HER, REF, SEM, and SYM) is insufficiently precise for capturing all that is in the text in terms of the workings of signifiers, this would necessitate a need to expand the label syntax in terms of depth of descriptive capability. Adding more qualifier capability would be the most likely step to take in that regard.

If the syntax is internally too inconsistent, with too many exceptions, then there exists a possibility of semantic ambiguity for the labels. The solution, in this instance, would be to attempt to eliminate the inconsistencies. This would probably entail a simplification of syntax in some instances, but, in many cases, would actually involve a deepening and widening of the syntax. This could, of course, lead to its own problems, since the more complex the syntax, the more difficult it would be to apply usefully.

Finally, if the five categories are themselves insufficient for capturing all signifiers, that is, if there
are signifiers that it would be inappropriate to label as any of the five, than the system's typology is incomplete. Correcting this would entail adding categories to the system. As it stands, Barthes' system appears to have been designed to handle prose texts. If one were to attempt to apply it to poetic or dramatic texts, the possibility of a need for expansion becomes quite real.

In summary, Barthes' system may be insufficiently formed for its intended purpose or possible future purposes. This implies that any system or tool that is meant to act as an aid in applying the Barthesian reading methodology must be able to handle the expansion, modification, and contraction of the syntax and vocabulary of the labeling language.

Barthes In Theory: Wholes and Parts

Roland Barthes certainly was not silent on the issue of wholes and parts from a theory perspective. Barthes opens the discussion of parts and wholes by asserting that, in terms of his ideal text, the plural, writerly text, "nothing exists outside the text, there is never a whole of the text." From this assertion, he says that it follows "for the plural text, there cannot be a narrative structure, a grammar, or a logic," and that such only exist "in proportion . . . as we are dealing with incompletely plural

88Ibid., 6.

89Ibid., 6.
texts."\textsuperscript{90} All of which leads to Barthes concluding that the meaning of a text is never a singular, always a plural, except, of course, the truly univocal text.

Barthes keeps coming back to this theme of no totality of text because of the plurality meaning. For instance, in the section on forgetting meanings, discussed above, when he asks "forgetting in relation to what? What is the sum of the text?",\textsuperscript{91} he is in the midst of asserting that "for the plural text, forgetting a meaning cannot . . . be seen as a fault."\textsuperscript{92} In other words, since "the systems of meaning can take over this absolutely plural text; but their number is never closed, based as it is on the infinity of language,"\textsuperscript{93} one less meaning or two in a catalog of meanings for a text will not be of significance. All of which, stated differently, means that in terms of parts and wholes, a text, having no whole, no totality, no sum, has no determinable number of meanings, that is, of parts.

In practice, a Barthesian reading returns a finite, determinable number of meanings, signifiers, and thus, a boundable number of meanings of a text. This is because no text is, or has ever been, Barthes' ideal text: infinitely plural, writerly. They are all, or at least mostly all,
incompletely plural texts, that is, readerly texts. If Barthes is correct that an infinite number of meanings, of parts that cannot be summed to a totality should be possible for a text, one still must conclude, in the empirical world, that such a sum of a text, indicating its totality, is the norm, rather than the exception. Instead, a writerly text would be that exception, for as Barthes, himself, has indicated, "the writerly text is not a thing, we would have a hard time finding it in the bookstore." 94

In summary, empirically, there are wholes and parts to those texts which "make up the enormous mass of our literature." 95 If, theoretically, there are not wholes that can be founded by adding up parts, at least, for the Barthesian ideal text, the writerly text, which "we would have a hard time finding . . . in the bookstore," 96 it makes no difference. The readerly texts are the ones that we must deal with in the world of experience, and these are not infinite in their meanings or their parts, so they have a sum of parts equal to a whole, at least in some sense.

The Barthesian System: Its Problematic Practices

As noted in CHAPTER I, there are two kinds of practice-based problems in performing a Barthesian reading: amount

94Ibid., 5.
95Ibid., 4.
96Ibid., 5.
of effort and difficulty of effort. The amount of effort is a problem for two reasons. First, there can be so much effort involved that one might never do it. This results in lost opportunities afforded by the Barthesian system for doing interesting and useful work with texts prior to the act of interpretation. Second, the amount of effort involved directly effects the difficulty of doing a Barthesian reading. These difficulties, which constitute the second kind of practice-based problems, are related to the precision, consistency, and completeness with which the coding of signifiers can be done especially given the large manual effort involved for any but the smallest of texts.

The next several sub-sections discuss and explore each of these problematic areas in turn, after a review of the record of Barthes' own trace in S/Z on these subjects.

Barthesian System Practice Problematic: Barthes' View

Barthes' own practice in applying his system in S/Z to the Balzac story, Sarrasine, reveals two items concerning the system's problematic performance. First, Barthes was quite capable of applying the system despite the amount of effort required. Second, while he was not overtly concerned, from a theoretical view, with the difficulties of, or even the necessity of achieving precision, consistency, and completeness, his practice shows something very interesting. He apparently believed that in the arena of doing, as opposed to theorizing one must, in fact,
overcome these difficulties and produce or achieve a reading that is as precise, consistent, and complete as feasible. He, himself, was most certainly precise, consistent, and complete in his working through the text of Sarrasine.

While there were occasional inconsistencies (in terms of syntax usage of his labeling language), there appear to be no lapses (in terms of making certain that each label was consistent with all labels like it in the reading). Further, Barthes' choice of descriptive terms appears to have been consistent and precise. Where the descriptive terms were not sufficient (in terms of precision in his judgement), he made liberal use of the notes facility. The very inclusion of this facility in the language is an indication that Barthes recognized the need for being precise, as well as complete, in one's practice.

In summary, while Barthes was apparently in conflict with himself on the issues of precision, consistency, and completeness, his practice appears to support the necessity of paying close attention to all three. This being true, it becomes the function of any Barthesian reader's tool to help overcome the difficulties inherent in achieving a sufficient degree of precision, consistency, and completeness.

Barthesian System Practice Problematic: The Effort

The effort required to produce a Barthesian reading is dependent upon two variables: size of text (as measured by number of words) and complexity of semantic relationships
(as measured by number of interrelationships among signifiers). Size is a readily computed value for any text, while semantic complexity can only reliably be computed by applying a system that counts the number of signifiers or their meanings, and the interconnections among them all.

That is, one needs to do a Barthesian reading in order to compute a text's semantic complexity. In actual practice the size of a text in words gives a rough notion of the semantic complexity, since the two, generally speaking, are directly proportional to each other. So the measurement of the effort to perform a Barthesian reading rests, at the last, on text size. A look at Barthes' "tutor signifier," as he refers to Sarrasine,\(^{97}\) and his reading of it can be revealing concerning the amount of effort that can be expended in a Barthesian reading.

The English-language version of Sarrasine runs to only 14,000 words. Yet Barthes' reading of it runs close to 50,000 words, not counting the sections where he largely is concerned with the theory of his system. Of those 50,000 words, 14,000 are the words of Sarrasine, since a Barthesian reading entails embedding the text itself in the reading. This leaves approximately 36,000 words that Roland Barthes produced in his labeling effort, or roughly two-and-a-half times as many words as Sarrasine's author managed. If these numbers can be reliably extrapolated, this would mean

\(^{97}\)Ibid., 13.
that a novel of 100,000 words would necessitate the critic producing 250,000 words of labeling to accompany the text. This is, indisputably, a great deal of effort.

One way to compute the semantic complexity of *Sarrasine* would be to note the number of labels Barthes created for the 561 lexias and the number of connections across the lexias that the labels make. Taking the data in Table 1, above, one finds that Barthes generated 861 separate labels, and 268 unique labels. Thus, on average, each label connects three lexias together. This necessitates a reader having to carry, on average, a memory of three different sites in the text for each of the unique labels, and the number can get a great deal larger. The longest sequence of lexias connected by one unique label was 84. Thus, a reader would have to keep 84 different sites of the text in memory in order to fully comprehend the signifier trace represented by that sequence, which, in this case, was the answering of one the six hermeneutics raised in the text.

Unfortunately, one cannot simply extrapolate this complexity number of three sites per label for *Sarrasine* to a generic 100,000 word text. The number of lexias and labels, total and unique, is a function of each text. It is generally safe to assume, however, that the complexity goes up as the number of words goes up, if, for no other reason, the fact that the more words there are, the more opportunity an author has to connect, either intentionally or otherwise,
one text site to another.

No matter how one computes the size or the complexity variables, it is clear that the effort involved in Barthes' reading of *Sarrasine*, was not trivial. Neither, as will be shown in CHAPTER V, is the effort necessary to do such a reading on William Faulkner's story, "The Bear," which is 50,000 words long. Given that the effort is non-trivial, it is clear that any would-be user of the Barthesian system is likely to think twice before attempting the task. It is not every critic that wants to produce two-and-a-half times as much text as the original just to document the text's "facts" which, only later, feed into an actual act of interpretation and a critical reading. Roland Barthes certainly did not balk at the task, but others have and will. Which is why the focus of this dissertation is on an empirically sound solution to the problems of practice involved in his system.

A computer-based tool has the clear advantage over a manual approach to the Barthesian system in terms of effort necessary to the act of using it. The great value of computers is in their ability to seemingly do effortlessly those tasks which are largely repetitious and which require a great deal of data manipulation and storage. From the numbers given above, it is clear that a Barthesian reading qualifies on all counts: 1) the necessary rereading and searching for signifiers, for descriptive terms and for
labels can all be supported by a computer; 2) the lexias and their labels can be easily stored in a computer; and 3) the searching and rereading of both can be supported in an efficient, accurate, and reliable manner.

Any computer-based Barthesian tool will bring these functions to the act of a Barthesian reading that should help in lessening the impulse to not apply the system in the first place. These functions will also help alleviate the problems of application difficulty, as the following sections will discuss.

Barthesian System Practice Problematic: On Completeness

Concerning Barthesian system completeness, the issue is whether, from a practice perspective, can one rely on the production of the facts of a text via a Barthesian reading. It is a matter of sufficiency, of course. For when are there meanings enough in the reader's net?

Barthes, as previously noted, at least on a theoretical basis, was not concerned with how complete his own reading of a text might be. However, what one could be reasonably concerned with, is a bounding of the number of meanings in a particular context. That is, a reader might legitimately be interested in being assured that all the meanings of interest to a particular critical method or methods have been, indeed, discovered and appropriately labeled. It is a matter of what subsequent model of literary criticism is to be applied during the act of interpretation, for which the
Barthesian reading is meant to supply "the semantic substance." A strong feminist reading will depend on a "semantic substance" that is not deficient regarding gender related signifiers, for instance. So completeness cannot be ignored from an empirical point of view.

There are two issues regarding Barthesian completeness from a practice perspective. First, does Barthes' typology of signifiers cover all of the genus? Are there more than his five voices, and their five signs (ACT, HER, REF, SEM, and SYM)? Second, does his restructuring process, accomplished through rereading, assure that a prospective Barthesian reader can truly be in possession of "the best possible space in which . . . [one] can observe meanings?"

As shown previously, these are related questions, because one has to be able to identify signifiers in order to create the lexias, which is done through rereading. Further, if there are more than Barthes' five signifier types, than one needs to be able to have a definition for each new kind that allows for recognition of actual instantiations of the species.

From an empirical perspective, a computer-based system can certainly be supportive regarding the addition, deletion, and modification of Barthesian-style label formats. In point of fact, the system could even be so

98Ibid., 14.

99Ibid., 13.
flexible as to allow the reader to create a coding schema totally disjointed from the Barthesian. The former capability, of changing the Barthesian schema through additions, deletions, and modifications, is necessary for addressing any incompleteness in the signifier typology. The latter capability, however, of allowing the use of a completely different schema, is obviously not necessary to any tool devoted to the Barthesian approach, desirable though it may be in the greater scheme of computer-based literary critical practice. As will be discussed in CHAPTER III, alternative coding schema do exist, and could, conceivably, be of interest.

The second aspect of the completeness issue turns, finally, on the likelihood of a given set of labeled lexia's signifiers being completely coded. Barthes, as discussed above, is not concerned about this point; in fact, he is certain that it is not possible to achieve such completeness. Given the nature of language with its infinite capacity to express meaning, Barthes is quite likely correct. However, there are ways to lessen the number of possible missed meanings, ways that are feasible manually, but these ways are enhanced considerably when used in conjunction with computer-based tools.

For instance, if a Barthesian reader used a systematic technique to generate Descriptive_Terms as signs of the signifiers, such as that developed for taking surveys where
responses are given in a free-form manner, the possibility of generating all reasonable terms that are pertinent to a given lexia will be high.

This technique involves an iterative process wherein the reader of a text would come up with a set of candidate descriptive terms and then classify these into subsets, each of which can be given an umbrella descriptive term as a name, much as is done in thesaurus construction. As reading continued, any new terms that occurred to the reader would either be added to these subsets, or a new one would be created with a new umbrella name, if necessary. This allows for a systematic range of terms and subsets of terms to be generated. A computer-based reading tool, Barthesian or otherwise, could certainly support such a process, and, given the problem of completeness, should.

In summary, then, the two primary problem areas of completeness in practical terms for a Barthesian reading are addressable. The labeling language can be extended and the descriptive term generation can be done systematically for the signifiers in each lexia. While both of these are possible to do manually, using a computer to relieve much of the effort is not only possible, it would be quite useful in terms of reducing the effort in completing a reading.

Barthesian System Practice Problematic: On Precision

Precision goes hand-in-hand with the problem of completeness. Without precise descriptive terms for the
signifiers, nuances of meaning will be lost, thus, incompleteness enters into the reading. A computer-based system could aid the reader in choosing precise terms. The primary means for doing this would be through the provision of interactive access to thesaurus, dictionary, and encyclopedia tools, against which the signifiers could be compared. While the use of print versions of a thesaurus, dictionary, and an encyclopedia would certainly accomplish a great deal, computer-based versions allow for more efficient, more complete searching of the data for matches to the original signifier.

When examining Barthes' example reading in S/Z on Sarrasine, one can see that, besides choosing good descriptive terms, Barthes felt constrained to often give more detailed information in his Notes. This should be taken as a sign that perfection in this area of precision is not going to come easily, if at all. Arriving somewhere near the target is probably the best that can be done. The instability of meaning is the source of this troublesome fact, while ironically enough it is the very foundation for the method that it ultimately blocks from conquering.

In summary, determining precise descriptive terms relative to the signifiers that they are meant to describe is, like completeness, not perfectly possible, at least not ultimately. However, with certain aids, such as thesauri, dictionaries, and encyclopedia, particularly in computer-
based versions, one can at least reasonably aim at being as precise as is technically possible.

Barthesian System Practice Problematic: On Consistency

Consistency of application of the method is a problem at all levels of the process. However, the primary concern is that the same signifiers are recognized as such and are tagged the same no matter where they are in the text. A computer-based tool can be of help through automating methods, that, while capable of being manually executed, are more easily executed using a computer.

In a manual-based Barthesian reading, the reader could keep a list of all the descriptive terms used and all the lexias with which they were used. When determining applicable descriptive terms for the signifiers in a lexia, the reader would then peruse the list of terms, compare the terms to the signifiers they had used to label in previous lexias, and determine if any were applicable to the current signifier in the current lexia. This could be very tedious work, and prone to error due to that very tediousness.

A computer-based Barthesian reading tool could automate the searching of the descriptive term list and the comparison to the signifiers in the lexia. Both the signifiers and their associated descriptive terms could be kept in such a way as to make the search and compare procedure simple, straight forward, and reliably accurate. This would relieve the tediousness to a large degree, thus
lowering the risk of inconsistency through errors introduced through the level of effort required in the manual system.

In summary, consistency of application of the system is largely a matter of paying attention to details. With a computer to help keep track of those details, and automating the process of searching through the text and the related descriptive terms for the embedded signifiers, one has a better opportunity to successfully keep one's attention focused where it needs to be. Ultimately, a computer cannot do the work; but it can make the work less difficult. The next section will discuss why this is true for the Barthesian system as a whole.

The Barthesian System: Addressing Its Problems

A tool designed to support a Barthesian reading should either eliminate or greatly alleviate the empirical-based problems of the Barthesian system that were discussed in the previous section. This section will focus on the functions and qualities that such a tool should have, particularly, if it is a computer-based tool. Theory-based problems will be addressed first, followed by those of practice. However, these two kinds of problems are interdependent, and where necessary, their interrelationships will be foregrounded.

Addressing Barthesian System Problematics: Its Theory

If extensions or refinements to the Barthesian system are necessary, or just desired, by a reader using a
Barthesian reading tool, the tool should be sufficiently flexible to accommodate such changes. The problem for the tool designer is in anticipating the types of extensions and refinements that are likely. Clearly, the four areas that have been identified above as problematic, from a theory-based perspective, have a high probability for receiving such attention. But what form such changes might take is a serious question for the tool designer.

Extensions and refinements that address the precision, consistency, and completeness of the system will, with high probability, center on adding to, subtracting from, and modifying the vocabulary and the grammar of the system, as Barthes originated them. A tool that only allowed the reader to work within the confines of the original grammar and vocabulary is clearly insufficient. A tool that allowed certain kinds of changes, such as adding to, subtracting from, and modifying either one or the other would be more useful, but, unfortunately, it would still be insufficient.

It is possible for a computer-based tool to support vocabulary and grammar extensions, but the designer must build the flexibility into the tool from the beginning. Computer programs can be, and often are, written very specifically to a set of detailed requirements. For attributes like the grammar and vocabulary of the Barthesian system, this means that they would, quite likely, be fixed in the program as they existed at the time that the computer
code was written, or, as computer programmers say, these elements would be \textit{hardcoded} into the program. This is because it is simplest to do so.

Programmers taking this route are the philosophical equivalent of those philologists of Barthes' who would declare all texts to be univocal.\textsuperscript{100} The tool designer, however, must take the more Barthesian approach to the writing of texts and allow for a plurality of meanings, of operations of the code in order to allow the vocabulary and grammar that the tool uses to undergo additions, deletions, and modifications.

The other area of theoretical concern, Barthes' view of the relationship of wholes to parts, is not something that a tool needs to address. If a reader pursues a Barthesian reading, whether using a tool or performing manually in the Roland Barthes' tradition, by definition, such a reader has accepted, at least tentatively, the Barthesian philosophy on this matter: readerly texts have wholes and parts, even if the limit-text, the writerly, does not. Such a reader is being very empirical; if the system works in a specific instance, then that is what matters. Whether it works for all texts across all times, or whether there are fully plural texts which have no totality, no sum of parts that equal a whole, does not matter to such a reader and the tool need not take the problem into account.

\textsuperscript{100}Ibid., 7.
Addressing Barthesian System Problematics: Its Practice

Using a computer-based tool for supporting Barthesian readings is, currently, the optimal approach to performing such readings. As discussed above, there is a great deal of effort, as well as certain kinds of difficulties, involved in applying the Barthesian system manually, without automated support. There are a number of functions a computer-based tool can provide that would make the reader's performance a simpler activity than would, otherwise, be the case using manual means.

Practice Problematics: Level of Effort

In terms of level of effort support, a computer-based tool can easily reduce the problem of handling large amounts of text repetitively, as well as aiding in a productive tracing of the complex relationships of a text's signifiers. The size and complexity of a given text cannot be arbitrarily or systematically reduced without semantic loss. Thus, any computer-based tool must avoid the reduction of textual size and complexity. What such a tool can do is provide functionality to make the actual handling of the text's size and complexity reasonable.

This kind of support could come in several ways in terms of the Barthesian system. One, the text can be restructured automatically, that is, the lexias can be produced by the tool. Two, the restructured text and the accompanying Barthesian labels can be stored in multiple machine-readable
formats for later use. Three, the lexias and labels can be automatically ordered as the reader requires. Four, the lexias and labels can be retrieved for analysis according to the reader’s specification. And five, the statistical and graphic pattern-based relationships among the lexias and labels can be analyzed using sophisticated analysis tools that are very easy to apply in a computer environment.

While the Barthesian definition of the attributes of a lexia is not directly computable, since there is no computable definition of a signifier that would allow a computer program to recognize one, there are possible paradigmatic analogues for signifiers. For example, signifiers generally are composed of noun phrases, so recognition and counting of noun phrases could substitute for actual signifier identification for lexia generating. Alternatively, since signifiers commonly occupy a space defined by major punctuation marks, a lexia generator could count such marks and produce a lexia each time a particular number, defined by the tool user, have been counted. In any case, automatic generation of lexias should relieve a Barthesian reader of a great deal of pre-signifier labeling effort, thus making it a worthwhile function.

The ease with which large amounts of textual data can be converted and stored in useful forms in a computer environment is very important, especially when considering the large number of lexias and associated labels a
Barthesian reading can potentially produce. Keeping these in printed form in a readily accessible format could be very difficult, requiring multiple printed indexes of the lexia labels as access points. Machine-readable text is readily manipulated by currently available computer programs and methods, with little or no effort on the part of the computer user. Thus, a computer-based Barthesian tool can potentially save a reader a great amount of manual effort just in terms of text storage and manipulation.

Directly related to this is the ease with which machine-readable text can be automatically ordered or arranged, as specified. Thus, the lexias and their associated labels can be easily placed in any order necessary for analysis. For example, if the reader, for analysis purposes, wished to order the lexias by number or type of signifiers, this could be quickly done, even if there were several thousand lexias and associated signifiers. Manually, this could be a very time consuming operation.

Taking this idea of looking at the lexias in a particular way a step further, the ability of a computer to retrieve text based on a user’s specification of relationships is very important to any Barthesian tool. For instance, if a reader wished to view only those lexias that had either a SEM label of "Wealth" or a REF label of "Banking Practices" associated with them, machine-readable text can be easily ordered, indexed, searched, and
manipulated to support this need. One reason why this is important, is that this ability would directly support a Barthesian reader's need to control precision, consistency, and completeness of the application of the five codes to the text. In the example given, the reader might be checking to see if the SEM had been used consistently across all lexias that dealt with banks. To do the same operation manually, especially on a text divided in a great number of lexias and having an equally large number of associated labels, such a performance could actually be quite problematic as to its success, and, most certainly, would be extremely tedious.

Finally, computer-based data analysis tools can be excellent labor saving aids. By automatically generating a variety of statistics and pattern-based relationships, and displaying these in convenient and productive forms, such as tables and graphs, the manual effort required for similar operations is largely negated. These operations, while not necessarily part of a Barthesian reading per se, are indisputably useful to any later critics, availing themselves of the Barthesian reader's labor, looking for patterns of signifier usage. Certainly, the reader could generate basic statistics and pattern graphs as part of the original reading, if the reader so desired. To do this manually would be a prohibitively expensive effort.

It is not clear that these are operations that Barthes considered doing. However, he did do at least one such
operation in preparing his reading of Sarrasine for S/Z. In an appendix, he displays all of the ACT labels in order: first, by act sequence type ("To Enter", "To Decide," etc.); and second, by order of appearance in the text of a given label in each sequence. When Barthes decided to retrieve, order, and display the ACT label sequences as an appendix to S/Z, while excluding any of the other label types, part of his reasoning was probably predicated on perceived effort required versus perceived value gained. His own explanation was simply that "since actions (or proairetisms) form the main armature of the readerly text,"101 he would place them in a readily accessible form.

A reasonable conclusion would be that he saw the need for later critics to peruse the lists for clues to the text's plot or action structure. He refused "attempting to structure them further"102 than he had already done by associating an ACT label with each lexia that required such. Certainly, if such a retrieving and ordering process was useful on ACT labels, it could also be useful on the others.

The discussion above has focused on how a computer-based Barthesian reading tool can ease the level of effort required to handle the problems related to the large amounts of data associated with a Barthesian reading. However, those same five attributes, as analyzed above regarding

101Ibid., 255.
102Ibid., 255.
level of effort, can also be specified as aids in the easing of the problem of handling the complexity of the data.

Automatic generation of lexias, storing data in machine-readable format, and automated ordering, retrieval, and analysis, all aid the reader in overcoming the complexity of the relationships that exist among the lexias and their signifiers. By allowing the reader to easily order the lexias and associated signifiers, the computer-based tool is significantly reducing the chance of overlooking, or otherwise missing, relationships across lexias. Further, the ability to retrieve only those lexias that match a particular relationship definition reduces the possibility of lost information even more. Finally, the automated generation of statistics and pattern-relationships in the form of tables and graphs using data analysis tools reduces the complexity as far as current technology can manage.

Practice Problematics: Difficulty of Effort

The discussion above focused on how a Barthesian reading tool might ease the level of effort required to perform such a reading. At this point, a refocusing of the lens brings to light the related, but different problem of level of difficulty. The level of effort metric, as defined here, largely affects whether or not someone is even willing to undertake a Barthesian reading. The level of difficulty metric is correlated with the ability of the reader to obtain productive results. Simply put, the former is
related to the amount of sheer labor involved; the latter with the ease of doing the labor well.

These metrics are related in that the complexity of text site relationships, as represented by signifiers, underlies both. They are different in that the sheer amount of text only necessarily effects level of effort, not difficulty. That is, a large text possessing only a few unique, simple, signifiers would be easy to achieve productive results with, while still necessitating a large expenditure of effort. On the other hand, a small text, with many complexily related signifiers, could be very difficult to read usefully, and also require a great amount of actual labor.

A computer-based tool that eases the burden of effort should also lower the level of difficulty, as defined here. This is true because, the tool’s functions which are necessary to making it simple to manipulate the text and associated meta-data as represented by the Barthesian labels also make it simpler to achieve precision, consistency, and completeness. The reasons for this are two-fold.

The first is straight forward and highly empirical. Having eased the manual labor involved in the purely tedious, repetitious operations of storing, ordering, relating, and analyzing, the mind is free to pay attention more closely to the actual effects of the operations, especially, the last three. Once one pays more attention, it becomes easier to make certain that operations are done
precisely, consistently, and completely.

The second reason is that computer-based operations, by definition, are generally given to precision, consistency, and completeness. A well-designed, computer-based Barthesian tool, while performing its functions precisely, consistently, and completely, will encourage the reader to do the same in terms of the intellectual effort. In fact, a well-designed tool will make it hard not to be precise, consistent, and complete in applying the system.

Addressing Barthesian System Problematics: In Sum

In the end, a computer-based Barthesian tool can only do so much of the labor. It can do the simple, but tedious and repetitious, and therefore, distracting labor. It can do these precisely, consistently, and completely, without error, by omission or commission. However, the reader remains responsible for the intellectual effort needed.

For instance, decisions will need to be made in order to identify and label the signifiers. Evaluations will need to be performed and conclusions will need to be drawn regarding the results of any statistical or graphical analysis operations performed by using the Barthesian tool on the text and its associated labels.

Computers and programs do not replace, but only augment, the capability of human intellectual effort. A computer-based Barthesian reading tool cannot be an exception, including, Xebra, the tool developed for this dissertation.
CHAPTER III
A Better Barthesian Tool: Xebra

Xebra In Context: Related Work

Xebra's predecessors include not only Roland Barthes' manual system, but a variety of computer-based systems, as well. Thus, it falls under the generic term: "computer criticism." Initial efforts in computer criticism focused on analyzing numerical attributes of signifiers by using computer-based tools. Later efforts have been more linguistically oriented, attempting to focus computing power not on numbers, but on language itself. Xebra has its place among both the old and the new in this world of computer criticism, containing, as it does, elements of both.

The primary goal of computer criticism is to reduce manual effort, to let the computer do that which it does best (tedious, repetitious operations), thus freeing the mind to do what it does best (think). As noted in CHAPTER I, John B. Smith has cited the Barthesian system as one that could certainly benefit from a computer augmentation.¹

Stated differently, the goal is to push any need for genius up a level, from the mundane task of parsing through

text in order to unearth literary artifacts, to the more interesting and more pertinent one of interpreting the found objects, singly and in relation to each other. Xebra shares fully in this goal of computer criticism, being an attempt to reduce the need to assert intellectual effort on those elements of a Barthesian reading that can be done by a computer, thus allowing the mind its freedom to work on those elements that more closely bring one to one's end goal in reading texts.

Computer Criticism Tools: A Typology

In theory, there are three types of computer criticism tools: those that do text indexing; those that support the numerical or statistical analysis of language elements in texts indexed via the first type; and those that attempt a direct, deep, and full linguistic parsing of texts, incorporating both the first and second kinds. The first are known as low-level, the second as mid-level, and the third as high-level tools. In practice, there are many low-level, some mid-level, and none of the high-level. Xebra is a mid-level tool, with some elements of a high-level.

The low and mid-level systems exist for two simple, interconnected reasons: one, these approaches to computer criticism were the first to be attempted; and two, they are, in fact, the most amendable to known computing techniques. Natural languages present a computationally difficult, and, perhaps impossible, target. Whole texts have been written
on the subject of the complexity of the task.

However, in summary, it can be said that there are mathematical proofs that show that the problem could very well be intractable, that is, non-solvable by any algorithm, known or unknown, in real time on a computer. Regardless of the mathematics of the matter, no one today has solved the problem of parsing natural languages as humans parse them. Instead, all solutions, to date, involve some form of grammar constraint definitions. Certainly, the systems developed or proposed up to this time for attempting computer criticism rely on tightly constrained, formally structured grammars for describing the textual data they can or would process.

Xebra is a mid-level system in that it supports statistical and graphical analysis of the Barthesian system products: the lexias and their associated signifier labels. It contains some elements of a high-level tool in that it supports surface parsing of texts in order to generate the lexias. There is no pretense in the system to true natural language recognition capability regarding the identification of signifiers directly for generating the lexias. Instead, it constrains the problem by using analogs of signifiers, such as noun phrases and text segments delimited by major punctuation marks, that are computationally amendable.

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Computer Criticism Tools: The Low And The High

Low-level computer criticism tools sought to compute information on the words of a text regarding their position in the text, that is, they were indexing tools. High-level tools would seek, if they existed, to fully parse and analyze a text using a particular literary methodology as the systematic approach to the text. The low-level tools were relatively simple to build, based as they were on algorithmically straight-forward numerical computation. High-level tools would, of necessity, have to use natural language processing algorithms that do not currently exist, and might never exist.

An example low-level tool would be the one S. Y. Sedelow developed, referred to as INDEX, in the late 1960's as the basis for early work in computer criticism. INDEX generated, as output, the words of the input text, each with an associated series of numbers, that reported the relative linear position of the word in the text from the beginning, as well as hierarchically, in terms of volume chapter, paragraph, and sentence.³

Xebra uses indexing capability of the kind discussed here only indirectly when it is attempting to generate lexias via noun phrase or punctuation mark counting. In fact, in general, the main value of low-level tools is in

acting as input processors to mid-level tools that can use the index numbers for computing a variety of useful data regarding a given text. In the next sub-section a tool that used Sedelow's INDEX tool directly is discussed.

Computer Criticism Tools: The Mid-Level

Mid-level tools seek to increase the capability of a computer to take on the work of humans in terms of analyzing a text for meaning. The initial efforts in the 1960's and 1970's were generally not meant to be complete, explicit computer-based realizations of any given systematic approach to reading a text in their design or implementation, though they all could be used in support of a variety of such approaches, including to some degree, Roland Barthes'. It is only in the 1980's that effort turned to designing and implementing specific literary theory systems.

The early mid-level systems were essentially ad hoc constructions meant to support any given research approach that the system architect wanted to explore. The first computer-based literary critic's tools were equivalent to the carpenters tools such as hammers, saws, nails, etc., sitting in a tool box, waiting to be used for whatever purpose the tool handler might have in mind.

For instance, John B. Smith, noted earlier for his views on the Barthesian system and computers, along with Sally and Walter Sedelow, largely focused on building tools that performed word indexing of texts that included word position
linearly and hierarchically, with subsequent statistical and graphical analysis of the quantities so discovered.

That is, they would count elements, like words, or going up a level of abstraction, images (such as mother images), and then correlate or graph the results of these counts in ways that designed to reveal patterns of use and, thus, the purpose, or, at least, characteristic use within the text of the elements being counted in the text.

Quantification of individual words and the subsequent mathematical analysis of the results have been particularly helpful in studying stylistics when the information garnered is analyzed for characteristic use, as well as for building concordances.4 Going up a level of abstraction from words alone, Smith has shown quantification of the images used in a text, and subsequent mathematical analysis of the results, is useful in interpretive efforts as well.5

Smith's system, Random-Accessible Text Systems (RATS), is an excellent example of a set of tools at the mid-level. In his 1972 article, "RATS: A Middle-Level Text Utility System," he gives a full description of RATS. He also presents, in summary form, INDEX, the system noted earlier,  


developed by S. Y. Sedelow, upon which RATS depends upon for initial processing. In order to illustrate the differences and commonalities between this form of a mid-level tool set and Xebra, a short summary of RATS follows.

Smith refers to RATS as a "Middle-Level" system because it does more than simple word indexing, but less than complete critical analysis parses; that is, RATS gives the reader more than simple text indexing, but does not attempt to do any linguistic-based critical analysis of the text as a critic might do. In that sense, Xebra is a mid-level text utility system as well, for while it does an actual surface parse of the text, based on parts of speech unlike RATS, it still does not attempt to do the critical analysis itself.

Instead, both RATS and Xebra expect critics to use the results of the indexing, in the former case, and parsing in the latter, as input into an analysis phase. Xebra is further differentiated from RATS by its specification and inclusion of particular kinds of analysis tools. RATS assumed critics would build their own tools; Xebra does not.

Xebra is aimed at supporting those species of reading methodologies that: are generally phrase oriented, require some kind of coding or labeling of the text, and require analysis beyond word counts and word positions. RATS was meant to support analysis that was largely word oriented, based on word position and word counts. The meanings of the

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*Smith, "RATS," 277-283.*
words did matter when moving up to levels of abstraction such as image counting, but this type of analysis was a step performed above the level of RATS, whereas it is at the heart of Xebra. The real difference in the systems, however, lies, finally, in a matter of philosophy.

The philosophical basis of RATS is that of any professional who seeks to have a set of tools capable of performing a wide variety of tasks, while that of Xebra is that of a professional who seeks to have particular tools designed to solve specific types of problems in a specific way. Thus, RATS consists of a set of purposely unintegrated, highly flexible tools that can be applied in a variety of ways to solve critical analysis problems, while Xebra contains purposely integrated tools designed for a specific purpose and use under the umbrella of a specific critical methodology for analyzing texts.

Xebra is not the only integrated system that has been either proposed or currently exists. For purposes of placing Xebra in context, three are of interest: one that exists only on paper, and two which have actually been implemented, to one degree or another. The one that exists only on paper is an expert system proposed in the early 1980’s as a test-bed system for reader-oriented critical analysis methods, while the two that have been implemented are mid-to-late 1980s vintage systems. Of the latter two, one is essentially a database system tailored to support
critical models used for dramatic works meant for the stage, with appropriate modifications and refinements made possible with the computer, while the other is a text analysis system that attempts to parse a text for thematic segments based on noun phrases with support for analysis of lexical repetition within context.

The unimplemented system is interesting because it was a proposal that pushed the boundaries of natural language processing systems of its time. In fact, even a decade later, it still pushes those boundaries. As such, it is certainly a system beyond either John Smith's "Mid-Level" tool-box or Xebra's integrated tool set.

Patricia Galloway introduced her system in her article "Narrative Theories as Computational Models: Reader-Oriented Theory and Artificial Intelligence." After giving an overview of current artificial intelligence (AI) models for natural language processing (NLP), she gives a description of how those models relate to Wolfgang Iser's reader-oriented theory of literary analysis which he described in chapters 3, 4, and 5 of his text The Act of Reading.

To begin her description of the proposed system, she stipulates that the top level of Iser's model was not

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8 Ibid., 169.
addressed by then current AI/NLP systems. Nor, is it still, for it would necessitate a semantic analysis focusing on structural clues to implied-authorial intent. This deep of an analysis is still beyond AI/NLP. If it were possible to do semantic analysis at that level, then that which Barthes' lexia-derivation formula requires would be a mere sub-set of the application that could then be used in Xebra.

Having thus dismissed the author-side of Iser's theory as beyond computational models then current, Galloway launches into a description of the reader-side of the theory as it might be implemented via AI/NLP computational models. The system she describes is an expert system that has a knowledge database representing a reader's knowledge of the world combined with two text processing strategies that match structures found in the text with predefined structures in the database to fill in story frames. Frames are a data structure technology invented at the Massachusetts Institute of Technology in the 1970's by Marvin Minsky in an attempt to computationally "read" and "understand" simple newspaper articles. The two Iser strategies, schema-and-correction and theme-and-horizon, are shown by Galloway to be computationally definable as frame-

9Ibid., 171.

10Ibid., 172-173.

filling strategies, and, thus, theoretically implementable.

However, the problem with them from a computational view is twofold. One, nobody has solved the semantic parsing problem sufficiently to find the kinds of patterns necessary for matching against the knowledge base. It had not been solved in 1983 and it has not been solved in 1994. Two, there exists no knowledge base that would be sufficient to help read anything other than the most mundane of newspaper stories. Building such a database is widely recognized as a very substantial undertaking, requiring much time and effort. The result, then, is that Patricia Galloway's system remains unimplemented, and perhaps unimplementable.

On the other hand, there are systems that have been implemented that, like Xebra, are not based on word indexing (such as Smith's RATS), but do not reach for or require the linguistic parsing capability of Patricia Galloway's system. One such system was described by Elaine Nardocchio in her article "Structural Analysis of Drama: Practical and Theoretical Implications." \(^{12}\)

The system, known as the McMaster Project, which Nardocchio describes, is aimed at implementing a specific critical methodology or model. This model is based on two models that were developed for reading drama, one by Etienne

Souriau in 1950, the other by Tadeuz Kowzan in 1968. Both models involve tagging various elements of a play. Souriau's model tags character roles by scene using six tags, while Kowzan's model tags non-verbal aspects of the action and set, as specified in the written text of the play, in the dialogue, or the stage directions, using five tags. Both models are similar to Barthes' model, as they are each focusing on signifiers and their connotations.

The McMaster Project's system, as originally implemented, was a specialized database system that contained the text of the play and the tags. A reader could retrieve through the text, for example, by asking for all tags relevant to a scene, or through the tags by asking for all relevant portions of the play for a given tag or set of tags. A variety of structural analysis methods could then be applied to the results. Initially, the system database supported only the tagging as done by one person, though the goal was to eventually allow multiple tagging databases for each text, which would support comparison and contrasting, perhaps in an automated fashion, of a variety of interpretations of a given text.

From one point of view, the McMaster Project's system is a specialized version of Xebra, since it is oriented around

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13 Ibid., 221.
14 Ibid., 221-222.
15 Ibid., 223.
a tagging-based critical model and uses a database as its centerpiece for computer implementation. The McMaster Project system differs, however, in that the target text must be manually parsed and tagged, while Xebra has provision for computer-based parsing. Also, the McMaster Project's system does not have a specific set of analysis tools integrated with it. Essentially, Xebra could be used to do what the McMaster Project's system can do with a play. An interesting experiment would be to apply Barthes' lexia model to a play text using Xebra's parsing tools. However, this is beyond the scope of the current project.

The third integrated system discussed here, in relation to Xebra, was developed by J. Léon and J. Marandin in France. The goal of this system is to produce systematic readings based on the authors' stated hypotheses and assumptions. In this regard, it is quite similar to the goal that Roland Barthes had in mind as he designed and implemented his own system in S/Z. As will be discussed later, Léon and Marandin were fully aware of Roland Barthes and his reading methodology.

The Léon and Marandin system applies two models to a text. The first is one based on the hypothesis that certain kinds of noun phrases act as headings under which sequences of sentences, after the occurrence of such a noun phrase, represent a thematic portion of a text.\(^{16}\) The second is

\(^{16}\)Ibid., 217-218.
derived from Roland Barthes' work in *S/Z*, where he states that there are clusters of connotative meaning that reference other clusters of such meaning, both in a particular text and between texts. Léon and Marandin have attempted to compute these clusters by measuring the density of use of particular words, that is, signifiers, within a text. Any two or more clusters of text that have a similar density of use for the same signifiers are thus said to be equivalent to Barthes' notion of clusters of connotation.\(^{17}\)

These are both interesting hypotheses, but in terms of Xebra, the first is particularly so. It is similar to one upon which part of Xebra is based. The hypothesis in Xebra is that some number (call it \(X\)) of noun phrases is equivalent to Barthes' semantic unit which he calls a signifier. This hypothesis is derived from both basic knowledge of language, as is Léon and Marandin's, and from examining Barthes' lexias for *S/Z*, which contain one to four such signifiers. In many cases, it is possible to trace, with ease, the signifier Barthes tagged back to its noun phrase, though verbal phrases count as well, since actions are of interest to him. But by counting \(X\) number of noun phrases and cutting the text at that point, verbal phrases are caught as a matter of course.

An interesting point concerning the Léon and Marandin system is that it has been tested against *Sarrasine*, in full

\(^{17}\)Ibid., 220.
knowledge of the work of Roland Barthes in S/Z. One objective in the test was to show that the Léon and Marandin system is more systematic than the Barthesian system. As they say in their article "Sarrasine Revisited: A Perspective in Text-Analysis":

The work which underlies Barthes' reading [of Sarrasine] is implicit, hidden; our procedures are explicit and use hypotheses and assumptions the scope and value of which can be gauged by applying them to other texts. Our reading is done systematically and we show how we read. In fact we put into practice what Barthes only postulates: "There is no other proof of a reading than the quality and endurance of its systematics.".18

This assertion, that Barthes' methodology is only theoretically systematic, appears to be somewhat hastily drawn. The Barthesian approach includes specific and explicit procedures based on assumptions and hypotheses that are testable. Specifically, Barthes' central hypothesis (that the analysis of the pieces of a text which have been produced by sequential, essentially arbitrary cuts, with the only constraint being that each piece contain from one to four atomic semantic units or signifiers can serve as the basis of coherent, carefully annotated critical readings using an over-arching literary reading model) is testable, at least by inductive means.

Which is, in the final analysis, as much as one can say of Léon and Marandin's hypotheses, as well. The problem

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lies, in both cases, in the nature of language, in its tendency towards ambiguity through its infinite capability to mean, thus eluding all concrete attempts to finally pierce a meaning or signifier with a pin and mount it in a specimen box, forever preserved and known.

Finally, regarding the Léon and Marandin system, it is important to note that, like all the systems discussed in this section, including Xebra, it does not actually perform any literary analysis. Instead, like Xebra and RATS, it parses a text in a manner that allows the literary critic to then apply some analytical methodology to the results of the parse. Unlike Xebra, but like RATS, it does not have any analysis tools integrated into it.

Xebra and Computer Criticism Tools: In Summary

The state of computer-based criticism is not, conceptually, much beyond what it was twenty years ago. However, there has been advancement in the underlying technology to the point that a researcher no longer needs to build the individual tools in his tool box, like a RATS tool, nor even a tool like Xebra, which includes advanced parsing capability beyond that which RATS contained, as well as a set of integrated tools for analysis work. What has not, unfortunately, occurred is sufficient advancement to allow true semantic parses which would allow for sophisticated, automated analysis, without, or at least, with limited, human intervention. Instead, computer
criticism is constrained to approximation techniques such as the use of noun phrases as a semantic unit, as is used in Xebra and in the Léon and Marandin system.

Xebra: A Functional Description

The computer-based Barthesian tool developed and used for this research is called Xebra, for Experimental Eclectic Barthesian Reader's Assistant. Xebra is 'Experimental' and 'Eclectic' in the sense that it supports reader supplied classification systems, thus allowing a reader the freedom to experiment with a variety of schemes eclectically. It is 'Barthesian' in two senses. First, it supports, as a subset of its full functionality, the pure Barthesian reading methodology. Second, the system owes its existence to the inspiration of Barthes and S/Z. It is an 'Assistant' in the sense that it provides aid to the reader, but the reader is always in control of the process.

The Xebra Functions: Defined

Xebra contains several functions that are either directly related or analogous to functions that Barthes requires in performing his form of critical reading. To do a straight Barthesian reading, one must:

1. parse a text into lexias;
2. analyze and attach labels to the lexias;
3. analyze lexias that are related in terms of being part of a unique sequence of related labels.
In regard to these three required Barthesian activities, Xebra has the capability to:

1. parse a text into lexias (Xebra supports three distinct parsing methods, that of manual parsing, imitating Barthes directly, and automatic parsing using either punctuation marks or noun phrases as guides for splitting the text, both methods being analogues of Barthes' method);

2. support lexia analysis and the attaching of labels;

3. support the analysis of patterns composed of lexias related in terms of being part of a unique sequence of lexias labeled by a specific label code and descriptive term.

In addition, Xebra also does the following:

1. supports the generation and analysis of patterns composed of lexias related by multiple Barthesian label codes and their descriptive terms in the labels associated with the lexias;

2. allows notes to be attached to individual lexia and to the labels;

3. supports production of quantitative reports on the occurrences of any given code in the labeled lexias;

4. does all of the above using alternative label schemes as defined by the reader.

The first three functions are either direct translations or analogues of Barthes' three prime functions. The next four
are both generalizations and analogues of Barthes' approach.

Support for generating and analyzing patterns consisting of lexias related by multiple label codes and descriptive terms, is a generalization of Barthes' third function. The hypothesis behind this generalization is that there are strands of meaning that will be revealed by generating lexia sets that are defined by multiple label codes and descriptive terms that would not be revealed using the single sequence relationship.

For example, if a large set of lexias is retrieved, the members of which being related by the criterion of being labeled with SEM codes with either the descriptive term "Fools" or "Destructive Force," a possible correlation can be hypothesized. By examining the lexias involved in the set, it might be possible to conclude that fools use destructive force, or that only fools misuse destructive force or, that, in fact, it was only coincidence that these lexias had both signifiers.

The support for taking notes translates part of Barthes' method as he executes it in S/Z. As he assigns labels, he invariably makes side notations regarding both the labels and the lexias being labeled. These notes serve as holders of information, information which is usually implied by the labels, as opposed to being explicitly stated. They also make up part of his actual "critical reading." Part of the problem of translating Barthes' method to computer is the
necessity of determining what functions he performs in *S/Z* that are related to his quest for finding the literary artifacts, the basic signifiers, and those that are related to his actual production of a critical reading from those pieces of data. Notetaking is a crossover function, supporting both the data acquisition, as well as, the interpretation processes.

The quantitative reporting is meant to support critical reading activities that depend on analyzing the occurrences of particular items throughout a text. For instance, it could be important that a particular action sequence has only two labels within it, while another one has thirty.

*Xebra*’s ability to easily obtain and use quantitative data is a generalization of Barthes’ method. Barthes’ method, as he practiced it in *S/Z*, made no explicit use of such data. Implicitly, however, many of his conclusions regarding strands of meaning are clearly being supported by the number of occurrences of references to some code. For example, he makes much about the "Replication of Bodies" theme in *S/Z*, largely, it seems, because there are so many citations of the theme. Thus, it appears clear that quantitative data can be useful.

Finally, another, more broader generalization of Barthes’ method incorporated into *Xebra* is that it supports alternative labeling schemes—it is not limited to Barthes’ five codes or to the syntax that he has invented. Many
reading methodologies, either implicitly or explicitly, involve breaking down a text into parts and labeling those parts in some manner. Barthes’ methodology is probably the most explicit, all encompassing system in this regard, but, it is not alone. For instance, people who use Speech/Act theory to analyze a text must perform text parsing and labeling. Xebra supports this kind of activity, since the codes and labels used are not limited by Xebra, but, rather, are left to the definition of the Barthesian reader.

Regarding the three primary functions, function one, the parsing function, is both a direct translation and an analogue of Barthes’ own parsing function. Barthes parsed a text based on semantic structures, allowing, at most, three or four per lexia. One of the questions to be explored in this dissertation, as discussed in CHAPTER I, is whether a truly arbitrary, mechanical parsing is as supportive of generating useful data for the final act of interpretation as Barthes’ manual method that entailed the use of intelligence to make final parsing judgements. Therefore, Xebra allows for the manual parsing of a text into lexias, as well as for two automated methods. These latter two are analogs only of Barthes’ signifier recognition requirement, there being no reliable algorithms for recognizing semantic structures of the kind Barthes used.

Function two is implemented as a direct translation of Barthes’ manual method, with the computer doing much of the
work. The reader supplies the labels, but the computer keeps track of which lexias the labels belong with, as well as, the related notes.

Function three, pattern analysis, is supported by automatically selecting and sorting all the lexias by a label code, or a label code and descriptive term, and then displaying the particular resulting lexia sequence pattern at the reader's command. A generalization of this function uses multiple label codes and descriptive terms for selecting and sorting lexias as specified by the reader.

An example of the first kind of selection and sorting is given in Appendix II of S/Z, where Barthes has selected all the labels with the ACT code, then sorted them by first occurrence of a sequence of a main descriptive term in the text and by lexia number within the sequence of lexias. Thus, he lists the ACT labels with the term "To Leave," which participates in two sequences. The first sequence crosses Lexias 135, 136, and 137, while the second crosses Lexias 291 and 294.19

Generalizing from the above, one could construct a lexia set that had lexias labeled with ACT "To Leave" and with REF "Chronology," the goal being, perhaps, the determination of when "leaving" was happening in the text with regard to time. In that case, one would then sort the lexia in terms

of the time referenced in each lexia. Doing such a sort is especially useful when the time frame of the text switches repeatedly amongst past, present, and future time.

The kind of selection needed to set up the above example is, in computer/database terminology, an "AND" query type, since the selection is done by asking (querying) the database for all lexias that meet two conditions. Such a query can also be built using more than two conditions.

One can also perform what are referred to as "OR" queries, where the analyst requests the return of all data that meet any one of two or more conditions. For example, one could ask for all lexias labeled with REF codes of "Chronology" or "History," the goal being the determination of any patterns having to do with time in the text, again via sorting the lexia by referenced time frames.

Making the system even more powerful, it is possible to construct queries that have both "AND" and "OR" conditions, nested to arbitrarily deep levels. Thus, one could ask for all lexias with ACT "To Leave" codes and either REF "History" or "Chronology." To look for any patterns across the retrieved lexia set, again one would probably sort the members by reference time frames.

CHAPTER IV, which evaluates a specific example of a Barthesian/Xebran reading done for this dissertation, contains several examples of this and the preceding kinds of queries. While one could do this type of selection and
ordering manually, having a computer perform them relieves the analyst/critic of an effort that could only distract the mind from the actual goal.

To summarize, the three basic functions of Xebra aid the reader in parsing the text into lexias, labeling the lexias, and generating patterns by sorting the lexias in terms of a specific type label and its descriptive term. Supporting functions are the maintenance of any notes the reader might want to attach to either the lexias or labels, and a quantitative reporting capability. A generalizing function, not found in Barthes' own description of his system, generates patterns by selecting and sorting the lexias by more than one label code and descriptive term.

The Xebra Functions: Illustrated

To illustrate some of Xebra's capability, the opening lines from an English translation of *S/Z* are used here in a series of examples. First, there is a set of three parsing examples, and second, there is a sample page from a Xebra report showing a lexia and its accompanying set of labels.

The data file for these examples contained this text:

I. Evaluation There are said to be certain Buddhists whose ascetic practices enable them to see a whole landscape in a bean. Precisely what the first analysts of narrative were attempting: to see all the world's stories (and there have been ever so many) within a single structure: we shall, they thought, extract from each tale its model, then out of these models we shall make a great narrative structure, which we shall reapply (for verification) to any one narrative: a task as exhausting (ninety-nine percent perspiration, as the saying goes) as it is ultimately undesirable, for the
text thereby loses its difference.\textsuperscript{20}

The rule for manual parsing is simple: the computer will place whatever text a Barthesian reader chooses into a lexia. The lexias are numbered as a generic means for identifying them. For example, an output file created with Xebra using manual parsing on the \textit{S/Z} sample text, above, contained this data:

\textsuperscript{20}Ibid., 3.
TABLE 5
MANUAL PARSING EXAMPLE

<table>
<thead>
<tr>
<th>Lexia Number</th>
<th>Lexia Text</th>
</tr>
</thead>
</table>
| 0001         | I. Evaluation There are said to be certain Buddhists whose ascetic practices enable them to see a whole landscape in a bean. 

0002 Precisely what the first analysts of narrative were attempting: to see all the world’s stories (and there have been ever so many) within a single structure:

0003 we shall, they thought, extract from each tale its model, then out of these models we shall make a great narrative structure, which we shall reapply (for verification) to any one narrative:

0004 a task as exhausting (ninety-nine percent perspiration, as the saying goes) as it is ultimately undesirable, for the text thereby loses its difference.

*Ibid., 3.*
The rule for punctuation parsing is: the computer separates the text into lexias based on punctuation marks, with the reader determining how many marks to include per lexia. An output file created with Xebra, broken on each punctuation mark in the sample text, contained this data:
TABLE 6
PUNCTUATION PARSING EXAMPLE

<table>
<thead>
<tr>
<th>Lexia Number</th>
<th>Lexia Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>I.&quot;</td>
</tr>
<tr>
<td>0002</td>
<td>Evaluation There are said to be certain Buddhists whose ascetic practices enable them to see a whole landscape in a bean.</td>
</tr>
<tr>
<td>0003</td>
<td>Precisely what the first analysts of narrative were attempting:&quot;</td>
</tr>
<tr>
<td>0004</td>
<td>to see all the world's stories))</td>
</tr>
<tr>
<td>0005</td>
<td>and there have been ever so many))</td>
</tr>
<tr>
<td>0006</td>
<td>within a single structure:&quot;</td>
</tr>
<tr>
<td>0007</td>
<td>we shall,&quot;</td>
</tr>
<tr>
<td>0008</td>
<td>they thought,&quot;</td>
</tr>
<tr>
<td>0009</td>
<td>extract from each tale its model,&quot;</td>
</tr>
<tr>
<td>0010</td>
<td>then out of these models we shall make a great narrative structure,&quot;</td>
</tr>
<tr>
<td>0011</td>
<td>which we shall reapply&quot;)</td>
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<tr>
<td>0012</td>
<td>for verification))</td>
</tr>
<tr>
<td>0013</td>
<td>to any one narrative:&quot;</td>
</tr>
<tr>
<td>0014</td>
<td>a task as exhausting (&quot;</td>
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<tr>
<td>0015</td>
<td>ninety-nine percent perspiration, &quot;</td>
</tr>
<tr>
<td>0016</td>
<td>as the saying goes))</td>
</tr>
<tr>
<td>0017</td>
<td>as it is ultimately undesirable,&quot;</td>
</tr>
<tr>
<td>0018</td>
<td>for the text thereby loses its difference.&quot;</td>
</tr>
</tbody>
</table>

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"Ibid., 3."
The rule for noun phrase parsing is: the computer breaks up the text into lexias with each one containing no more than the number of noun phrases the reader requests. An output file created with Xebra, counting four noun phrases per lexia, using the $S/Z$ sample text, above, contained this data:
## TABLE 7

**NOUN PHRASE PARSING EXAMPLE**

<table>
<thead>
<tr>
<th>Lexia Number</th>
<th>Lexia Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>I. Evaluation There are said to be certain Buddhists whose ascetic practices enable them to see a whole landscape in a bean. Precisely what the first analysts of narrative were attempting: to see all the world's stories (and there have been ever so many) within a single structure: we shall, they thought, extract from each tale its model, then out of these models we shall make a great narrative structure, which we shall reapply (for verification) to any one narrative: a task as exhausting (ninety-nine percent perspiration, as the saying goes) as it is ultimately undesirable, for the text thereby loses its difference.</td>
</tr>
<tr>
<td>0002</td>
<td></td>
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<tr>
<td>0003</td>
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<tr>
<td>0004</td>
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<td>0006</td>
<td></td>
</tr>
<tr>
<td>0007</td>
<td></td>
</tr>
</tbody>
</table>

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*Ibid., 3.*
This third type of parsing (noun phrase parsing) is actually susceptible to variability in results, depending on the particular algorithm that is used for determining a noun phrase. Xebra uses a simple algorithm, that, while subject to error, is precise enough for the purposes of this tool. Complexity versus simplicity, in this instance, refers to the amount of effort put into removing ambiguity. Simple-minded parsing algorithms make quite a few mistakes, being easily confused whenever there is the slightest ambiguity regarding whether a word is part of a noun phrase or not, while more complex ones make fewer mistakes. Lexia 0003, in the above table, illustrates such a mistake. The word "attempting," because of the simple algorithm used in Xebra, is counted as a noun (gerund), when, in fact, in this case, it is part of a verb phrase. However, disambiguating this, while possible, would take more effort than it is worth, since the goal is to only approximate Barthes' atoms of meaning with noun phrases, not match them exactly.

Table 8 shows the five page report generated via Xebra showing each lexia and its accompanying labels, as they were assigned in Xebra, using the lexias from the S/Z noun phrase data shown above.
<table>
<thead>
<tr>
<th>ACT</th>
<th>HER</th>
<th>HER</th>
<th>REF</th>
<th>SEM</th>
<th>SEM</th>
<th>SEM</th>
<th>SEM</th>
<th>SEM</th>
<th>SYM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enigma 1</td>
<td>Enigma 1</td>
<td>Code of World's Religions</td>
<td>Reliability</td>
<td>Other Worldly</td>
<td>Impossibility</td>
<td>Hubris</td>
<td>Antithesis</td>
<td>A Term (Eastern Methods)</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Proposal</td>
<td>Buddhism</td>
<td>Evaluating</td>
<td>Proposing</td>
<td>Intuitive</td>
<td>Approach</td>
<td>By</td>
<td>Introduction</td>
</tr>
<tr>
<td></td>
<td>Enigma 2</td>
<td>Proposal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Proposing</td>
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</tr>
</tbody>
</table>

There are said to be certain Buddhists whose ascetic practices enable them to see a whole within a part. Evaluate: what, how? Proposes using intuitive approach developed by 'certain Buddhists'.

What is the relation of whole to part? The part contains the whole in some sense.

Buddhism is an Eastern Religion, it's mention brings in all the associated connotations. 'Intuitive approaches are often thought unreliable.' Ascetic practices', of the Eastern variety, especially, carries strong connotations of other worldness. 'It is said' connotes a level of disbelief in the possibility, at least. The author implies that there is a certain hubris implicit in the Buddhist's claims.

A symbolic structure balancing Western thought against Eastern, Intuition vs Analysis.

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*Ibid., 3.*
2 whole landscape in a bean. Precisely what the first analysts of narrative were.

ACT To See 1 To see a whole within a part

HER Enigma 1 Proposal Evaluate: how: by looking at bean Proposes using intuitive approach developed by 'certain Buddhists'

HER Enigma 2 Question What is the relation of whole to part?

HER Enigma 2 Proposal The part contains the whole in some sense

REF Code of Literary First Theorists' Theory Approach First theorists used structural analysis to categorize stories

SEM Hubris The author implies that there is a certain hubris implicit in the Buddhist’s claims

SYM Antithesis A Term (Eastern Methods) Introduction A symbolic structure balancing Western thought against Eastern, Intuition vs Analysis

3 attempting: to see all the world’s stories (and there have been ever so many).b

ACT To See 2 To see all stories within one structure

HER Enigma 1 Proposal Evaluate: how: analytically, structurally Proposes to use analysis to emulate the intuitive approach of Buddhists

HER Enigma 2 Proposal Seeming ‘wholes’, stories, are contained, abstractly, in larger wholes

REF Code of Literary First Theorists’ Theory Approach First theorists used structural analysis to categorize stories

SEM Impossibility The phrases ‘attempting’ and ‘ever so many’ points

bIbid.
<table>
<thead>
<tr>
<th>TABLE 8—CONTINUED</th>
</tr>
</thead>
<tbody>
<tr>
<td>3                 attempting: to see all the world’s stories (and there have been ever so many)</td>
</tr>
<tr>
<td>SEM               Hubris</td>
</tr>
<tr>
<td>SYM               Antithesis</td>
</tr>
<tr>
<td>4                 attempting: to see all the world’s stories (and there have been ever so many)</td>
</tr>
<tr>
<td>ACT               To See</td>
</tr>
<tr>
<td>ACT               To See</td>
</tr>
<tr>
<td>HERO              Enigma 1</td>
</tr>
<tr>
<td>HERO              Enigma 2</td>
</tr>
<tr>
<td>REF               Code of Literary Theory</td>
</tr>
<tr>
<td>SEM               Impossibility</td>
</tr>
<tr>
<td>SEM               Hubris</td>
</tr>
<tr>
<td>SYM               Antithesis</td>
</tr>
</tbody>
</table>

The author implies that there is a certain hubris implicit in the Buddhist’s claims.

Proposes to use analysis to emulate the intuitive approach of Buddhists.

First theorists used structural analysis to categorize stories.

The author implies that there is a certain hubris implicit in the ancient’s belief in what was possible.

A symbolic structure balancing Western thought against Eastern, Intuition vs Analysis.

---

5 model, then out of these models we shall make a great narrative structure, which
ACT To See 2 To see all stories within one structure
ACT To See 3 To see a structural model in a story
HER Enigma 1 Proposal Evaluate: how: Proposes to use analysis
HER Enigma 2 Proposal analytically, to emulate the intuitive
structurally approach of Buddhists
Seeming ‘wholes’, stories, are contained,
abstractly, in larger wholes
REF Code of Literary First Theorists’ First theorists used
Theory Approach structural analysis to
categorize stories
SEM Impossibility The author implies that
SEM Hubris there is a certain hubris
SYM Antithesis B Term (Western implicit in the ancient’s
Methods) belief in what was
possible
6 we shall reapply (for verification) to any one narrative: a task as exhausting (ninety-nine percent
perspiration, as the saying goes) as it is
HER Enigma 1 Proposal Evaluate: how: Proposes to use analysis
REF Code of Literary First Theorists’ analytically, to emulate the intuitive
Theory Approach structurally approach of Buddhists
REF Code of Cliches ‘99% Perspiration’ First theorists used
SYM Antithesis B Term (Western structural analysis to
terge early methods)

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"Ibid."
TABLE 8--CONTINUED

<table>
<thead>
<tr>
<th>7</th>
<th>ultimately undesirable, for the text thereby loses its difference.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>HER</td>
<td>Enigma 1</td>
</tr>
<tr>
<td>HER</td>
<td>Enigma 2</td>
</tr>
<tr>
<td>SEM</td>
<td>Impossibility</td>
</tr>
<tr>
<td>SYM</td>
<td>Antithesis</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An examination of the five report pages, Table 8, reveals that its major components are:

1. Lexia Data
   a. Lexia Number
   b. Lexia Text

2. Label Data
   a. Code
   b. Code Field 1
   c. Code Field 2
   d. Code Field 3
   e. Note Field

The lexia data occur once for each lexia, while the label data occur as often as necessary for each lexia. By Barthes' rules, of course, there should be, at most, three or four such labels per lexia. Barthes' rule appears to be a practical one meant to cut off the infinite play of meanings at some manageable level. One hypothesis of the current research is that, given a computer, the manageable number of atomic meanings actually rises above that which a manual approach allows. More detail on this matter can be found in "CHAPTER IV: Xebra: A Test Ride Thru The Signifier Galaxy Of 'The Bear'," below.

**Xebra: The Implementation**

Xebra was implemented in three modules that operate independently of each other:

1. Parser
2. Database

3. Data Analyzer

The Parser program presents a menu to the reader, allowing four choices: manual parsing, punctuation parsing, noun phrase parsing, and exiting the program. If the reader chooses any of the first three, the program requests the name of the input file and the output file and then it begins processing the data and creating the output file. Only in the manual parse does the reader have to do any thing more, since the punctuation and noun phrase parses are totally automatic in nature.

In the manual parse, the reader highlights each piece of text that is to form a lexia, then tells the Parser to save it. This is an iterative process that continues until all the text has been broken up into lexias. This step could be done using any editor that runs on a PC, though the Xebra Parser is tuned to the task, assigning the lexia numbers automatically and formatting the file, as it needs to be, for the next step, which is the database build.

The Xebra database module can be any database program the reader wishes that handles text data, as well as, record data. The initial implementation of Xebra used for this dissertation was Borland International, Inc.'s Paradox 4.0 database program for PC DOS. This is a sophisticated relational database with extensions for storing textual data, as well as, normal database record data.
Below are sample record layouts for two databases: the Lexia Database, Table 9, which holds the text of each lexia; and the Label Database, Table 10, which holds the label data. The field name is accompanied by its definition. An "N" field is a field that can only contain numbers. An "M" field is "memo" field, which can contain any alphanumeric data, and is arbitrarily large. The number following the "M" is how many characters are automatically displayed without asking for more. An "A" Field is an alphanumeric field that contain as many characters as the number right after the "A". An "*" after a Field Definition means that the field is used as a key to sort the records in the database.
### TABLE 9
Lexia Database Record Layout

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Field Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexia Number</td>
<td>N*</td>
</tr>
<tr>
<td>Lexia Text</td>
<td>M240</td>
</tr>
</tbody>
</table>

### TABLE 10
Label Database Record Layout

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Field Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexia Number</td>
<td>N*</td>
</tr>
<tr>
<td>Lexia Code</td>
<td>A3*</td>
</tr>
<tr>
<td>Lexia</td>
<td></td>
</tr>
<tr>
<td>Sequence</td>
<td>N*</td>
</tr>
<tr>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Field 1</td>
<td>A50</td>
</tr>
<tr>
<td>Field 2</td>
<td>A50</td>
</tr>
<tr>
<td>Field 3</td>
<td>A100</td>
</tr>
<tr>
<td>Notes</td>
<td>A255</td>
</tr>
</tbody>
</table>
These two databases, the Lexia and the Label, together can be used to do such activities as sort and subset all the lexias by codes alone, or to sort and subset lexias that have one or more labels in common. Reports, such as that shown in Table 8, can be generated both for all the lexias and their labels, or for the subsets. One can also derive a variety of numerical attributes concerning the data using the database engine, which can either be graphed or placed in a table form.

Graphs and tables can give a critic an insight into the patterns that the various atomic signifiers are entering into within the text. For instance, one could show in a graph the relative "weight" or "significance" of one label versus others in sheer numerical terms, as in Figure 1. On the other hand, in a table, such as Table 11, one could show the movement of truth revealment through the text for a given hermeneutic entity, or enigma.
FIGURE 1: RELATIVE WEIGHT OF SEM CODES IN "The Bear"
<table>
<thead>
<tr>
<th>Lexia #</th>
<th>Field 2</th>
<th>Field 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Question</td>
<td>Who or what is &quot;The Bear&quot;</td>
</tr>
<tr>
<td>1</td>
<td>Partial Answer</td>
<td>&quot;The Bear&quot; is Old Ben</td>
</tr>
<tr>
<td>19</td>
<td>Partial Answer</td>
<td>Old Ben is a bear that men have tried to capture, kill, but have failed</td>
</tr>
<tr>
<td>85</td>
<td>Partial Answer</td>
<td>Old Ben is caretaker of his brethren--thus spirit of the wilderness</td>
</tr>
<tr>
<td>86</td>
<td>Partial Answer</td>
<td>Old Ben is conscious, willing, active adversary to hunters</td>
</tr>
<tr>
<td>89</td>
<td>Partial Answer</td>
<td>Old Ben is conscious, willing, active adversary to hunters</td>
</tr>
<tr>
<td>89</td>
<td>Snare</td>
<td>Denies Old Ben is caretaker, thus spirit of the wilderness</td>
</tr>
<tr>
<td>91</td>
<td>Partial Answer</td>
<td>Old Ben is conscious, willing, active adversary of hunters</td>
</tr>
<tr>
<td>92</td>
<td>Partial Answer</td>
<td>Old Ben IS the &quot;head bear&quot;, he's &quot;the man&quot;</td>
</tr>
<tr>
<td>93</td>
<td>Partial Answer</td>
<td>Old Ben more than a regular bear--he &quot;sends&quot; dogs, hunters home when he wants</td>
</tr>
<tr>
<td>120</td>
<td>Partial Answer</td>
<td>Old Ben is mortal, can be killed</td>
</tr>
<tr>
<td>120</td>
<td>Snare</td>
<td>Implies that being mortal, that's all Old Ben is--not true.</td>
</tr>
<tr>
<td>Lexia #</td>
<td>Field 2</td>
<td>Field 3</td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>121</td>
<td>Partial Answer</td>
<td>Old Ben is mortal, can be killed</td>
</tr>
<tr>
<td>121</td>
<td>Snare</td>
<td>Implies that being mortal, that's all Old Ben is--not true.</td>
</tr>
<tr>
<td>122</td>
<td>Partial Answer</td>
<td>Old Ben is mortal, can be killed</td>
</tr>
<tr>
<td>122</td>
<td>Snare</td>
<td>Implies that being mortal, that's all Old Ben is--not true.</td>
</tr>
<tr>
<td>123</td>
<td>Partial Answer</td>
<td>Old Ben is mortal, can be killed</td>
</tr>
<tr>
<td>123</td>
<td>Snare</td>
<td>Implies that being mortal, that's all Old Ben is--not true.</td>
</tr>
<tr>
<td>668</td>
<td>Partial Answer</td>
<td>Old Ben--&quot;Lover-Like&quot;--Ben and Lion are close, possibly lovers</td>
</tr>
<tr>
<td>681</td>
<td>Partial Answer</td>
<td>Old Ben is the Bear, and he is dead</td>
</tr>
<tr>
<td>763</td>
<td>Partial Answer</td>
<td>Old Ben is a Spirit worthy of having the Season change at his Death</td>
</tr>
<tr>
<td>764</td>
<td>Partial Answer</td>
<td>Old Ben is a Spirit worthy of having the Season change at his Death</td>
</tr>
<tr>
<td>1733</td>
<td>Partial Answer</td>
<td>Old Ben is immortal</td>
</tr>
<tr>
<td>1733</td>
<td>Partial Answer</td>
<td>Old Ben is the Earth</td>
</tr>
</tbody>
</table>
Xebra: The Proving Of Its Utility

In this chapter, the emphasis has been on, to this point, presenting, in an abstract form, Xebra's capabilities as a Barthesian reader's assistant. The focus now turns to demonstrating Xebra's utility as a Barthesian reader's assistant. Proving that Xebra is useful, in that regard, is fundamental to this dissertation project. Such a proof is necessary, given that the object of the project is to show that the Barthesian system is one that literary critics and theorists could use profitably, once a few problematic attributes of the system are addressed, through a tool such as Xebra. An approach, then, to evaluating the claim of Xebra's utility is set up here, first in theory and then in practice, while CHAPTER IV focuses on evaluation itself.

The grounding assumption of the evaluation approach to be described here, then implemented in CHAPTER IV, is that performing a Barthesian reading using Xebra on a text of suitable characteristics will provide sufficient basis for determining the effectiveness of the tool and the system it supports. The approach depends on two elements: 1) choosing a text for use as the object of a Barthesian/Xebra reading; and 2) prescribing a reasonable set of criteria for measuring the results of such a reading.

The evaluation proofs will consist of:

1. demonstrating Xebra's capability to aid in performing a Barthesian reading well;
2. comparing results of an actual Xebra-based analysis with accepted readings of a specific text to demonstrate its ability to discover, name the facts of the text and the larger patterns of those facts;
3. showing that a Xebra-based Barthesian analysis aids in deepening our understanding of the text.

The hypothesis underlying the specification of these three kinds of proofs is that the successful exercising of Xebra in relation to them will be sufficient evidence that the underlying, basic questions of theory and practice concerning the Barthesian methodology (as examined in CHAPTER II) have, in fact, been addressed in Xebra.

The remainder of the chapter is given over to describing the details of the evaluation approach, including the actual setting up of the data to be evaluated. First, the choice of the text to be read and the criteria for measuring the results of the reading will be delineated, followed by a description of how the reading was performed, in order to produce the data needed for the actual evaluation given in CHAPTER IV.

The Xebra Evaluation: Choosing The Text

In attempting an evaluation of the highly empirical Barthesian/Xebran reading system, it appears clear that an empirical approach is most likely to prove rewarding. Thus, it follows that performing an actual Barthesian/Xebran reading is the best candidate for the task at hand. In
order to perform such a reading, a text must be chosen that can serve as the object of the reading.

This text must meet three primary criteria. One, it must be sufficiently large so as to stress the ability of the Barthesian/Xebran system to handle the amount of data involved. Two, it must be sufficiently complex semantically, in order to stress the system's abilities in that regard. Three, the facts of the text must have been previously documented, independently, in some reasonable form, in order to serve as a basis of comparison as to the effectiveness of the tool and the system at uncovering the facts of the text.

William Faulkner's text, "The Bear," meets all of these criteria. First, at approximately 50,000 words, it is more than three times the size of Balzac's Sarrasine, which is ample room for showing that the Barthesian/Xebran system can handle large amounts of text. Second, William Faulkner is well known for his semantic denseness, the inter-relatedness of his prose, both locally, in phrases and sentences, and globally, across a text, and, in many cases, across several texts. "The Bear" is no exception to that rule. Third, in Walter Davis' text, The Act of Interpretation, there exists a set of definitions and examples of what constitute the primary and basic facts of "The Bear" that a critic must

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have at hand before attempting an interpretation of it.

For these reasons, "The Bear," serves well as the object of the demonstration in CHAPTER IV of the Barthesian/Xebran system's capability as a basic fact-gathering tool. The next section details the set of definitions and examples of basic facts in "The Bear" that Walter Davis prescribes for critics to use in approaching an act of interpretation of the text.

The Xebra Evaluation: The Evaluation Criteria

CHAPTER I introduced, at a high level, the criteria for evaluating the effectiveness, and thus, the success of Xebra, and, by extension, the Barthesian methodology as embodied in Xebra. The goal here is to make those abstract criteria concrete, and thus, accessible to evaluation.

The text referenced above, Walter Davis' *The Act of Interpretation*,\(^{22}\) succinctly lays out the set of criteria to be used for demonstrating Xebra's utility. It should be noted that the actual use of Xebra on "The Bear" was done without recourse to these criteria. Thus, they serve as an independent, objective check on the system performance.

"The Bear" Barthesian reading will also be evaluated in relation to the critical readings of the text that are given as part of Davis' *The Act of Interpretation*. This second type of evaluation will focus on how well the facts gathered

\(^{22}\text{Ibid.}\)
via Xebra directly support these readings and how well the use of Xebra's fact analysis capability supports the same.

Davis sets forth his criteria after explaining that they relate to the preliminary attention a critic should pay to a text (before the act of interpretation), making this preliminary attention, essentially, a fact gathering, inventorying act. In terms of a Barthesian reading, it is not clear that all of them are unambiguously preliminary. In fact, some could be argued as being, to some degree, part of an act of interpretation, which makes their direct use as test criteria problematic, but not impossible. In a Barthesian reading, the decision between what constitutes a simple pointing out of the facts of the text and the carrying out of an hermeneutic act, often turns on whether there is a distinct value judgement involved.

That is, if someone were to say that it is a fact that a particular symbol structure exists in a text and thus, deserves one of Barthes' five labels, then a Barthesian reading should include it. Conversely, if someone were to say that the same symbol structure is of primary significance, above all other symbols, than that would not be a part of a Barthesian reading, as such. A value judgement suddenly introduces a rating scale, and such scales belong to hermeneutic models which determine them. It is one thing to point out that a symbol exists; it is

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23Ibid., 8-9.
quite another to make the judgement that it is primary or secondary or unimportant, because this can only be true in relation to some theoretical model of literary criticism.

While Barthes never states this distinction as such, careful study of his example reading of Sarrasine, as set forth in S/Z, reveals that he refrains from making value judgements about the importance, relative or otherwise, of particular facts, leaving that up to the interpreter. It is true, however, as discussed in CHAPTER I, that S/Z can leave a reader with the impression that Barthes made such judgements as part of his system. However, again as discussed in CHAPTER I, this is an artifact of his expository style, the methodology of his system, and the structural characteristics of the text, Sarrasine, itself.

Like Davis, then, Barthes is saying that there are facts, signifieds of the text, that must be known before the act of interpretation can go forward. Additionally, he is stating that each of the criticisms, in some way, cuts off some portion of the meaning of the text by using some of those facts, but not all. Indeed, he states that when a critical model is used to articulate a criticism of a text, what is actually happening is a focusing upon, or hearing of, one voice of the text\textsuperscript{24} which is a reference to the denotation of his labels or codes as being the names of the

\textsuperscript{24}Barthes, 15.
voices of the text. Since there are (at least) five such voices, hearing only one cuts off the plurality of the text, which Barthes always seeks to avoid.

What this means for evaluating this test of Xebra is that Davis' criteria must be sorted through. Those criteria that are specific to fact gathering must be extracted and used to judge the test of Xebra in terms of its fact-gathering functions, while the others are split into two parts: a fact gathering component to further test that function of Xebra, and an analysis component which will serve as a test of the analysis functions that one can perform using Xebra. So, to the extent that Davis' criteria require value judgements, then the test of Xebra will be in how well it aids the critic in making the correct or, at least, accepted judgements necessary for a successful act of interpretation.

Below are the items Davis lists in his text as being necessary to the act of interpretation and, in this dissertation, are being used as evaluation criteria for the combined Barthesian/Xebran system:

1. Faulkner's Use of Conventions (e.g., tall tale, hunting sketch, bildungsroman, myth of initiation);
2. Names--Significance of (e.g., Sam Fathers, Isaac);
3. Language and Image Patterns;
4. Events: relationships among, comparison and

contrast (e.g., pattern of Quest, Relinquishing, Bequest in each section, including irony of);

5. Roles of Structures of Myth, Ritual in Ike’s Development;

6. Theological, Moral Issues as embodied in thematic oppositions in nature and history;

7. Narrative Styles: how they shape the subject (e.g., relationships of major section structure as defined by the chronology reversal within the narrative Faulkner employs);

8. Determination of Primary Action: Tragedy of Ike and the wilderness.  

The first criterion presents the problem of what is meant by “use.” That is, when does fact inventorying end and critical analysis begin? Barthes’ system is based on the "use of conventions" in the sense that connotative meaning (and denotative, for the semologists) is a meaning attached via convention. But the connotative meanings a Barthesian reader looks for are at a lower level of abstraction then "hunting sketch," indeed, the signifiers of the Barthesian reader are only constituents of this larger structure.

For example, there are numerous references to hunting in "The Bear," which a Barthesian reader, building a label database, would label as such. It would be the work of a

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26Davis, 9.
critic, amidst developing an interpretation, to note these labels and their pattern and to compare them to other known texts, thus coming to recognize the "hunting tale" conventions. If the Barthesian reader, during the labeling process, had recognized this pattern, it certainly would be reasonable to place a mention of this in the label notes for the hunting references, but it is not required.

Therefore, in the evaluation reported here, Xebra was used to list items that could be used in the critic's analysis phase to build the case that "hunting sketch" conventions are being used, which could then feed into the critic's act of interpretation of how they are being used. This final act is not part of the test of Xebra.

For the evaluation, a "use of" criterion for a structure greater than Barthes' signifiers will be considered to have been met if these signifiers that form this larger structure are, indeed, labeled, and thus, presentable to any subsequent user of the database. It is assumed that such a user, when presented with the elements of a "use of" some containing structure, will know and recognize the same.

Two apparent exceptions in Barthes' own practice should be noted with regard to this stricture. While, in general, his labels apply to signifiers in situ, without regard to other points of the text that they might relate to, there are two types of structures, as discussed in CHAPTER II, that Barthes knew spanned signifiers, which he labeled
accordingly. These exceptions are the use of large, symbolic, antithetical structures and sequences of actions.

An example of the former is the symbolic structure Balzac notes in *Sarrasine* between "inside" and "outside," with the narrator occupying a "mediating" ground, though not necessarily neutrally, a structure that clearly spans many lexias. However, while this structure is labeled in terms of its pieces, the labels do not contain an explanation, in critical terms, of the "use" of these structures, vis-a-vis, throughout the whole of the story, as would be true if a Barthesian reading were a criticism of a story.

An example of the second exception, action sequences, would be Barthes' noting of a sequence he labeled "To Narrate," which took place over thirteen lexias scattered across the text. Again, Barthes makes no attempt at interpreting this sequence with respect to its function in the text, per se. Only a critic preparing an interpretation would do this.

Davis' second criterion, names and their significance, is a typical labeling exercise. For instance, besides the examples he gives of Sam Fathers, there is Old Ben. A "ben" in Scotland is the interior, or private room, of a two-room cottage, where only family or very close friends are welcome. Many of the settlers of Mississippi were of

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27Barthes, 22-28.

28Ibid., 255.
Scottish, and Scotch-Irish descent; the very name, "McCaslin," which belongs to two of the main characters in "The Bear," is indicative of such descent, so it is not unreasonable to attach the connotation of inner spirit, or hidden inner spirit, to Old Ben on the basis of his name. A Barthesian reader would certainly be remiss not to point out Faulkner's connotative use of "ben." So one can and, indeed, should, expect the Xebra label database for "The Bear" to be replete with name connotations.

The third criterion, language and image patterns, is also a standard use of Xebra, in both of its functions. First, before such patterns can be determined, one must find and code the pieces, a function of Xebra as a Barthesian reading aid. Second, patterns of use of language and images can certainly be extracted during the analysis of a Xebra label database, if the appropriate labels are there in the first place. It is important to remember that this phase is not necessarily one that is performed by the Barthesian reader, per se. Of course, it can be, if the reader is also a critic intent on performing an act of interpretation as well as performing the Barthesian reading, but it does not have to be.

In short, Davis is certainly correct in stating that the determination of these patterns is a pre-interpretative act. However, it is an act that lies outside the boundaries of Xebra as a computer-assisted aid in labeling a text (that
is, in performing a Barthesian reading) and inside the use of Xebra as a computer-based analysis tool for critics exploring the data collected by a Barthesian reader. Thus, criterion three tests both major aspects of Xebra.

The fourth criterion, events and their relationship to each other, as compared and contrasted, is a normal use of Xebra, a use that again exercises both aspects of the tool (data gathering and data analysis). A data gathering person, that is a Barthesian reader, would be responsible for labeling all the events of the text, while the data analyzer, the would-be critic, who may or may not be the gatherer, would be responsible for determining how the events fall into patterns of relationship to each other and the rhetorical structure of the text.

The fifth criterion, roles of structures of myth and ritual in Ike's development, is, again, a two-part use of Xebra: data gathering and data analysis. Gathering the data for ascertaining that such structures exist relative to Ike, is a straightforward use of Xebra as a Barthesian reading aid, while, in the analysis phase, it should be simple enough to show that Ike is intimately connected to the myth and ritual references. However, determining the meaning or role of that connection between Ike and myth and ritual is more problematic, and, in fact, the determination could be different depending upon the critical model being used. In other words, finding and reporting the evidence of
a connection is one act, while determining the meaning of
the connection is another.

The sixth criterion, theological and moral issues as
embodied in thematic oppositions in nature and history,
again requires exercising both aspects of Xebra. However,
the term "issues" is problematic, much like "use" and
"roles" in earlier criteria. A Barthesian reading does not
aim so high as "issues." Instead it reveals or discovers
the signifiers that, through exercising of the analysis
component of Xebra, together can be construed as forming a
structure one might term an "issue." As for the thematic
oppositions, these are best captured in Xebra as
antithetical symbolic structures. Thus, such issues,
religious and moral, that play a part in any antithetical
construct, will have been tagged in the same lexia (or, at
least, physically near by) as the antithesis, assuming that
the Barthesian reader correctly identified all three.

The seventh criterion relates to Faulkner's narrative
styles in terms of how they shape the subject, and, in
particular, the relationships of the five sections of "The
Bear" as defined by the chronology reversal across the
narrative line that Faulkner employs. This criterion is,
once again, a test of both aspects of Xebra's facilities.

First, a coder notes the various references to
chronology in the text. Second, an analyst would use the
system to study these references, most probably, but not
necessarily, in a graphical form, where the time frame of each episode of the story would be superimposed against the section structure. Thus, as the narrative moves through time within and across sections, a timeline graph would show any movements back and forth in time. Having created a graph, a critic could review it and form an interpretation of the use of time movement in terms of the shaping of subject given a particular critical model.

The eighth, and final criterion, the determination of the primary action of "The Bear" as being the tragedy of Ike and the wilderness, is very problematic in terms of Xebra. Aside from the fact that the definition of "primary action" can vary by point of view or critical model, a Barthesian reading is at a much lower level than such concepts as "tragedy" and "comedy." In a Barthesian reading, and consequently, in a Xebra database, the sequences of actions of the story are captured using the ACT code. But these sequences of actions are not evaluated and tagged as to their relative status to each other. A graphical analysis of the sequences might lead someone to decide what that relationship might be, but such a relationship cannot be guaranteed.

To summarize, these eight criteria will be used in two ways in CHAPTER IV to help determine the effectiveness of Xebra in the pre-interpretative act stage of the work of a literary critic. First, these criteria will be examined in
relation to the facts gathered by using Xebra on "The Bear." Second, they will be examined in relation to the analysis results that can be obtained by using Xebra's analytic tool set. After that, the effectiveness of Xebra's fact gathering and analysis will be further evaluated in terms of specific support for the readings of "The Bear" as they are given in *The Act of Interpretation*.

The Xebra Evaluation: The Reading Done

The Xebra evaluation given in CHAPTER IV is based on the data produced by a Barthesian/Xebran reading of William Faulkner's "The Bear." The reading consisted of two phases. In the first phase, "The Bear" was cut into lexias three different ways by using Xebra. In the second phase, the signifiers were appropriately labeled by using the Barthesian labeling language.

The next two sub-sections are detailed descriptions of each phase. These descriptions focus on what was done and how it was done. Where appropriate, discussion on why particular activities or processes were performed in terms of the end goals of the evaluation and testing of the Xebran version of the Barthesian system, is also given. The third sub-section presents a statistical view of the results of the Barthesian/Xebran reading of "The Bear."

**The Barthesian/Xebran Reading: Phase One**

Phase One was the production of the sets of lexias. The first lexia set generation was based on the punctuation
criteria, with the number of punctuation marks set to five. The second lexia set generation was based on the noun phrase criteria, with the number of noun phrases set to five. The third lexia set generation was based on Xebra's manual mode where the user chooses where to make each cut.

Before constructing the final lexia sets, experiments were conducted to find the settings for the number of punctuation marks and noun phrases that would be used for the actual reading performance. This experimentation consisted of running Xebra with a variety of settings for each variable, then analyzing the results. After testing numbers ranging from one through fifteen for each parsing process, five for punctuation and seven for noun phrases were chosen as the optimal numbers for the test. These numbers were chosen for two reasons.

One, the experimental data showed that any number above seven for noun phrases and ten for punctuation yielded a large number of very long lexias. This meant that the Barthesian lexia definition constraint of, at most, three to four signifiers per lexia, would most likely be exceeded in a majority of the cases. Given the goal of the automatic generation of lexias which conform to the Barthesian definition of such, as outlined in \textit{S/Z}, it was necessary to ensure that the lexias were not too large. Settings of five for punctuation and seven for noun phrase parsing proved to generate lexias that were sufficiently small, generally,
although not always, as will be seen later.

Two, given that the number of lexias produced with five punctuation marks was nearly half the number produced by seven noun phrases, these settings provide an excellent opportunity for a controlled test of how random cutting affected the final results (in terms of which group of words received which labels). In particular, the lexias generated with these settings afforded a good view of how the distribution of labels changed when a complete thought was cut in the middle versus near either end. This notion of a complete thought turned out to be important, as well, in the manual generation of lexias.

Manual generation of lexias was also explored experimentally prior to final set generation. One initial finding was that manual parses tended to yield fewer, that is, longer, lexias than either of the automatic parses using the parameter settings of five and seven, respectively. The reason for this appears to lie in the tendency of a human parser to include at least one "complete thought" per lexia.

One can cut a text without regard to syntactic considerations, but there is a strong tendency to not cut until the lexia contains the essence of at least one completed thought. A thought in this instance can, and usually does, contain more than one signifier, and, in fact, usually more than Barthes' limit of three or four. This is discussed in more detail later in this section. In the
final manual lexia parsing, then, the number of lexias produced was nearly two-thirds that of the punctuation parse and one-third that of the noun phrase parse.

The actual building of the lexia databases was a matter of placing the text of each lexia into the appropriate database based upon its sequential position in the original text. The first lexia for the punctuation database was:

0001
The Bear I There was a man and a dog too this time.
Two beasts, counting Old Ben, the bear, and two men.29

The number, 0001, indicates it is the first lexia made from the text, and thus, the first one in the database. This number was generated by Xebra as it produced each lexia. In all, the final lexia databases included 939 lexias in the punctuation database, 1765 lexias in the noun phrase database, and 630 lexias in the manual database.

The Barthesian/Xebran Reading: Phase Two

Constructing the label databases required more effort than that needed for the lexia databases, because it involved the visual examination of each lexia for signifiers and the generation of appropriate labels for each lexia. This is, necessarily, a manual act, whether the reading itself is manual or automated, due to the current state of the art in natural language processing as discussed in

CHAPTER II. Since constructing the label databases lies at the heart of a Barthesian/Xebran reading, it is important to note how this process differs from a strictly Barthesian reading, such as Barthes' in *S/Z*.

There are three important variations between Barthes' reading in *S/Z* and that shown here. First, there is the fact that the reading of "The Bear" is based on three sets of lexias, where Barthes used but one for *Sarrasine*. Two, there is a variation in algorithms for generating lexia data sets from that used by Barthes. Three, there is a lack of forgetting, unlike with Barthes. These three variations are important for at least two reasons.

For one, these differences have a major impact on Barthes' insistence on his definition of what constituted a necessary, and presumably, sufficient analytical process; that is, "the idea, and so to speak the necessity, of a *gradual* [emphasis added] analysis of the text."\(^{10}\) For another, the differences accommodate nearly effortless, straightforward experimentation on the dimensions of the space occupied by a lexia.

Barthes did his *gradual* analysis on one set of possible lexias that he extracted from *Sarrasine*, if not arbitrarily, then certainly, without respect to the text's "syntactical, rhetorical, anecdotic"\(^{31}\) structures. Using the

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\(^{10}\) Barthes, 12.

\(^{31}\) Ibid., 14-15.
Barthesian/Xebran reading system, it becomes feasible to have more than one set of lexias, and to construct them through essentially random, arbitrary means. This is largely true due to the use of a computer to generate two of the lexia databases. This capability underscores at least one reason for using Xebra: to take advantage of computer technology in order to relieve the critic from as much manual effort as possible, thus, allowing for more concentration on the analytic necessities, as opposed to the simply mechanical. It turns out, however, that there are other advantages to using more than one cutting of the text: the manual process of examining the same text multiple ways yields useful refinements to labels generated previously, as well as, leading to new ones.

While it would be difficult for a single individual to generate three independent sets, it would not, of course, be impossible. However, most potential Barthesian critics would likely balk at doing a gradual, complete analysis of a text that involved iteratively parsing a text into different sets of lexias, then, painstakingly recombining the text for new signifiers and their meanings, or, rediscovering the old signifiers with still more meanings. Thus, the computer-based version is a labor-saving device that results not only in time and energy savings to arrive at the same end, it aids in producing a higher quality end, as well, if one defines quality in terms of completeness. This fact will be
examined later in more detail.

The second major difference between Barthes' approach to analysis and the one used on "The Bear" came in relation to the method of generation of lexia sets in Phase One. While adherence to Barthes' methodology (as he outlines it in S/Z) for determining signifiers and, later, their labels, was sought in the reading, there were some important variations. These were made possible by the parsing functionality in Xebra beyond the manual method of parsing the text into lexias used by Barthes. The variations came in terms of how lexias are actually determined. Barthes had two criteria for that: one being the number of signifiers, the other being the willingness to disregard structure.

While Barthes does not go so far as to say his Sarrasine lexias are arbitrarily or randomly generated, he does state that the generation was done "without any regard for its natural divisions (syntactical, rhetorical, anecdotic)."

In the lexia set generation during the reading here, however, two sets were most certainly created arbitrarily, being generated, as they were, via computer parsing.

One could argue that there were non-random criteria used for the parsing; that is, the punctuation count and the noun phrase count paid attention to the "natural divisions." However, these counts themselves were arbitrary, and thus,

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32 Ibid., 15.
33 Ibid., 15.
resulting in essentially random, arbitrary lexias. Thus, the second difference between the reading done here from that of Barthes' reading in *S/Z*, is that "The Bear" reading involved working with arbitrary chunks of text in, at least, two lexia sets, whereas Barthes' did not.

As for the manual parse generated lexias, both on Barthes' parse of *Sarrasine* and the manual parse done for the test of "The Bear," it is clear that neither arbitrary nor random selection happened, and arguably, could not happen. As one parses through a text, one's mind is making connections, comparing and contrasting what is immediately before one with what one has already seen, thus, influencing the cuts. So, in that sense, Barthes' lexia generation and the manual parse done for the test were similarly accomplished. However, there is a difference.

Barthes sought chunks of text that contained not too many, and not too few signifiers (three or four at most, one at least).\(^3\,4\) This constraint proved uninteresting for the manual parse, given that the existence of two other lexia sets could be built with the text split into sufficiently small units, ensuring that this constraint was met. Therefore, it seemed reasonable to use the manual parse to choose lexias which were each a reflection of a complete thought, a different criterion from Barthes'. The other parses generated lexias that were independent of the grammar

\(^{34}\)Ibid., 13-14.
of the text, and thus, could easily be used to strictly emulate the Barthesian method. The manually generated lexia set was, therefore, open for controlled experimentation aimed at determining other criteria for measuring the space of a lexia other than the number of signifiers.

As noted above in describing Phase One, the final lexia databases were spread out in terms of number of lexia per database. This difference arose from the choice of parameters for cutting the text: five punctuation marks, seven noun phrases, and one complete thought. This distribution of lexia set sizes yielded a good sampling of random cuts of the text, thus enabling a sufficient test of a key hypothesis concerning where the semantic content of signifiers stop and start. The initial belief was that the string of text constituting a signifier, no matter where it appeared, nor how often it appeared, nor how mutilated it became via the random cuts of the text to form lexias, would carry with it the same signification(s). As will be shown later, this hypothesis is correct.

Finally, the third major difference in the reading here from Barthes' reading, is based in his notion of forgetting meanings. Barthes states that, to read is to find meanings, and to find meanings is to name them; but these named meanings are swept toward other names; names call to each other, reassemble, and their grouping calls for further naming: I name, I unname, I rename: so the text passes: it is a nomination in the course of becoming, a tireless approximation, a
metonymic labor.\textsuperscript{35}

This implies that there are, if not an infinite number, than certainly, a large number of meanings to be found in any given text: meanings that are attached to specific signifiers, as well as meanings that can be named and labeled. Thus, the third major difference between what Barthes did in his analysis and what was done with "The Bear" is that, in the latter, an attempt was made to forget neither the meanings and their names, nor the signifiers with which they were associated. Barthes chose to forget, deliberately; for "The Bear," forgetting was deliberately not an option.

With a computer to store the trace of the Barthesian reader's thoughts concerning the meanings of each signifier discovered in the text, not forgetting those meanings was easy. It appears that Barthes decided to make a virtue out of a fact of his environment, an environment that encouraged forgetting, since all thoughts had to be kept in one's head or on paper, neither of which is that easy or desirable. Computers change that paradigm. A human reader using Xebra will still forget meanings for specific signifiers during the process of building the various label databases, of course, but rediscovering them is a trivial matter with the computer. Obviously, this is not so with either the mind or paper as one's repository of past discoveries.

\textsuperscript{35}Ibid., 11.
Having stipulated three differences between a pure Barthesian reading, as exemplified in Barthes' rendering of *Sarrasine* in *S/Z* and that done with "The Bear," a sample of what Phase Two of the Barthesian/Xebran reading produced is presented. The reading, that is, the label generation, began with the lexia database generated via the punctuation parser. Below, in Table 12, are samples from the punctuation label database of what the records contained for three lexias from the associated punctuation lexia database: 468, 469, 470.

For reference purposes, each lexia is shown directly above its corresponding labels. The label data are shown in what is known as comma and quote delimited format. Each record field is delimited by a comma, with a text field being additionally delimited by double quotes. Each record begins with a lexia number. Samples of the noun phrase and manual label database follow in Tables 13 and 14. To illustrate the principle that the same labels attach to the same string of words, that is, signifier, these examples contain the same text split up differently.
<table>
<thead>
<tr>
<th>Lexia 0468</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot; McCaslin said. &quot;I would have done it if he had asked me to.&quot; Then the boy moved. He was between them, facing McCaslin;&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>468,&quot;SYM&quot;,1,&quot;Antithesis&quot;,&quot;AB (Ideal/Non-Ideal Nature)&quot;,&quot;Mediation&quot;,&quot;Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lexia 0469</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the water felt as if it had burst and sprung not from his eyes alone but from his whole face, like sweat. &quot;Leave him alone!&quot; he cried. &quot;Goddamn it!&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>469,&quot;REF&quot;,1,&quot;Code of the Bible&quot;,&quot;God condemns those who lead astray his people&quot;,&quot;&quot;,&quot;&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>469,&quot;SYM&quot;,1,&quot;Antithesis&quot;,&quot;AB (Ideal/Non-Ideal Nature)&quot;,&quot;Mediation&quot;,&quot;Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lexia 0470</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leave him alone!&quot; IV then he was twenty-one. He could say it, himself and his cousin juxtaposed not against the wilderness but against the tamed land which was to have been his heritage, the land which old Carothers McCaslin;&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>470,&quot;REF&quot;,1,&quot;Code of the Bible&quot;,&quot;God condemns those who lead astray his people&quot;,&quot;&quot;,&quot;&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>470,&quot;REF&quot;,3,&quot;Code of Ages of Manhood Attainment&quot;,&quot;&quot;,&quot;&quot;,&quot;&quot;,&quot;21--when a male officially reaches his majority, his manhood, or in the classic (racist) saying--Free, White, and Twenty-One. Ike was now a free, independent person, as such were defined in his place and time--free to say, do what he wanted, in theory.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>470,&quot;REF&quot;,4,&quot;Code of Inheritance&quot;,&quot;&quot;,&quot;&quot;,&quot;&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>470,&quot;SYM&quot;,1,&quot;Antithesis&quot;,&quot;AB (Ideal/Non-Ideal Nature)&quot;,&quot;Mediation&quot;,&quot;Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>470,&quot;SYM&quot;,2,&quot;Inheritance&quot;,&quot;&quot;,&quot;&quot;,&quot;&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Faulkner, 252.*
I would have done it if he had asked me to." Then the boy moved.*

"I would have done it if he had asked me to." Then the boy moved.*

**Lexia 0850**

850,"HER",1,"Enigma 8","Snare","Proposed that Boon killed Sam—that Sam was going to live, otherwise","This isn't true—Sam was going to die—but Boon would have done so, if Sam had asked"

850,"REF",1,"Code of the Bible","Did Judas (Boon) kill Christ/God (Lion/Sam)?","",""

850,"SYM",1,"Antithesis","AB (Ideal/Non-Ideal Nature)","Mediation","Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon"

**Lexia 0851**

He was between them, facing McCaslin; the water felt as if it had burst and sprung not*

851,"SYM",1,"Antithesis","AB (Ideal/Non-Ideal Nature)","Mediation","Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon"

**Lexia 0852**

from his eyes alone but from his whole face, like sweat. "Leave him alone!" he cried.*

852,"REF",1,"Code of the Bible","God condemns those who lead astray his people","",""

852,"SYM",1,"Antithesis","AB (Ideal/Non-Ideal Nature)","Mediation","Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon"

**Lexia 0853**

"Goddamn it! Leave him alone!" IV then he was twenty-one. He could say it, himself*

853,"REF",1,"Code of the Bible","God condemns those who lead astray his people","",""


853,"REF",3,"Code of Ages of Manhood Attainment","","",""21—when a male reaches his majority, his manhood, or in the classic (racist) saying—Free, White, and Twenty-One. Ike was now a free, independent person, as such were defined in his place and time—free to say, do what he wanted, in theory."

853,"SYM",1,"Antithesis","AB (Ideal/Non-Ideal Nature)","Mediation","Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon"

*Ibid., 252.*
Lexia 0854

and his cousin juxtaposed not against the wilderness but against the tamed land which was to have been his heritage, the land which

854,"REF",1,"Code of Inheritance",","",""
854,"SYM",1,"Inheritance",","",""
854,"SYM",2,"Antithesis","AB (Ideal/Non-Ideal Nature)","Mediation","Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon"

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*Ibid., 252.*
Then the boy moved. He was between them, facing McCaslin; the water felt as if it had burst and sprung not from his eyes alone but from his whole face, like sweat. "Leave him alone!" he cried. "Goddamn it!" Leave him alone!"

273,"REF",1, "Code of the Bible","God condemns those who lead astray his people","",""
273,"SYM",1, "Antithesis","AB (Ideal/Non-Ideal Nature)","Mediation","Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon"

IV then he was twenty-one. He could say it,*

274,"REF",2, "Code of Chronology","","",""
274,"REF",3, "Code of Ages of Manhood Attainment","","","21--when a male officially reaches his majority, his manhood, or in the classic (racist) saying--Free, White, and Twenty-One. Ike was now a free, independent person, as such were defined in his place and time--free to say, do what he wanted, in theory."

himself and his cousin juxtaposed not against the wilderness but against the tamed land which was to have been his heritage,*

275,"REF",4, "Code of Inheritance","","",""
275,"SYM",2, "Inheritance","",""
The REF label, "Code of the Bible," among others in these examples, illustrates the general principle, stated above as a key hypothesis, that a given semantic unit, that is, signifier, always carries the same label set. In these label sets, one example is the signifier, "Goddamn it." This phrase occurs in the lexias in all three types of parsing in different locations, depending on the cut, but in all cases, the label applies. This guarantees that the atomic semantic units, Barthes' signifiers, are not arbitrary or capricious. They exist and they have particular meanings, which stay attached to them, no matter how the unit is mutilated.

Because this is true, Roland Barthes' system does, indeed, do what he claims in the sense that the basic building blocks of meaning (which are used to form large structures of meaning) are, themselves, identifiable and isolatable. However, these meanings, while they always adhere to the unit, are not always present to the reader's consciousness, given that they are often forgotten, though, sometimes later remembered, yielding the possibility of a multiplicity of readings from any given text. Thus, "it is precisely because I forget that I read."

Phase Two was complete once all the lexias in the three lexia databases had been associated with a set of labels, forming the label databases. The goal of this phase was to

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36Barthes, 10-11.
complete a Barthesian reading, as it is specified in *S/Z*, as well as to take advantage of the extended functions available through Xebra. In CHAPTER IV, an analysis of the results of Phases One and Two, both in terms of achieving the eight criteria listed earlier and of the interpretive readings of "The Bear" given in Davis' *The Act of Interpretation*, is presented. What follows here is a numerical overview of the data produced during the Barthesian/Xebran reading of Faulkner's "The Bear."

**The Barthesian/Xebran Reading: The Statistical View**

This section presents a statistical view of the data collected during the Barthesian/Xebran reading of "The Bear." Table 15 contains information over both the total population and, stepping down a level, by lexia set. Table 16 is a comparison of Barthes' reading of *Sarrasine* and the reading of "The Bear" in terms of some key statistical points. The last five tables, numbers 17 through 21, contain the names of all of the unique labels within each code type for the reading of "The Bear," along with counts of how often each label occurred within each of the three databases, noun, punctuation, and manual.

These numbers are not necessarily meant to be part of an analysis of "The Bear," as such, though some reading methodologies might find them useful. Instead, they are intended to give the reader of this dissertation a basis for judging the scope of the effort involved in doing a Xebra-
based Barthesian reading of a text containing 44,556 words, such as "The Bear." From these numbers, one should be able to estimate the approximate effort involved in doing such a project with other texts.

Please note when reviewing the comparison data between the two readings, Barthes' and the one done here, that Sarrasine, in the English translation, is approximately 15,000 words, and thus one third the size of "The Bear." This fact helps place the occurrence data for the five codes for each reading in perspective.
TABLE 15

"The Bear" Reading: By The Numbers

Number of Lexia Sets:  3
Number of Lexia per Set:

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>637</td>
</tr>
<tr>
<td>Punctuation</td>
<td>939</td>
</tr>
<tr>
<td>Noun Phrase</td>
<td>1765</td>
</tr>
<tr>
<td>Total</td>
<td>3341</td>
</tr>
</tbody>
</table>

Number of Words per Lexia per set:

<table>
<thead>
<tr>
<th>Type</th>
<th>Avg</th>
<th>Med</th>
<th>STD</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>69</td>
<td>63</td>
<td>41</td>
<td>274</td>
<td>3</td>
</tr>
<tr>
<td>Punctuation</td>
<td>47</td>
<td>42</td>
<td>26</td>
<td>177</td>
<td>5</td>
</tr>
<tr>
<td>Noun Phrase</td>
<td>25</td>
<td>24</td>
<td>7</td>
<td>56</td>
<td>2</td>
</tr>
</tbody>
</table>

Number of Labels per Set and across all Sets, per Label Type

<table>
<thead>
<tr>
<th>Type</th>
<th>ALL</th>
<th>ACT</th>
<th>HER</th>
<th>REF</th>
<th>SEM</th>
<th>SYM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noun Phrase</td>
<td>6815</td>
<td>1002</td>
<td>195</td>
<td>2492</td>
<td>1776</td>
<td>1350</td>
</tr>
<tr>
<td>Punctuation</td>
<td>5062</td>
<td>839</td>
<td>175</td>
<td>1810</td>
<td>1302</td>
<td>936</td>
</tr>
<tr>
<td>Manual</td>
<td>4179</td>
<td>724</td>
<td>156</td>
<td>1504</td>
<td>1064</td>
<td>731</td>
</tr>
<tr>
<td>Unique</td>
<td>174</td>
<td>35</td>
<td>10</td>
<td>60</td>
<td>44</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>16056</td>
<td>2565</td>
<td>526</td>
<td>5806</td>
<td>4142</td>
<td>3017</td>
</tr>
<tr>
<td>Average</td>
<td>5352</td>
<td>855</td>
<td>175</td>
<td>1935</td>
<td>1380</td>
<td>1006</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1106</td>
<td>123</td>
<td>16</td>
<td>415</td>
<td>296</td>
<td>296</td>
</tr>
</tbody>
</table>
### TABLE 16: CODE OCCURRENCES FOR *Sarrasine* VERSUS "The Bear"

<table>
<thead>
<tr>
<th>CODE TYPE</th>
<th>Text and Database</th>
<th>Number of Occurrences</th>
<th>Number of Unique Sequences</th>
<th>Average Length of Sequences</th>
<th>Shortest Sequence</th>
<th>Longest Sequence</th>
</tr>
</thead>
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1. Table 17: the ACT codes;
2. Table 18: the HER codes;
3. Table 19: the REF codes;
4. Table 20: the SEM codes;
5. Table 21: the SYM codes.

Each table entry includes the name of the label, followed by the number of individual occurrences of that label in each of the databases.
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CHAPTER IV
Evaluating A Barthesian/Xebran Reading of "The Bear"

In this chapter, the discussion turns to the presentation of a step-by-step evaluation of the Barthesian/Xebran system. The evaluation is structured in relation to the eight basic facts and types of facts, referred to here as "criterion," that Walter Davis, in his The Act of Interpretation,¹ suggests be considered as fundamentally necessary to any interpretive act regarding the text, William Faulkner's "The Bear." The goal of the evaluation is to demonstrate how a Barthesian/Xebran reading of this text does, indeed, support the discovery of Davis' eight facts and fact types with regard to "The Bear."

In order to quantify the results of the evaluation being undertaken here, a numerical rating scale relating the level of performance of the Barthesian/Xebran reading with regard to the criteria has been devised. The rating with regard to the system's performance relative to each criterion is given first at the end of each criterion evaluation section, then the ratings are all brought together at the end of the

chapter as a means of displaying the overall results of the evaluation of the Barthesian/Xebran system.

The rating scale itself ranges from "-3" to "+3", with "-3" meaning a strong negative correlation between a criterion and the reading, "0" being a totally neutral relationship, and "+3" being a very strong positive correlation. The other ratings, "-2," and "-1", on the one hand, and "+1," and "+2," on the other, represent varying degrees of negative and positive correlation, respectively. Thus a "-1" rating represents a weak negative correlation and "-2" represents a negative correlation, while a "+1" rating represents a weak positive and a "+2" represents a positive correlation.

Regarding the evaluations themselves, please note that all references in each discussion to specific lexias and their labels are in relation to the Manual Lexia and Label Databases, unless stated otherwise. Using only one of the three sets of databases (manual, punctuation, and noun phrase) is made possible by the finding discussed in CHAPTER III concerning the signifier property wherein it was shown that all the signifiers that exist in one cutting of the text, such as the manual, also exist in the other two.

Evaluating Xebra: Criterion One

Criterion one is Faulkner's use of conventions, such as: the tall tale, the hunting sketch, bildungsroman, and myth of initiation. As noted above, "use of" in this case must
be strictly limited to evidence of the signifiers having been identified, and thus, presentable to any user of the database. Further, there is an assumption that such a subsequent user of the databases built for this evaluation would be responsible for recognizing the larger structure of which these semantic units are a part.

This assumption, in terms of criterion one, is a reasonable one. Literary critics, as part of their general working tool kit, are presumed to know all the previously identified, named, and defined literary conventions, reaching as far back in time and space as those which theorists, such as Plato and Aristotle, discuss with regard to the Greek dramas and poetry of their time and before. Having reached that level of knowledge, they are further presumed to be capable of recognizing these artifices when they exist in a given text.

Authors, however, who may or may not formally know, or even be vaguely aware of, these conventions, as such, are not generally obliging about leaving explicit markers in their texts tracing the conventions used. Hence, the need for a systematic approach, such as a Barthesian/Xebran reading, for uncovering the facts of a text.

However, if a critic, either using Xebra or through manual effort, produced a Barthesian reading upon which to base later criticisms of a text, there is a question of who should know what. The critic producing the later criticism
and the critic producing the Barthesian reading are both held to be responsible scholars, but what each should necessarily bring to their own part of the process, that is the question. An example should clarify this.

Tall tales, according to Benét's Reader's Encyclopedia, are "A folklore genre, originating on the American frontier, in which the physical attributes, capabilities, and exploits of characters are wildly exaggerated for comic effect."\(^2\) The question, then, is: if a Barthesian reader sees the following lexia:

--the long legend of corncribs broken down and rifled, of shoats and grown pigs and even calves carried bodily into the woods and devoured, and traps and deadfalls overthrown and dogs mangled and slain, and shotgun and even rifle shots delivered at point-blank range yet with no more effect than so many peas blown through a tube by a child--a corridor of wreckage and destruction beginning back before the boy was born, through which sped, not fast but rather with the ruthless and irresistible deliberation of a locomotive, the shaggy tremendous shape . . .\(^3\)

should a label be produced such as "REF, Tall Tale Style, Use of descriptive language, subject material, similar to that commonly found in tall tales"?

In this Barthesian/Xebran reading, the labeling of "The Bear" at no time included the creation of such a label, neither on the above lexia example, or on any of the others


that could have been so labeled. The primary basis for this non-labeling lies in Barthes’ stipulation (as discussed in CHAPTER II) that only two kinds of labels, those for antithetical symbolic structures and extended action sequences, should take into account structures that are larger than single atomic semantic units. Since signifiers of the type described partake in neither one of these kinds of extended structures, but, instead, are part of a different kind of extended structure, it would be inappropriate to label an entity as partaking in such.

This distinction between what is an individual atomic semantic unit and what is a molecule formed of such units is important to defining what is meant by the facts of a text from Barthes’ standpoint. One could argue that the lexia quoted above, indeed, contains phrasing and semantic content that are similar to that commonly found in tall tales. However, this is a fact at the molecular, not the atomic, level of semantic units.

Certainly, Barthes himself never drew this distinction, as such. However, his practice in his reading of Sarrasine shows that, when faced with molecular versus atomic structures, he chose atomic, except when a classic rhetorical code appeared. For instance, Barthes labeled the use of the rhetorical code of prosopography in Sarrasine. 4

There is an obvious similarity between pointing out the use of a rhetorical device, such as "drawing of a portrait," and of a convention, such as "tall tale," but even in this he was inconsistent. It was only when there was a semic value, that is, when the rhetorical code aided in conveying a sense of person or personality, that he noted it.

Semestes, among other things, are used to create the impression of personality, according to Barthes. They "appear to float freely, to form a galaxy of trifling data," but they "make sense only by coalescing ... thus creating a character's 'personality'." It is in this manner that Balzac uses the rhetorical code of portraiture as one way to create the impression of personality for characters. Barthes, then, notes both the actual sememe, such as "SEM. Beauty (past)" or "SEM. Emptiness," that is implied by the portrait drawn, as well as, the use of the portrait rhetorical code. However, he did not always do so.

In order to maintain a consistent approach, the reading here was performed in such a way as to not specifically point out uses of language at the level of molecules (such as the conventions Walter Davis enumerates). But labels for the semes that, when properly coalesced show the outline of

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5Ibid., 22.
6Ibid., 22.
7Ibid., 56.
8Ibid., 58.
the molecule, were generated that would allow a critic to see the convention. Below, in Table 22, is an example of such a coalescing of semes for the tall tale convention.

An interesting point about Table 22, one that a user of the Xebra databases of "The Bear" should note, is just whose "personality" is being sketched here. Ostensibly, the lexias are about either Old Ben or Lion or both, but the descriptions are being filtered through the mind of Isaac. It is Isaac's language, Isaac's view of Old Ben and Lion that the reader is encountering here.

Thus, it is Isaac who is being presented by Faulkner as seeing the world through tall tale conventions (exaggerated, supra natural ability) while it is Faulkner who is engaged in portraiture, of Old Ben and Lion, directly on the surface of the writing, and Isaac indirectly underneath the writing. Given that the reader is viewing these characters as filtered through Isaac, one of the insights into personality that one achieves concerns Isaac. The reader does not necessarily receive a reliable view of Lion and Old Ben, then, but does, however, receive a view of Isaac that is consistent throughout the text of "The Bear".

Isaac is given to hyperbole, to seeing the world as an apocalyptic, us against them, good guys versus bad guys, heroically antagonistic environment, where actions count, moral duty counts. It is a black and white world that Isaac lives in, a world drawn in large proportions, in fact, drawn
larger than life—it is a world of ideal statues, all as tall and as imposing as the Statue of Liberty itself. There is no sense that his use of tall tale-like language to draw his portraits of Old Ben and Lion are meant by him (or Faulkner, for that matter) to be taken in a humorous vein, the hallmark of true tall tales. It is not funny, rather, it is serious character drawing.

This, then, would appear to mean that the reader is meant to note the irony of the language, to see the lack of mature viewpoint that Isaac has taken of the world. As Davis points out, William Faulkner, himself, at least on one occasion, noted that one needs to question the maturity, the realistic capability, of Isaac.⁹

The above discussion involves viewing the Lexia Database through the filter of the Label Database, as exemplified in Table 22, below. This is a use of the analytical aspect of the Xebra tool. Strictly speaking, it is not, itself, part of a Barthesian reading, as defined in S/Z, but is, instead, a process that is made possible by having a Barthesian reading to use as input to the analytical process. The conclusion to be drawn, then, is that there are, in fact, two processes that occur before the act of interpretation (the entering of the hermeneutic circle) for any given text.

First, there is the discovery, identification, or naming process. This is the essence of what one does when one

⁹Davis, 160.
breaks the text into lexias, then combs the lexias for the atoms of semantic content, the signifiers that form the nodes of the text's galaxy of meanings. More specifically, it is what one does when one builds the Lexia Database and the Label Database using Xebra.

Second, there is the process of hooking signifiers to signifieds. This is the analytical phase, where one repeatedly combs the contents of the Label Database for labels to be used as keys into the Lexia Database to retrieve those lexias that relate to the signifieds one is interested in pursuing. This is not an entirely determinant process, depending, as it does, on the ability of the Barthesian reader to have been precise, consistent, and complete in the reading, and on the subsequent critic's ability to explore labels that lead to fruitful results. Indeed, this process of pattern discovery through iteratively reviewing the list of codes, selecting prospective codes, then, finally, using these to retrieve lexias and all their associated labels, could be thought of as serendipitous in its outcomes, if only casually observed.

However, pattern discovery is always involves noticing a repetition of elements in a series of data. In order to notice the repetition, one must be paying attention to the flow of data. Xebra's design allows for easy access to such flows of data, but the user must keep a watch for the signs of significant patterns; Xebra cannot do that for the user.
It would be possible to code a computer program to generate sets of lexias that were related by multiple labels, however, the user of such a program would have to decide which sets had significance. While Xebra at this time does not automatically generate such sets, it is a relatively simple process to create them using its database querying capability. To emulate such a query manually, as Barthes would have had to do in his implementation, would be a difficult clerical task on a small text such as Sarrasine and a very difficult one on larger, more complex texts like "The Bear." This is precisely the strength of a computer-based implementation, that is, the handling of repetitive, clerical, time-consuming tasks which consume too much of a critic's intellectual effort.

Table 22 is an example of the results of such a process of query formation and execution. It shows that two SEM labels, "Indomitable" and "Irresistible," along with one SYM label, "Untamed Nature," reveal a pattern of lexias that participates in the conventional use of tall tale language and subject material. Any critic viewing this table could clearly make the assertion that Faulkner's tale abounds in the use of tall tale conventions. Further, such a critic could then go further by fitting in this use with an overarching interpretation of the text.

The data for Table 22 were generated from the Lexia and Label Databases by using the two SEM labels and the SYM
label as keys for several queries into the Label Database to find the numbers of those lexias that were labeled by at least two of the key labels. These lexia numbers were then used to retrieve the lexias themselves from the Lexia Database. Finally, a report was generated through the database engine that presented the lexias and their labels.
--the long legend of corncribs broken down and rifled, of shoats and grown pigs and even calves carried bodily into the woods and devoured, and traps and deadfalls overthrown and dogs mangled and slain, and shotgun and even rifle shots delivered at point-blank range yet with no more effect than so many peas blown through a tube by a child—a corridor of wreckage and destruction beginning back before the boy was born, through which sped, not fast but rather with the ruthless and irresistible deliberation of a locomotive, the shaggy tremendous shape.*

SEM Irresistibility
SEM Indomitable
SYM Untamed Nature

It ran in his knowledge before he ever saw it. It loomed and towered in his dreams before he even saw the unaxed woods where it left its crooked print, shaggy, tremendous, red-eyed, not malevolent but just big, too big for the dogs which tried to bay it, for the horses which tried to ride it down, for the men and the bullets they fired into it; too big for the very country which was its constricting scope.\(^b\)

SEM Indomitable
SYM Untamed Nature

"The dog?" Major de Spain said. "That's gonter hold Old Ben." "Dog the devil," Major de Spain said. I'd rather have Old Ben himself in my pack than that brute. Shoot him." "No," Sam said. "You'll never tame him. How do you ever expect to make an animal like that afraid of you?" "I don't want him tame," Sam said; again the boy watched his nostrils and the fierce milky light in his eyes. "But I almost rather he be tame than scared, of me or any man or any thing. But he won't be neither, of nothing.\(^c\)

SEM Indomitable
SYM Untamed Nature

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\(^a\)Faulkner, 198-199.

\(^b\)Ibid., 199.

\(^c\)Ibid., 220.
Each morning through the second week they would go to Sam's crib. He had removed a few shingles from the roof and had put a rope on the colt's carcass and had drawn it out when the trap fell. Each morning they would watch him lower a pail of water into the crib while the dog hurled itself tirelessly against the door and dropped back and leaped again. It never made any sound and there was nothing frenzied in the act but only a cold and grim indomitable determination.1

134 SEM Indomitable
134 SYM Untamed Nature

Toward the end of the week it stopped jumping at the door. Yet it had not weakened appreciably and it was not as if it had rationalized the a

135 SEM Indomitable
135 SYM Untamed Nature

Then the dog looked at him. It moved its head and looked at him across the trivial uproar of the hounds, out of the yellow eyes as depthless as Boon's, as free as Boon's of meanness or generosity or gentleness or viciousness. They were just cold and sleepy. Then it blinked, and he knew it was not looking at him and never had been, without even bothering to turn its head away.  

212 SEM Indomitable
212 SEM Irresistibility

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dIbid., 220.
eIbid., 238.
The next three conventions that Davis mentions, hunting sketch, bildungsroman, and myth of initiation, do not have to be discovered via semes. Instead, there are REF codes that, while not directly corresponding to the three conventions, certainly serve as reasonable analogs. Once one has retrieved the appropriate lexias via the REF codes, then pattern discovery can begin.

This process, similar to those already discussed, begins with the analyst/critic noting the other codes that are associated with the retrieved lexias. The next step is to build queries from this list of codes that will return tables containing lexias that are also labeled with these other codes. Next one would scan these tables for patterns. One such pattern might be that certain lexias with one of the initial REF codes discusses hunting in the context of initiation of a young Isaac. While tables are the default form for data representation in the database engine, patterns often are more readily apparent through other data representations such as graphs, so one might also consider building graphs of the results to look for visual clues.

The patterns using the hunting sketch conventions are generally discernable in the evaluation databases by querying the Label Database for the REF labels, "Code of Hunting" and "Code of Hunters." Such a query results in ninety-three lexia numbers being retrieved out of the six-hundred-thirty lexias found in the Manual Label Database, or
roughly one-sixth of the total. The sheer number of references to hunting establishes the possible link between "The Bear" and the use of the hunting sketch conventions.

It is, of course, still only a "possible link" at this point since the numbers alone do not, in and of themselves, prove that Faulkner's prose in any way reflects such conventions. It is possible he wrote on hunting in a unique, Faulknerian mode, though not likely, given Western writing tradition. Examination of the retrieved lexias leaves no doubt in the matter.

There are scenes of hunters around the camp fire, discussing the lore of hunting and scenes of senior hunters training novices; there are numerous references to the mores of hunting, as well as, references to the call of the pure, unadulterated wilderness versus the terrible ruinations of domesticated life; and finally, there are several scenes of actual hunting sequences. These all are part and parcel of a hunting sketch.

Bildungsroman is formally defined in Benét's Reader's Encyclopedia as "a type of novel, common in German literature, which treats the personal development of a single individual, usually in youth."¹⁰ There are thirty-six separate lexia numbers referenced in the Manual Label Database by the REF label, "Code of Ages of Manhood

Attainment." Using that as a starting point, one can quickly retrieve, not just those thirty-six lexias, but also many others that are concerned directly with Isaac's development, from his birth in the year 1867 A.D., through to his death eighty years later.

Scanning the lexias, one finds that the vast majority are confined to the time period between Isaac's tenth birthday in 1877, and his twenty-first birthday in 1888; the crucial growing up years. So, there is ample evidence to be garnered via the Label Database for Faulkner's use of the *bildungsroman* convention.

Similarly, there is evidence of Faulkner's use of the myth of initiation, which is actually a sub-theme of the material contained in the previous two conventions--the hunting sketch and the *bildungsroman*. This relationship of the use of initiation myth to the others is discoverable by comparing the set of lexia numbers retrieved regarding the first two uses of convention with those retrieved through the REF codes "Code of Rites of Passage" and "Code of Rites and Rituals." The lexia number sets intersect, with these REF codes coinciding frequently with those related to hunting sketch and *Bildungsroman* conventions.

Table 23, below, contains lexias that illustrate this intersection. They were retrieved using the two REF codes shown, but, in fact, they were also labeled in terms of their signification of hunting and Isaac's age, where
appropriate. A critic viewing these should quickly see all three conventions (hunting sketch, *Bildungsroman*, and myth of initiation) at work, as well as, the fact that initiation myth is interwoven with the other two.
He was thirteen then. He had killed his buck and Sam Fathers had marked his face with the hot blood, and in the next November he killed a bear.*

REF Code of Rites of Passage
REF Code of Rites and Rituals

not even when, Uncle Buddy dead and his father, at last and after almost seventy-five years in bed after the sun rose, said: 'Go get that damn cup. Bring that damn Hub Beauchamp too if you have to:' because it still rattled though his uncle no longer put it even into his hands now but carried it himself from one to the other, his mother, McCaslin, Tennie, shaking it before each in turn, saying: 'Hear it? Hear it?' his face still innocent, not quite baffled but only amazed and not very amazed and still indomitable:"

REF Code of Rites and Rituals
REF Code of Rites of Passage

looking at him and trying to tell him until McCaslin moved and leaned over the bed and drew from the top of the night shirt the big iron key on the greasy cord which suspended it, the eyes saying Yes Yes Yes now, and cut the cord and unlocked the closet and brought the parcel to the bed."

REF Code of Rites and Rituals
REF Code of Rites of Passage

*Faulkner, 213.

*bIbid., 296.

*cIbid., 297.
the day, the morning when he killed the buck and Sam marked his face with its hot blood, they returned to camp and he remembered old Ash's blinking and disgruntled and even outraged disbelief until at last McCaslin had had to affirm the fact that he had really killed it: and that night Ash sat snarling and unapproachable behind the stove so that Tennie's Jim had to serve the supper and waked them with breakfast already on the table the next morning and it was only half-past one o'clock and at last out of Major de Spain's angry cursing and Ash's snarling and sullen rejoinders the fact emerged that Ash not only wanted to go into the woods and shoot a deer also but he intended to and Major de Spain said, 'By God, if we don't let him we will probably have to do the cooking from now on:' and Walter Ewell said, 'Or get up at midnight to eat what Ash cooks.'

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\(^d\)Ibid., 313.
It should be noted that other pertinent lexias can be retrieved via the REF label, "Code of Fatherhood," because this label was used to mark those points where Sam Fathers initiates Isaac into various aspects of manhood. This is an example of the difficulty of attaining consistent and complete labeling. Despite all the aid currently provided by Xebra, it is still possible to forget marking a particular lexia with all appropriate labels. CHAPTER V will address a variety of enhancements to Xebra, including a possible approach to lowering this particular risk.

In summary, then, it is clear that the use of these conventions can be discovered and traced via the Lexia and Label databases created in the Barthesian/Xebran reading undertaken for this evaluation of the system. To do so involves relatively sophisticated manipulation of the basic data points in the databases, both the labels and the lexias, including retrieving, ordering, and scanning of the results, either in tabular or graphic form.

While it is true that these actions are not directly done by Xebra, as such, requiring as they do intellectual effort beyond current computer science knowledge, they are significantly supported by the tool. Not having the tool would make the discovery of the trace of these conventions much more difficult and thus making it more problematic as to proving their existence.
On the rating scale described in the beginning this chapter, a score of "+2" seems reasonable. The information is there in the databases, but the analyst/critic must do some good analysis work in order to discover it. The reading does not automatically tell the critic that these conventions are, in fact, in use in the text. However, the system does support such analysis very strongly.

Evaluating Xebra: Criterion Two

Criterion two, names and their significance, when properly met, results in giving the critic undertaking the act of interpretation upon "The Bear," not only an intellectually interesting, but, also, a necessary insight into the workings of the text. A trace through the labels, with their accompanying notes, shows why this is true.

Starting with Lexia Two, there are labels related to the names of the characters. Boon Hogganbeck, Lion, and Old Ben, are all introduced in this lexia, if not directly by name (for the reader is not told Lion's name for many pages yet), then, at least by attribute: man or beast, plebeian or royalty, tainted or taintless, corruptible or incorruptible, of great value or only of some value. As it turns out, their names all relate to their attributes, a fact that, as it happens in this instance, is traced most fully in the notes field in the Label Database.

Boon Hogganbeck (thus, a caller of hogs, as well as, a blessing) is noted to be a member of plebeian humankind, but
related to the royal. As such, he is corruptible, he is a man, he is not without taint, and he has some value or worth. The name Boon, while directly calling up a sense of worth or value, also has a different connotation, coming from its participation in the decidedly plebeian term "boondoggle," which refers to a wasted enterprise. This aspect of Boon's name brings to the foreground the fact that he is a tainted, corruptible, plebeian blessing, at best.

All of these attributes of the name "Boon" are related to why, at least, in part, the SEM, "Worth," the REF, "Code of Class Hierarchy," the SYM, "Domesticated Nature," the SYM, "Antithesis: Ideal/Non-Ideal," the SYM, "Antithesis: Wilderness Land and Beasts/Hunters," and the SYM, "Mother of God," are applied to Lexia 2 in the Manual Label Database. The notes on these labels make this clear, though no label, specifically, is addressed to "Boon," as name.

First, the reader knows Boon has some worth, for that is stated, thus the SEM, "Worth." Second, the reader knows, since it is stated, that Boon, as signified by "Hogganbeck" (caller of hogs), is of a plebeian strain of blood, a strain that can fail, can do wrong, can participate in "boondoggles", thus, the REF, "Code of Class Hierarchy." Third, as one connotation of "caller of hogs" implies, Boon has, at least, one foot firmly planted on the domestic side of nature, the tame side, thus, the SYM, "Domesticated Nature." Fourth, because he is a blessing, a good thing of
some value, a holder of some royal blood, but also a
plebeian, a tainted and corrupted man, he participates as a
mediation point for both antitheses. Fifth, and last,
because of what is learned later about his role as "mother"
to Lion, as well as, the connotations of his name as a
blessing, a person of value, the SYM, "Mother of God"
applies. He is a "Mary," or "Mother of God," to Lion's role
as "Son of God."

The dog in Lexia 2 has the name Lion (learned much later
in the text), and is, thus, a citation, a seme for royalty,
as well as, for Christ, who has been often associated with
the Lion, as well as, the Lamb. Lion, the reader is told,
is a beast. He is of that same royal strain of blood which
runs in both Old Ben and Sam Fathers. Thus, like them, he
is taintless and incorruptible. His name, as well as, the
narrative's own insistence, contribute to the REF, "Code of
Class Hierarchy," applying to Lexia 2. It also contributes
to the REF, "Code of Godliness." for the same reasons.

Throughout the text, Lion is Sam Father's son, Sam is
God, Father of All, Boon is the mere plebeian who is allowed
the "boon" of being the Mother of God. Wherever it was
appropriate, labels such as, "Code of the Bible" and "Code
of Godliness," were applied when Lion's name was mentioned.
"Appropriate" in this context is when Lion was acting in a
godly or biblical way, or when he was acting as the son of
Sam, who was acting in a godly, biblical way.
Old Ben (royal, immortal, taintless, and incorruptible beast) has one of the best names of all, a name that Faulkner surely spent time researching. "Ben," in Scotland, refers to the second room or interior room, of a two room cottage. It is the private room for the family; its spiritual center. Given the Scottish and Protestant nature of many of the settlers of Mississippi, this is particularly appropriate. Add to this the Christian Biblicalness of the name "Benjamin" (and all of the Bible's tales of same), then the spiritual, holy nature of Old Ben is clearer still. Further, "Old" confers a sense of Ben as being holy, ancient, wise, and spiritual, as well.

The two names, along with actions and capabilities reported of Old Ben, lead to the SYM, "Holy Spirit Hidden Within," being applied wherever he was obviously behaving in a manner of such a being. However, whenever the name, "Old Ben," is used, it is not inappropriate to think it connotes such a symbol. As for the other labels, Old Ben's royal blood adds to the REF, "Code of Class Hierarchy," while his participation in godliness adds to the REF, "Code of Godliness," and to the antithetical structures of the text.

Finally, there is Sam Fathers. The references this name participates in are numerous, with the biblical sources appearing predominant. For one, there is Samson, a character right out of a tall tale in the Old Testament of the Christian Bible, a character of gigantic, heroic
stature, who is taller, more powerful than any mortal. For another, there is Samuel the prophet, another character from the same source. These are two references that take the reader back to the Bible, and, thus, causing the reader to think in spiritual, godly terms when the name "Sam Fathers" is used, and they are both from the first name. The last name is just as fruitful in Barthesian pluralness.

"Fathers," as an anglicized Native American name, refers immediately to all of the Native American lore concerning spiritualness, to the role of Native American fathers in bringing spiritual, supernatural knowledge to their sons. Yet also it adheres to the designation of "God as Father" in the Christian Bible, a God who is father to many, hence, a plural father. Given all these godly connotations of "Sam Fathers" as a name, the REFS, "Code of Godliness" and "Code of Class Hierarchy," and the SYM, "One Father of All (God)," are necessarily attached to Lexia 2.

Lexia 3, in the Manual Lexia Database, introduces Isaac as a sixteen year-old, "man's" hunter. There are no labels that are name-based for "Isaac" at this point, though some appear later in the Label Database, when there are obvious activities, references, symbols, semes, and hermeneutics that are directly, or indirectly, illuminated by the fact of his name. The first such reference, and nearly the last, is coded for Lexia 397 in the Manual Lexia Database:

and McCaslin 'Ah:' and he 'Yes. If He could see Father and Uncle Buddy in Grandfather He must have seen me too.
--an Isaac born into a later life than Abraham's and repudiating immolation: fatherless and therefore safe declining the altar because maybe this time the exasperated Hand might not supply the kid--' and McCaslin 'Escape:' and he 'All right. Escape.'

The text makes the reference obvious; the REF, "Code of the Bible," is inescapable. However, it would be remiss for any analyst/critic using these databases to not realize that, wherever the name "Isaac," or any anaphoric reference to Isaac is made, then there is also an implicit reference to the Biblical code of "Isaac." In Barthes' example in S/Z, he does not always use the label "SEM. Femininity," wherever the name "Sarrasine" occurs. But certainly, a critic who is performing an act of interpretation for Sarrasine using Barthes' label set must keep in mind Barthes' pointing out the relationship as he did in Lexia 1.

Clearly, then, as signifiers, the names of the prime characters in "The Bear" are caught in the Label Database, and, thus, are useable as such by a critic interpreting "The Bear" with this database as a repository of the basic facts of the text. Davis' second assertion regarding the need for knowing the meanings of these names is, thus, fully met by this Barthesian/Xebran reading.

In rating the system in regard to this criterion, a "+3" is appropriate, because the facts concerning the names as signifiers are, indeed, directly visible in the databases due to the Barthesian/Xebran reading. This is as strong a

\[\text{11Ibid., 277-278.}\]
positive correlation as is possible. All an analyst/critic must do is read the reading.

Evaluating Xebra: Criterion Three

Analyzing various use of language and image patterns, as Davis requires, is quite possible using the databases built during a Barthesian/Xebran reading and the analysis tools of the database and spreadsheet engines of Xebra, assuming the Barthesian reader has labeled all the appropriate atomic nodes. The task here is to show that this is, indeed, the case for this Barthesian/Xebran reading of "The Bear."

Figure 2, below, shows one such set of nodes, an image in "The Bear," captured in the SEM, "Destructive Force," plotted against the five sections of the narrative. Figure 3, below, is another example, the use of language to convey the sense, if not the exact image, of blindness, also plotted against the five sections.
Destructive Force

Image Use Example

FIGURE 2: USE OF LANGUAGE: "Destructive Force" IMAGE
Blindness
A Use of Language Example

FIGURE 3: USE OF LANGUAGE: SENSE OF "Blindness" IMAGE
The first graph, Figure 2, clearly shows that there are numerous usages of the "destructive force" image, usages which are rather evenly distributed across the sections. An analyst, viewing this graph, reading the associated lexias, and noting the other labels given to each of them, would probably note, immediately, that "destructive force" is an important theme within "The Bear." Further examination would reveal that the theme of "fools" is also closely allied to it, being either a label on the same lexias as "destructive force," or on ones directly on either side of it. An interpretation of "The Bear" that did not take into account the obvious statement being made here of the relationship of destructive force to foolery, whether wielded by the hands of self-styled aristocrats, such as the Southern Generals of the Civil War, or mere plebeians, such as Boon Hogganbeck, would certainly be remiss.

The second graph, Figure 3, shows that language conveying a sense of blindness is distributed across all five sections, but not evenly at all. Section III has from four to thirty times as many references as the other four sections. In addition, there is the classic rise through to the middle section, than a falling off. An analyst, looking at this distribution, and reading the actual lexias involved, should ask questions such as: "Who is being blind here, one or more of the characters and/or the reader?" or "Does anyone ever regain their sight?" For instance, in
Lexia 245 of the Manual Lexia Database, there is a distinct sense of blindness:

motionless, his eyes open but no longer looking at any of them, while the doctor examined him and drew the blankets up and put the stethoscope back into his bag and snapped the bag and only the boy knew that Sam too was going to die.\(^\text{12}\)

The sense works in, at least, two ways. First, Sam has his eyes open, but he is not looking at anyone in the room. But the implication (from Isaac’s view, as the reader is given the report) is that he is looking at and seeing some person or some object somewhere, probably, supernaturally. Sam is, thus, not blind, though the people around him might rightly assume that he no longer is seeing in the normal human sense. Second, Isaac “sees” that Sam is going to die, but nobody else sees or knows this, apparently, including even Sam ("...only the boy knew ..."\(^\text{13}\)).

An interesting question of epistemology comes into play here. Does Isaac know that Sam is going to die due to some supernatural, spiritual connection, or does he see that Sam is going to die because Isaac, in his own mind, has decided that it is only fitting that Sam do so, to complete the symbolism, the myth, that Isaac seems to be living within? In other words, is Isaac really the blind person here? Is he incapable of seeing any reality other than the which one he has constructed out of mythic terms or figures?

\(^{12}\)Ibid., 245.

\(^{13}\)Ibid., 245.
An analyst/critic would have to probe this question and come to some conclusion. But the point to be made here, in terms of this Barthesian/Xebran reading, is that a careful reading of the lexia, guided by the labeling attached to it, leads the analyst to ask deep questions (important and correct questions, it is hoped).

A note on definition: image and use of language are distinguished here by categorizing "use of language" as the general term, and "image" as the specific term. More definitively, "imagery" is a particular "use of language to represent descriptively things, actions, or even abstract ideas."14 That is, image is defined to be an extended, graphically oriented description, often with direct reference to that which is being portrayed, while a use of language is anything that one can do with language. Among other things, it is a citing of a theme by the use of merely a few key words, without a direct reference to what they sketch, only an implication.

For example, Lexia 206 in the Manual Lexia Database is labeled with SEM, "Destructive Force," and SEM, "Fools":

And the first day on stand this year, the first morning in camp, the buck ran right over Boon; he heard Boon's old pump gun go whow. whow. whow. whow. whow. and then his voice: "God damn, here he comes! Head him! Head him!" and when he got there the buck's tracks and the five exploded shells were not twenty paces apart.15

14Literary Terms, rev. and enlrgd. ed. (1975), s.v. "imagery".

15Faulkner, 236.
It is clear that there is a picture being painted here of attempted, but foolishly failed, destructive force in action. The image is of a buck heading right at Boon, close enough so that "any fool could hit him" as the old saying goes, but not this fool. Boon rapidly expends five cartridges on the buck coming directly at him without drawing blood. Semi citing of Boon in terms of foolery and destructive force is common in "The Bear." He is described, for instance, as attempting to shoot a former slave, but hitting, instead, everything but the object of his wrath. Finally, "The Bear" ends with this image from the last few sentences, the last words of the narrative:

Then he saw Boon, sitting, his back against the trunk, his head bent, hammering furiously at something on his lap. What he hammered with was the barrel of his dismembered gun, what he hammered at was the breech of it. The rest of the gun lay scattered about him in a half-dozen pieces while he bent over the piece on his lap his scarlet and streaming walnut face, hammering the disjointed barrel against the gun-breech with the frantic abandon of a madman. He didn't even look up to see who it was. Still hammering, he merely shouted back at the boy in a hoarse strangled voice: "Get out of here! Don't touch them! Don't touch a one of them! They're mine!"  

Fools, wielding destructive force in the tall tale conventions and the hunting sketch conventions, are typically not effective at reaching their goals, of completing any meaningful quest. "The Bear" certainly plays out these conventions in full in terms of Boon.

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16Faulkner, 319-320.
Just as clearly, the following lexia from the Manual Lexia Database, illustrates the technique of using but a few key words to convey a sense of blindness:

He ranged the summer woods now, green with gloom, if anything actually dimmer than they had been in November's gray dissolution, where even at noon the sun fell only in windless dappling upon the earth which never completely dried and which crawled with snakes--moccasins and water-snakes and rattlers, themselves the color of the dappled gloom so that he would not always see them until they moved ... .17

The image painted here is, ostensibly, the look and feel of the wilderness woods in summer as opposed to the fall. However, the implication is that both seasons result in a certain blindness for the traveler, making seeing difficult in both seasons. In fact, it is even stated that it is harder to see in the summer than it is in the late fall.

If one were to relate this back to an analogy often drawn between the seasons of the year with that of the "seasons" of a person's life, than what is being said here is that a person in their "summer" is blind, perhaps involuntarily, to what is reality; they are not as cognizant of hazards ("snakes--moccasins and water-snakes and rattlers"18) as they ought to be. At another level, the snake, in Christian mythology, is linked to Satan and to the Fall (Original Sin). Thus, in the summer of one's life, one is prone to blindness in terms of the ultimate realities:


the hazards that will condemn one's soul to Hell.

What should be clear, given the above, is that an analyst, having access to a completely, consistently, and precisely labeled set of lexias and possessing an appropriate set of analysis tools, has a reasonable expectation of tracing the use of language and images in a text. This is, of course, precisely the position a critic is meant to occupy once a Barthesian reading is complete.

Taking into account the above qualifications, the rating of the system in regard to this criterion should be a strong "+1" or weak "+2." The system does not return to the analyst/critic the information desired coded directly in the database, however, through relatively sophisticated analysis, the information can be discovered using the analysis tools built into Xebra.

Evaluating Xebra: Criterion Four

Criterion four requires that the user of Xebra be able to engage in a process of comparing, contrasting, and generally relating sequences of events (such as the patterns of questing, relinquishing, and bequesting) across the five sections, including their ironical attributes, through the use of the databases and the analysis tools that go with them. Again, it must be noted that the successful carrying out of this task is first dependent upon a complete, precise, and consistent labeling of the text. Given this, then an analyst can, indeed, do the required pattern
recognition and interpretation, as the data reveals.

For instance, the following graph, Figure 4, shows acts of questing, relinquishment, and bequesting in relation to each other, quantitatively, across the five sections. The questing action is shown in four ways: questing, as such, and then in three sub-actions: "Man/Bear Confrontation," "To Travel," and "To Earn." The questing is divided largely as an artifact of the what and how of the labeling process.

What was being labeled were action sequences; how these were being labeled was in terms of signification at the most general level. Thus, while it is true that Isaac quested in his two trips to discover the heirs of his Grandfather's will, these action sequences were labeled as "To Travel," not "To Quest." The choice of label term is obviously an important one, since the object is to communicate findings of fact, with the choice of label term possibly becoming a hindrance, rather than a help. The problem lies in choosing the most appropriate term for conveying the essences of the various significations of the signifier.

There are, however, possible solutions to this. CHAPTER V explores future enhancements to the Barthesian/Xebran process which address problems that became apparent through the current execution and evaluation of the system.

As for the evaluation, the three action sequences of "To Travel," "Man/Bear Confrontation," and "To Earn," all fit under the general rubric of "quest." This fact was neither
accident nor coincidence. As the primary hypothesis behind
the Barthesian methodology asserts, these sequences are real,
(realizable, notable, citable, nameable) entities or
signifiers that do not move or disappear between readings.
They are concretely there. It is only in the possible
enumerations of signification that problems can arise.
Thus, a critic, carefully analyzing the list of ACTs
generated in this reading, should be able to meet Walter
Davis' conditions for the pre-interpretative act concerning
action sequences in "The Bear."

In order to make the following discussion clearer,
another possibly disruptive relationship needs to be made
explicit. The term "inheritance" is used interchangeably
with Davis' term, "bequest." This, like "quest," above, is
an artifact of how the actions were labeled. There is a
denotative and a connotative similarity between the two
terms, but, as in all such similarities among mere words of
a language, the match is inexact. In this instance,
"inheritance" is a more general term than "bequest."

Further complicating the analysis at this stage is the
fact that "bequesting" was not labeled as an ACT, per se.
However, as an example of the flexibility of the Barthesian
system, the REF label, "Code of Inheritance," does, in fact,
coincide with what is the action of bequesting in "The
Bear." This problem, then, is an excellent example of both
the flexible power of the Barthesian system and the
complications that arise through incomplete, imprecise, and inconsistent labeling practices. As noted previously, CHAPTER V introduces further enhancements to Xebra that might alleviate these complications even more thoroughly than the current system is capable of managing.

As to the proof that the Label Databases do, indeed, capture the essence of Davis' requirement of having the facts of the actions of Quest, Bequest, and Relinquishment established prior to the act of interpretation, Figure 4, "Quest, Bequest, Relinquishment," starts the process. Figure 4 contains a graph presenting, at an abstract, quantitative level, the degree of participation in each Section of each action sequence Davis mentions.
FIGURE 4: QUEST, BEQUEST, RELINQUISHMENT
Figure 4 presents strong evidence that Section I sets up all three action types, with questing taking the predominant role, fifty-six references to ten for inheritance, and three for relinquishment. The three sub-quest types also are all represented, with the "Man/Bear Confrontation" predominating, thirty-five references to eleven for "To Travel," and ten for "To Earn."

In Section II, the relative status of the six categories of action (three main, three sub-types) stays the same. Three either disappear or nearly so, with the focus being primarily "Man/Bear Confrontation" and "Inheritance," though, the former predominates over the latter, two to one.

Section III is practically all "Man/Bear Confrontation" action, though the other two main actions, "Inheritance" and "Relinquishment" are still present.

Section IV essentially ignores five of the action sequences, concentrating heavily on "Inheritance," with much smaller, but nearly equal amounts, of "Questing" and "Relinquishment." The "Man/Bear Confrontation" drops out.

Section V returns to the pattern of "Questing" predominating over the other two major actions, with the "Man/Bear Confrontation" barely nudging out "To Earn" as the major sub-action within the "Quest" action.

From a critical analysis point of view, there are a great many questions raised by the graph in Figure 4, such as the order of the actions or who was doing or involved in
each. The graph gives an overview sight into the quantitative relationship within and across the sections, without revealing any deeper relationships. Such questions as these would have to be answered either by graphing the same data differently, such as by lexia number sequence for each action type, or by actually reading the lexias or perusing the other labels associated with each lexia.

However, Figure 4 alone does present strong evidence of the overwhelming aspect of "Quest" as an action, and, in particular, the "Man/Bear Confrontation." This would direct the attention of a following critic toward tracing the lexia sequence of the "Man/Bear Confrontation," that is, studying each lexia and its associated labels, because these lexias are clearly central to the action of the narrative.

For example, turning one's attention to just one aspect of quest action type, reveals an interesting relationship. A quick perusal of the lexias labeled with the REF, "Code Of Earned Status," and the ACT, "To Earn," reveals that Isaac is often involved with both. By forming a list of only those lexias that are labeled with these two codes and which involve Isaac, one can see that Isaac's personal quest in "The Bear" is associated with the attainment of a particular status. Isaac is consistently driving to be a man's hunter, that is, to have all the attributes of a truly complete man of the wilderness who is attuned to it in all of its aspects (to know all of its inhabitants, plant and animal, and to
know all of its secret ways), and, finally, to be himself accepted as part of the whole of it.

Thus, analyzing the relationship of a set of codes produced via the Barthesian/Xebran process, reveals a "fact of the text" that could be crucial to acts of interpretation regarding "The Bear." Figure 5, below, shows the distribution of the references and actions involving Isaac in terms of his quest. This is followed by an analysis of the graph’s implications.
FIGURE 5: IKE'S QUEST
The graph in Figure 5 reveals that Section I and Section V are the heart of the matter in terms of Isaac's personal quest. In Section I, the nature of his quest is first defined, while in Section V, one is given a sense of its end, beginning with his reminiscing on Ash's response to his having killed his first deer, to his finding Boon.

The flashback to Ash and the resulting misadventure with a yearling bear is the Section V passage labeled with the REF, "Code of Earned Status." This passage functions as a reminder of Isaac's personal quest for status, centering as it does on his first major accomplishment toward the end which he sought, an accomplishment considered so important that Sam Fathers initiated him into the brotherhood of hunters as his apprentice. But the glory of that accomplishment is undercut by the foolish (humorous only in retrospect) adventure that he shared with Ash in their encounter with the bear.

This reminiscence by Isaac presages his own pending misadventure, one that is, perhaps, even more dangerous physically than the earlier one, yet carrying strong overtones of even greater danger than mere death. Isaac nearly rouses a snake to the attacking point, a snake that is anything but a yearling, which is instead "the old one, the ancient and accursed about the earth." 19 Isaac avoids, this time, at least, the catastrophe of death, a death that

19Ibid., 318.
implies falling to Satan (the snake), only to move on to his
discovery of Boon (king of fools), hammering uselessly at
his useless gun, a gun he never could use well, even when it
was all in one piece. So we, as readers, know (even if
Isaac does not) that his personal quest has pitfalls--he can
end in foolishness, suffering a plebeian death, gaining but
a plebeian share of this world, or, worse: he can end
totally corrupted by Satan himself, thus lost forever.

As for the patterns of "Bequesting," if one peruses the
list of lexia numbers related to the "To Travel" sequences
and the "Inheritance" references and symbols, there is a
certain pattern of overlap that is noticeable, a pattern of
interest relating to Isaac, bequests, and questing. But
first, one must have the list before one can peruse it.

As discussed in CHAPTER III one can construct a list
which contains the lexia numbers of lexias that are labeled
with any one of two or more labels in Xebra by entering an
"OR" query against the Label Database. In this case, one
must enter an "OR" query against the Label Databases that
will retrieve all records that have either "Inheritance" or
"To Travel" in the appropriate field.

A scan of the resulting list makes three areas of
overlap apparent. After retrieving the lexias involved in
these overlaps from the Lexia Database, a critic must then
read each lexia. Upon doing so, one learns that the first
such overlap lexia is concerned with Isaac’s Grandfather
having inherited slaves and traveling to New Orleans to get a wife for one of them. However, one learns that the other two are specifically about Isaac and his quest for the two grandchildren of his Grandfather in order to deliver the Grandfather's bequest of $1,000 in gold.

Table 24, below, is a report generated from the two lexias that involve Isaac, travel, and inheritance. A discussion of the report follows after the table.
TABLE 24

ISAAC: INHERITANCE (BEQUEST) AND TRAVEL (QUEST)


351 it would be another two years yet before the boy, almost a man now, would return from the abortive trip into Tennessee with the still-intact third of old Carothers’ legacy to his Negro son and his descendants.*

| ACT  | To Enter | 6 | To enter, but not continue, having failed in mission |
| ACT  | To Hunt  | 23| To hunt for a person |
| ACT  | To Go Back | 14| To go back after failing one’s mission, one’s duty one’s mission, one’s duty |
| ACT  | To Travel | 6| To travel in order to give money to a person who has run away from it and you and everyone else |

REF  | Code of Chronology |
REF  | Code of Ages of Manhood Attainment |
REF  | Code of Inheritance |
REF  | Code of Slavery |
SEM  | Duty |
SEM  | Weight of Responsibility |
SYM  | Sexual Entry Point |

Ike entered TN in order to give money to son of Tomy’s Terrell, Terrell being the result of an illicit sexual encounter between Carothers and Tomy--Ike was trying to make amends for his Grandfather, but the act was aborted

371 in none of which he dared undress because of his secret golden girdle like that of a disguised one of the Magi travelling incognito and not even hope to draw him, but only determination and desperation, he would tell himself: I will have to find her. I will have to. We have already lost one of them. I will*b

| ACT  | To Travel | 9| To travel with gold hidden on one, like the Magi of the Bible |
| ACT  | To Hunt  | 25| To hunt a person, determinedly, desperately |
| ACT  | To Hope  | 8| To not hope to be able to do what one has set out to do |

REF  | Code of the Story of Jesus |
REF  | Code of Inheritance |
SYM  | Endings |
SYM  | Beginnings |

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*aIbid., 268.

*bIbid., 272.
Reading the associated lexias, Lexia 351 and Lexia 371, in the report above, reveals that Isaac's travels are, indeed, a quest, one related to his Grandfather's sins. These sins include fathering a child with one of his own slaves, then, further compounding the problem by fathering yet another child with the offspring of the first liaison. These were sins that resulted in suicides, broken families, lost children, destroyed lives, not to mention, Isaac's own questing for a place in the world separate from that which was bequeathed him by his father and his grandfather.

In other words, there are quests within quests operating here, and all turn, in one fashion or another, on the misbehavior of one man. This man, this character, is off-stage at the time of the action of the narrative, being long since dead and buried and thus, quit of the problems he generated for his children and his grandchildren and their children down through the generations . . . perhaps unto the seventh generation.

In "The Bear," the reader is not told just how many generations are to be tainted by this man, though certainly, there are the three discussed in the narrative, and by implication, all those that arise between the end of the narrative and Isaac's death in the late 1940's. Thus, the human race is condemned to seemingly endless repetitions of misdeeds by some small number of individuals, perhaps only one, followed by generations of penance and penalty.
suffering. A bleak outlook, yes, but one heavily supported, underscored, and returned to, again and again, by the text.

Before moving to the next criterion, a point concerning how the overlap of inheritance (bequest) and travel (quest) was discovered is in order. This discovery involved a particular kind of search of the Label and Lexia Databases. This search was based on terms given by Davis' criterion four. A proper question might be: how would a user of Xebra know to do that search if the user was not given the search keys? The proper response is that Xebra is a tool, a tool that can aid in the discovery of answers when given questions, questions properly formulated, questions that are the responsibility of the critic to formulate, then ask.

Such questions form in the critic's mind after scanning the data and noticing points to reflect upon, patterns of intersection and skew. Thus, Xebra does not ask or state questions; an analyst/critic asks questions. Strictly speaking, Xebra does not answer questions either. Again, it is up to the analyst/critic as a user of Xebra to determine from the query responses what an answer might be. So, like Walter Davis in the *Act of Interpretation*, the assumption must be made that the would-be dancer in the hermeneutic circle has sufficient power to bring to the task in order to first unearth (to label in a Barthesian world) and understand the preliminary data gathered from the text.
What is important to note here is that one is led, as an analyst/critic, to this discovery of Isaac's quest and its denouement through the simple clues of the labels attached to just a few lexias. This is certainly proof that criterion four, which requires the critic to have unraveled the secrets of the action sequences before attempting an act of interpretation, is very much within the realm of possibility, given Xebra and the Barthesian methodology.

In the rating system, the score here for the Barthesian/Xebran reading is a strong "+2." While the basic facts necessary to meeting Davis' requirements are not directly available from the databases, they are certainly readily discernable via a relatively simple analysis of the data in those databases.

Evaluating Xebra: Criterion Five

Criterion five, the role of structures of myth and ritual in Ike's development, as with the others, depends in the first place on the accuracy and completeness of the coding done. In the second, it depends on the ability of the analyst/critic to comprehend the data.

As to the data, if one were to look over the list of codes found in Tables 17-21, CHAPTER III, one should see that several codes are most likely pertinent:

1. Code of Ages of Manhood Attainment;
2. Code of the Always Already Known;
3. Code of Heroic Antagonists;
4. Code of Hunters;
5. Code of Hunting;
6. Code of Rites of Passage;
7. Code of Rites and Rituals;
8. Code of the Sixth Sense;
9. Gnomic Codes;
10. Heart As Truth Knower;
11. Mythology.

All of these codes lead an analyst/critic to lexias that are concerned with either myth or ritual. In particular, the codes "Ages of Manhood Attainment," "Rites of Passage," "Hunting," and "Hunters" key on lexias that are specifically related to Isaac's development. These lexias represent his direct (usually his knowing and approving) participation in a rite of initiation and learning, since doing so is necessary (Isaac believes) for success in his personal quest for a status (separate from and superior to) that which his forbears and his contemporaneous relatives would have him take as his own.

The other codes are more abstract, less directly related to Isaac's consenting passage through mythic and ritualistic processes. Instead, they are reflective of his acquiring aphoristic knowledge and beliefs that are rooted in some mythic past. For instance, the "Always Already Known" code is attached to lexias that reflect his belief in a body of knowledge that is accessible, from birth, through the mind;
Jung's archetype knowledge base of all that mankind has experienced and known. He is connected to a mythic world through his always already known knowledge, but it is not clear that he realizes that this is a knowledge base that not everyone can tap, at least knowingly, nor that not everyone agrees that there is such a knowledge base.

For instance, the following passage, Lexia 300 in the Manual Lexia Database (which, as it happens, is reachable via both the "Always Already Known" code and the "Heart As Truth Knower" code) is a classic example:

And I know what you will say now: That if truth is one thing to me and another thing to you, how will we choose which is truth? You don't need to choose. The heart already knows. He didn't have His Book written to be read by what must elect and choose, but by the heart, not by the wise of the earth because maybe they don't need it or maybe the wise no longer have any heart, but by the doomed and lowly of the earth who have nothing else to read with but the heart. Because the men who wrote His Book for Him were writing about truth and there is only one truth and it covers all things that touch the heart.  

Certainly McCaslin's response, "So these men who transcribed His Book for Him were sometimes liars...", is instructive for its lack of enthusiasm for the logic of Isaac's argument, a logic grounded on the notion of an innate truth knower hidden away in every person's heart.

But even more instructive concerning Isaac's development (in terms of structures of myth and ritual) than any of the

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20 Ibid., 257-258.

21 Ibid.
eleven codes listed above, are probably the antithesis
codes, particularly, the "Ideal/Non-Ideal Nature" antithesis
structure, of which Isaac is an integral part. In fact, he
is frequently the point of mediation for the two terms:
twenty-one lexias out of twenty-nine lexias labeled with the
antithesis code of "Ideal/Non-Ideal Nature" couple with
"Mediation" in the Manual Label Database, to be precise.

Isaac obviously is not an aware participant in this
antithetical structure, but readers can see how, as he plays
his role in the structure across the five sections, he
consistently attempts to move towards his goal of a status
with which he can live, while attempting to be assured of
his oneness with the moral principles that he holds dear.

Two sets of lexias in the Manual Lexia Database drawn
from near, and at the end of Section III, respectively, all
of which bear the label for the "Antithesis of Ideal/Non-
Ideal Nature" with Isaac as mediation point in the unfolding
dialectic, illustrate the point.

These lexias are not chosen to illustrate the ability of
tracing Isaac's development in terms of mythic, ritualistic
concepts, completely at random. For it is clear, from
Walter Davis' discussion of "The Bear," especially, in the
section, "Dialectical Poetics," that it is in these lexias
that the moment (drawn vividly, yet seen as if through a
veil, for there exist actions which are neither spoken of

\footnote{Davis, 35-49.}
nor portrayed on the set, that happen off-stage) at the end of Section III that is the defining moment in Isaac's (and Boon's) development.

Davis sees the moment as timeless, thus, part of an impossible to maintain, return to, live in, world. In the analysis that follows, it is seen as the moment in which Isaac's development is frozen, the point at which he has attained all the skills, all the knowledge, that he will ever attain, and then it is stopped, held in time, and he is forever condemned to attempt to return to that moment, to relive, to change that moment, or, at least, atone for it. These views, Davis' and the one taken here, are two ways of expressing the same notion, but, as is often the case with multiple perspectives, each one is sufficiently different so that more is seen in two, than with one.

Lexias 258 through 263 are concerned with Isaac's fight to stay at the camp following the killing of Old Ben and the death of Lion. Ostensibly, he wants to stay because of his concern for Sam Fathers, his mentor, his spiritual father. But the reader has clues that this is not necessarily the case. What follows is a detailed analysis of these ten lexias, in terms of the labels assigned to them in this reading, with the end goal of discovering Isaac's character and his stage of development, in terms of myth and ritual.

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23Ibid., 45-46.
Table 25, below, contains the pertinent lexias and their associated codes, which are referred to in the following analysis. The references are by lexia number and code type, which includes one of the five codes and the label term assigned it. For example, in Lexia 258, a reference to the symbol label for "Endings," would be "258, SYM, Endings."

It should be noted that many of the lexias discussed here should have been labeled with "REF, Code of Rites of Passage" and "REF, Code of Rites and Rituals," but, through error, were not. However, these lexias are discoverable in terms of the same concepts embodied in both REFs through another key, that of "SYM, Antithesis." That this is true constitutes further proof of the power inherent in Barthes' decision to rely on connotation as his access method to the scattered nodes of meaning, signifiers. Barthes, unlike his fellow countryman, Napoleon, was intent on not losing a battle and thus, a war for want of one crucial item.
Then they returned to camp. Major de Spain and McCaslin and Ash had rolled and tied all the bedding. The mules were hitched to the wagon and pointed out of the bottom and the wagon was already loaded and the stove in the kitchen was cold and the table was set with scraps of cold food and bread and only the coffee was hot when the boy ran into the kitchen where Major de Spain and McCaslin had already eaten.*

To refuse to go back, against the order of your leader

Isaac is to attempt the uplift, preservation of the dialectic for the Ideal--Boon, McCaslin attempt to halt it

"What?" he cried. "What? I'm not going." "Yes," McCaslin said, "we're going out tonight. Major wants to get on back home." "No!" he said. "I'm going to stay." "You've got to be back in school Monday. You've already missed a week more than I intended. It will take you from now until Monday to catch up. Sam's all right. You heard Doctor Crawford. I'm going to leave Boon and Tennie's Jim both to stay with him until he feels like getting up." He was panting. The others had come in.*

To refuse to go back, against the orders of your leader

They are all blind to Sam's future, except Isaac

They are all blind to Sam's future, except Isaac

Isaac is to attempt the uplift, preservation of the dialectic for the Ideal--Boon, McCaslin attempt to halt it

*Tbid., 248.
260 He looked rapidly and almost frantically around at the other faces. Boon had a fresh bottle. He upended it and started the cork by striking the bottom of the bottle with the heel of his hand and drew the cork with his teeth and spat it out and drank. "You're damn right you're going back to school," Boon said. "Or I'll burn the tail off of you myself if Cass don't, whether you are sixteen or sixty. Where in hell do you expect to get without education? Where would Cass be? Where in hell would I be if I hadn't never went to school?"

<table>
<thead>
<tr>
<th>ACT</th>
<th>To Look</th>
<th>23</th>
<th>To look at others for support when it is needed most</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>To Drink</td>
<td>16</td>
<td>To drink in order to draw strength, courage, power</td>
</tr>
<tr>
<td>HER</td>
<td>Enigma</td>
<td>8</td>
<td>Snare</td>
</tr>
<tr>
<td>SEM</td>
<td>Blindness</td>
<td></td>
<td>Sam isn't all right</td>
</tr>
</tbody>
</table>

They are all blind to Sam's future, except Isaac

261 He looked at McCaslin again. He could feel his breath coming shorter and shorter and shallower and shallower, as if there were not enough air in the kitchen for that many to breathe. "This is just Thursday. I'll come home Sunday night on one of the horses." I'll come home Sunday, then. I'll make up the time I lost studying Sunday night, McCaslin," he said, without even despair.

<table>
<thead>
<tr>
<th>ACT</th>
<th>To Breath</th>
<th>6</th>
<th>To need air for breath, when emotions run high</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM</td>
<td>Loyalty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYM</td>
<td>Endings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYM</td>
<td>Antithesis</td>
<td>AB (Ideal/Non-Ideal Nature)</td>
<td>Uplift, Preservation</td>
</tr>
</tbody>
</table>

Isaac is to attempt the uplift, preservation of the dialectic for the Ideal—Boon, McCaslin attempt to halt it

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"No, I tell you," McCaslin said. "Sit down here and eat your supper. We're going out to--" "Hold up, Cass," General Compson said. The boy did not know General Compson had moved until he put his hand on his shoulder. "What is it, bud?" he said. "I've got to stay," he said. "I've got to." "All right," General Compson said. "You can stay. If missing an extra week of school is going to throw you so far behind you'll have to sweat to find out what some pedagogue put between the covers of a book, you better quit altogether.--And you shut up," Cass," he said, though McCaslin had not spoken. c

REF Code of Writing
SYM Endings

You've got one foot straddled into a farm and the other foot straddled into a bank; you ain't even got a good hand-hold where this boy was already an old man long before you damned Sartorises and Edmondses invented farms and banks to keep yourselves from having to find out what this boy was born knowing, and fearing too maybe, but without being afraid, that could go ten miles on a compass because he wanted to look at a bear none of us had ever got near enough to put a bullet in and looked at the bear and came the ten miles back on the compass in the dark; maybe by God that's the why and the wherefore of farms and banks. c

REF Code of Godliness
SEM Destructive Force
SYM Endings

This is the way he wanted it. He told us." He told us exactly how to do it. And by God you ain't going to move him. So we did it like he said, d

ACT To Attack 20

Isaac is to attempt the uplift, preservation of the dialectic for the Ideal--Compson intervenes in Isaac's behalf c

God can't always reveal his ways to man

Isaac is to attempt the uplift, preservation of the dialectic for the Ideal--Compson intervenes in Isaac's behalf c

To threaten to attack, uselessly, lacking the ability to do so successfully

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c Ibid., 249.
d Ibid., 251-252.
<table>
<thead>
<tr>
<th>SYM</th>
<th>Antithesis</th>
<th>AB (Ideal/Non-Ideal Nature)</th>
<th>Statement</th>
<th>McCaslin attacks Boon, protector of Sam's resting place—even in the death of the Ideal, the Non-Ideal must intrude, disrupt</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>To Attack</td>
<td>20</td>
<td>To threaten to attack, uselessly, lacking the ability to do so successfully</td>
<td></td>
</tr>
</tbody>
</table>

271 and I been sitting here ever since to keep the damn wildcats and varmints away from him and by God—" Then McCaslin had the gun, down-slanted while he pumped the slide, the five shells snicking out of it so fast that the last one was almost out before the first one touched the ground and McCaslin dropped the gun behind him without once having taken his eyes from Boon's."

272 "Did you kill him, Boon?" he said. Then Boon moved. He turned, he moved like he was still drunk and then for a moment blind too, one hand out as he blundered toward the big tree and seemed to stop walking before he reached the tree so that he plunged, fell toward it, flinging up both hands and catching himself against the tree and turning until his back was against it, backing with the tree's trunk his wild spent scoriated face and the tremendous heave and collapse of his chest. McCaslin following, facing him again, never once moved his eyes from Boon's eyes. "Did you kill him," Boon? "No!" Boon said. "No!" "Tell the truth," McCaslin said. "I would have done it if he had asked me to.""

<table>
<thead>
<tr>
<th>ACT</th>
<th>To Drink</th>
<th>18</th>
<th>To Drink for strength, power—uselessly</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>To Breath</td>
<td>7</td>
<td>To breath is difficult when torn in loyalties</td>
</tr>
<tr>
<td>HER</td>
<td>Enigma 8</td>
<td>Snare</td>
<td>Proposed that Boon killed Sam—that Sam was going to die going to live, otherwise</td>
</tr>
<tr>
<td>REF</td>
<td>Code of the Bible</td>
<td></td>
<td>Did Judas (Boon) kill Christ/God (Lion/Sam)</td>
</tr>
</tbody>
</table>

*Ibid., 252.*
<table>
<thead>
<tr>
<th>SEM</th>
<th>Loyalty</th>
<th>SEM</th>
<th>Blindness</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYM</td>
<td>Antithesis</td>
<td>AB (Ideal/Non-Ideal Nature)</td>
<td>Mediation</td>
</tr>
<tr>
<td>SYM</td>
<td>Antithesis</td>
<td>AB (Ideal/Non-Ideal Nature)</td>
<td>Mediation</td>
</tr>
</tbody>
</table>

The emotional loss of Sam has blinded Boon. Boon is of both the Ideal and the Non-Ideal—he is torn between his loyalties—to Sam, to McCaslin. Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon.

Then the boy moved. He was between them, facing McCaslin; the water felt as if it had burst and sprung not from his eyes alone but from his whole face, like sweat. "Leave him alone!" he cried. "Goddamn it!" Leave him alone!"

REF Code of the Bible

God condemns those who lead astray his people.

SYM Antithesis AB (Ideal/Non-Ideal Nature) Mediation

Isaac is the true mediation of the Ideal and the Non-Ideal, not Boon.

'Ibid.
An example of incomplete Barthesian labeling is found in Lexia 258, which is labeled with one ACT and two SYMs: "To Go Back," "Endings," and the antithesis of "Ideal/Non-Ideal Nature". In this lexia, "To Go Back" has two signifieds: one is the action of returning to camp; the other is the action sequence of Isaac’s attempting to not go back to his other life, that is, to school. Both are important, though only the second is specifically cited as an ACT. However, the return to camp is caught as a SYM, with the label "258, SYM, Endings," for it is the return to camp which signifies that an ending is taking place, but labeling the action sequence as action would be reasonable, perhaps necessary.

The return to camp is significant because of its citing of the end of a sequence of action, a completion (partial) of one portion of the dialectic of the antithesis structure. It is, indeed, a return back from one term, the A term, the Ideal, of the antithesis, so that the dialectic is here beginning its passing through mediation (via Isaac aided by Boon) as it heads back to the Non-Ideal, the B term.

There has been a partial cancellation of the A term, for Old Ben, the Holy, Inner Spirit of the Ideal world, has been eliminated from this plane of existence, and Lion, the second part of the trilogy of spiritual leaders, is also laid to rest, and now, Sam Fathers is apparently near his own end, if Isaac is a reliable witness. What remains to necessarily occur is the completion of the cancellation,
then the uplift, then the preservation. Isaac, with Boon, will perform this priestly function, as will be seen.

But first, Isaac must resist the attempt of the Non-Ideal, represented here by McCaslin and, ironically enough, his helper, Boon, to get him away from the scene, to return him to the safe confines of Non-Ideality (the school room, where pedagogues do their work with the aid of dusty, bone-dry books). It is important to note that Boon constantly swings with the wind between the poles of Ideal and Non-Ideal, sure sign of his plebeian nature.

Lexia 259 continues Isaac's attempt to resist going back to the Non-Ideal, with the same codes being present as were given to Lexia 258. However, there are two additional codes, an hermeneutic (HER) and a seme (SEM). The HER code is there because of "Enigma 8: What happened to Sam," while the SEM code of "Blindness" is there because only Isaac (and possibly Sam) are aware, can see, that Sam is not all right, or at least, that he will be dying.

Sam collapsed, off-stage, during the epic struggle between Lion, Old Ben, and Boon (Judas Iscariot?), but the reader does not have a clue as to what caused it, except for the country doctor's assessment, and connotatively, the reader knows that the opinion of a country doctor is usually questionable. As for Isaac's opinion, the reader knows that he, also, could be unreliable. The country doctor's opinion is cited by the text as proof that Sam will be "all right."
However, that is a snare, for a reader (at least a Barthesian reader) knows that he is going to die. Then, of course, there is always the question of what is meant by "all right." Death can be viewed as an "all right" condition under some circumstances, by some individuals, especially, when viewed through the myriad myths and rituals which humans have invented over the millennia. Certainly, readers are invited to see it just that way in the closing lexias of Section III.

At the very least, readers know (that is, Barthesian readers who have "read" the text many times, and thus, have its major and most minor turns of plot and circumstance well in hand) that Sam is going to die, that the "others" are wrong, at least, in some sense of the term, so they are, consequently, "blind." But actually, as discussed in the earlier section of this Chapter, "Evaluation Xebra: Criterion Three," Isaac, too, can be thought of as blind, for he is not realistically cognizant of the world around him. He moves through it as if he were a part of some mythic drama, where gods, goddesses, and heroes, incorruptible and taintless, are real, and mere humans, corruptible and tainted are, if not to be totally disdained, at most, merely suffered to exist.

Lexia 260 is, like Lexia 259, labeled with "SEM, Blindness," "HER, Enigma 8," "SYM, Endings," and "SYM, Antithesis Ideal/Non-Ideal Nature," and for the same
reasons. However, two additional labels are there as well: "260, ACT, To Look," and "260, ACT, To Drink." The first, "To Look," is indicative of Isaac's realization that he needs the support of other people, while the second, "To Drink," is indicative of Boon as parody of Isaac's notion of an Ideal world. Young Isaac believes:

those fine fierce instants of heart and brain and courage and wiliness and speed were concentrated and distilled into that brown liquor which not women, not boys and children, but only hunters drank, drinking not of the blood they spilled but some condensation of the wild immortal spirit, drinking it moderately, humbly even, not with the pagan's base and baseless hope of acquiring thereby the virtues of cunning and strength and speed but in salute to them.24

But Boon and drink are something else, as Isaac (and the reader) knows, as well, after the crazy trip to Memphis the two of them made in order to get whiskey for the camp. Boon is attempting to draw, like the pagans, cunning, strength, and speed, not to mention courage, from the bottle. This is one of the Barthesian reader's clues to Boon's inability to handle either world--the Ideal as embodied in the wilderness, or the Non-Ideal, as embodied in the towns and cities. Hokes is about as large and as civilized a place as Boon can begin to handle, while the camp and its immediate environs are, also, as large and as wild a place as he can handle, and both of those are problematical.

Lexia 261 reemphasizes Isaac's great need to be a part of the coming mythic, ritualistic, and finalizing action to

24Ibid., 198.
occur during Sam Fathers' last hours, an action of which only Isaac seems to be aware. The labels attached to this, besides the ubiquitous "Endings" and "Antithesis Ideal/Non-Ideal Nature," are "261, ACT, To Breathe" and "261, SEM, Loyalty." The heavy, difficult breathing of Isaac indicates to the reader his intense need to stay at the camp in order to see the great drama through to the end. There is a pathetic, clearly desperate air about his need to be loyal to his mentor, his spiritual guide. Further, it seems as if he is being smothered, choked by the prospect of what the future is to bring. For, whether he gets permission to stay or leave, either way, he knows that a turning point in his personal quest is imminent.

Lexia 262 is that turning point, where, once again, General Compson intervenes in his behalf, revealing the General's own close, sympathetic, but, finally, flawed understanding of the mythic value of the unfolding drama and Isaac's role in it. The General, as indicated by "262, SEM, Worth," has a great regard for the value of the wilderness, though, when all is said and done, despite his obvious distaste for civilization with its pedagogues, labeled here under "262, REF, Code of Writing," he will opt for the confines of the city, of civilization.

Perhaps it is because of the General's awareness of his own pending abandonment of the wilderness and all it stood for, that he stands up for Isaac, thus, making an attempt to
atone for his sins before the fact of their commitment. There is, indeed, an ending here, then, for the General.

Unfortunately, General Compson thinks he sees that there is a possibility of a true beginning for Isaac, so he does what he believes will aid that along. Ironically, five years later, the General will be one of the most puzzled by Isaac's relinquishment of the McCaslin farm and all the civilized wealth it signified, symbolically, as well as, actually. If General Compson truly believed in the superiority of the wilderness over "what some pedagogue put between the covers of some book," then he would know what motivated (however misguided those motives were) Isaac in his own abandonment of one possible future.

Lexia 263 triply underscores in red what Lexia 262 merely stated: General Compson shares, to some degree, in Isaac's mythic view of the wilderness, as well as, in Isaac's valuation of civilization--the world of banks and farms is for people who cower from the hard, fierce realities of the wilderness. Civilization is for those who cannot possibly become so imbued with the ways of that wild world that they could navigate from one specific tree to another ten miles away as easily as they can move from one city to the next, or even from one saloon to another.

General Compson's remark about God's intentions is captured in the label "263, REF, Code of Godliness," with a

25Ibid., 249.
note attached to the effect that God cannot (or at least, does not) always reveal His ways to humans. There is a seme of "Destructive Force" implied in General Compson's dissertation, which echoes all the poets since Milton who have attempted to "justify the ways of God to men." It is a seme, labeled "263, SEM, Destructive Force," that carries with it the implication that man cannot touch, cannot destroy, the inner spirit of the wilderness no matter how great their artifice in weaponry.

Ironically, Old Ben and Lion are dead, even as the General speaks, and Sam Fathers is close to death. If human guile did not kill them, some entity certainly did or does. In fact, as will be seen later, it would appear that the two misfits, Isaac and Boon, are ultimately responsible for the death of Sam Fathers--the father of none, the father of all.

To complete General Compson's thought: God made banks and farms for people who are afraid to take on the world of the natural as God intended it to be; God made woods and camps for people who are afraid to take on the world of the artificial as humans have made it. Heaven help those who cannot be at home in either, whether they are the Boons' (the plebeians) or the Isaacs' (the royalty).

Skipping to the end of Section III, to Lexia 270, one finds that Isaac and Boon have set up Sam Fathers' body in a ritualistic form, after the manner of his Indian forebears, as he ostensibly requested them to do. The lexia has two
labels attached: "270, ACT, To Attack," and "270, Antithesis (Ideal/Non-Ideal Nature)." The two are intertwined, inextricably, to the point that the attack is the antithesis structure, and the antithesis structure is the attack.

Thus, this lexia opens the attack sequence, where McCaslin strips Boon of his (useless to Boon) gun, backing the plebeian up against a tree in an attempt to discover what happened to Sam Fathers. Boon begins the sequence with a threat, an empty threat, for he cannot keep the men from the town from, ultimately, giving Sam Fathers a white man's burial. This is indicative of the way that the entire structure of the "Antithesis Ideal/Non-Ideal Nature" within the text is situated— the Ideal is constantly retreating before the onslaught (however halting and inept it might be) of humans and their civilization, yet it is equally clear that those same humans and that same civilization are lost, as well--trapped in their own corruption and sins, having now ruined the new world, the new promised land.

Lexia 271 carries on the attack action, with McCaslin successfully disarming Boon. The antithesis structure continues, with the Non-Ideal term (McCaslin) transgressing the realm of the Ideal term (Sam Fathers). Ironically, Sam's chosen protectors are the two members of the hunting camp who are not likely to be successful--a grown man who cannot successfully hit a target from five feet, and a boy torn by inner struggles, thus, frozen in time and place,
unable to act meaningfully, a victim of the existential problem of too many choices, none of them clearly best, and thus, unable to affect his own becoming. Isaac, as we know from early on in the text, will stay a man in lust with the wilderness, but wedded to the world of civilized humans. Unfortunately, he is doomed to sterility in both.

Lexia 272 continues the attack sequence and the antithesis structure, but adds: two sub-action sequences, "272, ACT, To Drink" and "272, ACT, To Breathe," as well as an hermeneutic, "272, HER, Enigma 8 (Snare)," a reference, "272, REF, Code of the Bible (Judas)," and two semes, "272, SEM, Blindness," and "272, SEM, Loyalty."

Boon is depicted as behaving as if he were drunk, a condition that a true man of the Ideal would never attain, and also as being unable to breathe, the condition of a man torn by the pressures of the moment, much as Isaac had been in earlier lexia sequences. Boon has conflicting loyalties; to Sam (his father-in-wilderness) and to Major De Spain (his father-in-civilization). The current action places him squarely between them—a position he cannot maintain.

As a mediation point of the antithesis between Ideal and Non-Ideal ("272, Antithesis--1"), Boon is as unstable as it is possible to be; neither side can count on him. He is truly Judas Iscariot: friend to God the Son; tool of God the Father. Such a friend, such a tool, cannot help but break; and break he does at the end of the narrative.
But did he kill Sam? Is he Judas Iscariot? Did Isaac aid in the murder? Or was it the other way around? Or did Sam, in some mystical, mythical, ritualistic way, will his own death, with the two misfits serving (ironically) as high priests in a high drama? Enigma 8 is still with readers who are involved in their first reading, who cannot really know the answer at this point in the text.

In pondering this question, one is reminded of Boon's ineptitude in Memphis as opposed to his ineptitude in the wilderness. He is equally bad in both; a statement of the impossibility of both worlds. This is doubly reinforced by Isaac's own failure to succeed in the world of his cousin.

Being frozen psychologically in time in the world of Sam Fathers, Old Ben, and Lion, Isaac makes his physical pilgrimage (one believes over and over and over, as if caught in a time warp endlessly looping) to their resting place. To do so runs the risk, of course, that the next time old man snake will get him, thus, assuring Isaac the loss of any possibility of redemption. Redemption being his true end goal, the true holy grail of his personal quest, this is a tragic loss. This is even more true, because he, like Christ, seeks redemption not for self, but for all Mankind. Both Boon and Ike seem incapable of carrying out the act of killing Sam. Nevertheless, somehow, Sam did die.

The labeling of this lexia, Lexia 272, reflects the Barthesian reader's acceptance of the obvious, surface-level
explanation of Sam's death as the correct one: that it was to be trapped in snare to believe that Boon had killed Sam, thus, the note to the effect that Sam was going to die and that Boon did not kill him. However, the obvious is not necessarily so. There is still an hermeneutic snare at work here: one cannot, or, at least, perhaps, should not, simply believe or disbelieve any of the possible scenarios. The text, in fact, appears to leave the question open—a classic example of Roland Barthes' pensive text.

Lexia 273 closes out the sequence, the transgression of the antithesis of Ideal by Non-Ideal. It has but two labels: "273, REF, Code of the Bible" and "273, SYM, Antithesis." Isaac calls on God to condemn McCaslin for his transgression of the Ideal, to affirm whatever ritual or myth fulfillment action he and Boon and Sam participated in, and to call off the forever advancing, myrmidonic, insanely hostile forces of humankind, corrupted and tainted as they are, from their mindless, obviously sinful destruction of all that is good and holy.

However, as a reader lives the antithesis through the text, one cannot but believe that God condemns nothing, affirms nothing; that He is, not the mediation point, but the controlling point, of the antithesis, and that He intends to leave it forever frozen in (or out of, as expressed by Davis) time (Isaac), thus, balanced, yet always breaking apart (Boon), thus, unbalanced. So are the ways of
God it would seem, and there is no justifying them, to man or beast, according to this modern Milton, Mr. William Faulkner, late of the sovereign state of Mississippi, USA.

Thus, one sees Isaac's development, such as it is; one sees the point in time where in he is forever "juxtaposed and relieved against" the antithesis structure, the dialectic of the Ideal and Non-Ideal. All of his (Isaac's) actions, from 1883 on, are attempts to escape the block of glass within which he is encased. He has attained, as General Compson attests, the highest level of wilderness skills that one human can possibly manage, but the ritualistic deaths of Old Ben, Lion, and, finally, Sam Fathers, have left him bereft of any capability of finding his way to an end worth reaching.

Barthesian/Xebran methodology, then, is again successful at meaningfully (ambiguous as that adverb is) naming the nodes of signification that are crucial to making a successful entrance into the hermeneutic circle. This success, achieved despite the lack of complete labeling, is important. It contributes to the validation, not of the Barthesian/Xebran project, as such, but of the Barthesian insight of the existence, the concrete realization, of atoms of signifiers within texts.

The rating given here for this performance in relation to Davis' criterion is a "+1." While the positive

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26Faulkner, 197.
correlation is definitely existent, the errors in labeling made it problematic that an analyst/critic would discover all the necessary elements. Solutions to avoiding these kinds of errors are addressed in CHAPTER V.

Evaluating Xebra: Criterion Six

Criterion six, the successful unearthing of the theological and moral issues as embodied in thematic oppositions in nature and history, is achievable through the same methods used in the previous five sections. First, the Barthesian reader does the labeling, the naming process, then the analyst/critic does the abstracting, the coalescing, the function discovery process.

This criterion calls for the intersection, and perhaps the union and complementation, of four primary signifier node sets: the theological, the moral, the natural, and the historical. Given a good labeling of the nodes of the signifier galaxy of "The Bear," this is an activity readily performed with Xebra's analysis functions. The process begins with the recalling of the members of each of the sets using the appropriate labels culled from those listed in Tables 17-21 in CHAPTER III as keys into the Label Database.

Having done this, the next step is then to actually take the intersection, union, and/or the complement of the four sets, taking any two or more sets at a time as input into the particular operation. This series of processes are specifically supported in the database engine of Xebra.
Once the various operations on the sets are achieved, one uses the retrieved sets of lexia numbers as access points into the Lexia Database, in order to begin analysis of the relationships of the four primary sets, in accordance with the stated goal of criterion six.

To illustrate this process, one strand of relationships among the four sets, the strand formed by intersecting history with theology, serves as the exemplar. In order to isolate this strand, a table was constructed (via an appropriate query into the Manual Label Database) that contained all the records from the four primary sets (the theological, moral, natural, and historical), thus forming a union set. A second table was then constructed containing only the theological set. Using the theological set lexia numbers as keys, only those records that matched on history records were retrieved from the union table. This last retrieval set represents those lexias in the text that were coded as being both of an historical and theological nature.

The following several pages list the ten lexias in the retrieved set, with commentary in terms of the relationship of theology to history.

Lexia 290:

and of the five hundred years during which half the known world and all it contained was chattel to one city, as this plantation and all the life it contained was chattel and revokeless thrall to this commissary store and those ledgers yonder during your grandfather's life; and the next thousand years while men fought over the fragments of that collapse until at last even the fragments were exhausted and men snarled over the gnawed
bones of the old world's worthless evening until an accidental egg discovered to them a new hemisphere.27

Commentary Lexia 290: this passage is in the heart of Isaac's debate with McCaslin over the nature of the world, its truths, its meaning, all of which related to Isaac's attempt to rationalize his act of relinquishment. It forms the backbone of his analogy of history, since the death of Christ to the time before the Flood. The analogy drawn is to God having given the human race yet another new, clean, taintless world when the "accidental egg" of Columbus' ship found the Americas. For Isaac, the history of the race, of humans in time, is directly involved with God's working toward a perfect world. The human race mucked things up, more than once, but He keeps on trying.

Lexia 306:

not even glancing toward the shelf above the desk, nor McCaslin. They did not need to. To him it was as though the ledgers in their scarred cracked leather bindings were being lifted down one by one in their fading sequence and spread open on the desk or perhaps upon some apocryphal Bench, or even Altar, or perhaps before the Throne Itself for a last perusal and contemplation and refreshment of the Allknowledgeable, before the yellowed pages and the brown thin ink in which was recorded the injustice and a little at least of its amelioration and restitution faded back forever into the anonymous communal original dust28

Commentary Lexia 306: recorded history is, for Isaac, essentially a record of the moral turpitude of the human race, with some little amount about those few, small, 

27Ibid., 255-56.

28Ibid., 258-59.
inadequate attempts to make good, to atone for the sins of the race. It is a record that will someday be reviewed by God, who will presumably render a final judgement, taking into account those few good deeds. Then everything will dissolve, along with those who were within the record.

Lexia 377:

and over all, permeant, clinging to the man's very clothing and exuding from his skin itself, that rank stink of baseless and imbecile delusion, that boundless rapacity and folly, of the carpet-bagger followers of victorious armies. 'Don't you see?' he cried. 'Don't you see? This whole land, the whole South, is cursed, and all of us who derive from it, whom it ever suckled, white and black both, lie under the curse? Granted that my people brought the curse onto the land: maybe for that reason their descendants alone can--not resist it, not combat it--maybe just endure and outlast it until the curse is lifted. Then your peoples' turn will come because we have forfeited ours. But not now. Not yet. Don't you see?'

Commentary Lexia 377: again Isaac is referring to the analogy of current times, and to that time in history before the Flood, when God destroyed all but Noah, his family, and the beasts of the land. When white men brought the slaves to the new world, the promised land, God again placed a curse upon the land, a curse that will, in time, be lifted, just as the Flood receded, but only those who can endure the bad times until then will survive to the next new world. History and theology are one, in Isaac's view.

Lexia 378:

The other stood now, the unfrayed garments still ministerial even if not quite so fine, the book closed

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29Ibid., 273-74.
upon one finger to keep the place, the lenseless spectacles held like a music master's wand in the other workless hand while the owner of it spoke his measured and sonorous imbecility of the boundless folly and the baseless hope: 'You're wrong. The curse you whites brought into this land has been lifted. It has been voided and discharged. We are seeing a new era, an era dedicated, as our founders intended it, to freedom, liberty and equality for all, to which this country will be the new Canaan----\(^{30}\)

Commentary Lexia 378: Isaac's view is rebutted by this never actually enslaved individual. There is no dispute concerning the curse, but only whether its effect still reigns. The reference to the "new Canaan" is key, for as history has unwound since that first promised land for Abraham's people, it is clear that reaching the promised land is not sufficient, not even the clearing and settling of the land is sufficient. Always the promise is recalled, the chosen people thrown out and left to their own devices. The passage still seeks to unite history and theology.

Lexia 394:

and McCaslin 'More men than that one Buck and Buddy to fumble-heed that truth so mazed for them that spoke it and so confused for them that heard yet still there was 1865:' and he 'But not enough. Not enough of even Father and Uncle Buddy to fumble-heed in even three generations not even three generations fathered by Grandfather not even if there had been nowhere beneath His sight any but Grandfather and so He would not even have needed to elect and choose.\(^{31}\)

Commentary Lexia 394: despite all the attempts, of which there were many, by God, by his messengers, and by

\(^{30}\)Ibid., 274.

\(^{31}\)Ibid., 276-77.
those who listened to them, the Civil War still occurred; the South still lost. Isaac maintains that this is because the sin was so great that needed to be atoned for, that even three generations fathered by his Grandfather, and all the other fathers of Buck's and Buddy's, were not enough to breed those who could atone for the sin of slavery. Thus, the South must indeed fight and lose the bloody, terribly destructive war--for only in the bloodshed was any hope of redemption to be found.

Lexia 401:

and the thundering cannonade of politicians earning votes and the medicine-shows of pulpiteers earning Chautauqua fees, to whom the outrage and the injustice were as much abstractions as Tariff or Silver or Immortality and who employed the very shackles of its servitude and the sorry rags of its regalia as they did the other beer and banners and mottoes, redfire and brimstone and sleight-of-hand and musical handsaws:"

Commentary Lexia 401: politicians and pulpiteers earned their livings off of the outrages and injustices of the post-war era, just as they had always done off of other gimmicks. In particular, in terms of theology, "redfire and brimstone" is an ironical reference to God's retribution for sinners (that is, their consignment to the fires of Hell). For politicians and pulpiteers, there is no reality in that concept, but there are certainly "votes" and "Chautauqua fees" to be earned, which is their only reality, their only morality. Clearly, theology and history, for them, are only

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32 Ibid., 278.
a kind of coin of the realm to be cashed in for other coins.

Lexia 416:

the Boston-bred (even when not born in Boston) spinster, descendants of long lines of similarly-bred and likewise spinster aunts and uncles whose hands knew no callus except that of the indicting pen, to whom the wilderness itself began at the top of tide and who looked, if at anything other than Beacon Hill, only toward heaven.

Commentary Lexia 416: to Isaac there is a type of human being who is not of the world, not in the world, from birth to death. These are the wealthy spinsters who have no responsibility to carry out, no honest work, thus, given over to useless pastimes, including ranting about evils of the world that they truly know nothing of, socializing with their peers, and attending to their souls. They are the frozen chosen of God, one might say—no passion, no sweat, no blood to them; only ice water in their arteries. Yet, somehow, such people were drawn into the Civil war, because God chose the right men, the right Generals.

Lexia 424:

This time there was no yellowed procession of fading and harmless ledger-pages. This was chronicled in a harsher book, and McCaslin, fourteen and fifteen and sixteen, had seen it and the boy himself had inherited it as Noah's grandchildren had inherited the Flood although they had not been there to see the deluge.

Commentary Lexia 424: finally, there is an actual reference to the Flood, the other major action by God to wipe out all sin by destroying the sinners. Historically,
those who follow the generation in which the world is cleansed (turned over, turned inside out), have to endure and make do. This is not easy, for many reasons. But here, Isaac is making the debater's point that those who do not experience a catastrophe directly, but do have to live its consequences, are subject to special problems that those who were actually there do not have. Someone who is directly burned by fire is much more apt to remember to avoid it the next time, while one who is only told about such a thing as fire is quite likely to suffer a similar fate. Humans learn by experience. Faded, ancient ledgers of past sins are not sufficient warning for many of the race. The dictum that those who do not remember their history are doomed to repeat it, is here underscored and highlighted.

Lexia 430:

leading, first in mufti then later in an actual formalized regalia of hooded sheets and passwords and fiery Christian symbols, lynching mobs against the race their ancestors had come to save.\(^5\)

Commentary Lexia 430: this passage underscores the irony of Christian symbols being used by those who would only burn, destroy, and murder the innocent members of a group of people, without a shred of moral authority to back their actions, yet wrapping themselves and their deeds in the regalia of white cloth--white, ironically, the sign of goodness, of Christ. The Klu Klux Klan was an historical

\(^5\)Ibid., 284.
reality, engendered by twisted historical accounts, by mutated theological truths.

Lexia 432:

and the Jew who came without protection too, since after two thousand years he had got out of the habit of being or needing it, and solitary, without even the solidarity of the locusts, and in this a sort of courage since he had come thinking not in terms of simple pillage but in terms of his great-grandchildren, seeking yet some place to establish them to endure even though forever alien: and unblessed: a pariah about the face of the Western earth which twenty centuries later was still taking revenge on him for the fairy tale with which he had conquered it.36

Commentary Lexia 432: Jews wandered into the South after the War, like so many others, in search of a place to be and to become. They came without protection from those who did not want them there, as did many others. Here we find that the theological aspects of being Jewish is intimately tied to the historical. Jews conquered the world with a "fairy tale" two thousand years before, and are suffering, in time, in the world, for their audacity, suffering long past the traditional, biblical, seven generations, in fact.

Other strands of the complex relationship among the four primary sets, as specified by Davis, could be discovered in a similar manner. How one would then attempt to analyze and then understand the strands, in and of themselves, as well as, in relation to each other, would be up to each individual analyst. The method chosen for this example of

36Ibid., 284-85.
simple commentary is only meant to illustrate one approach.

The rating given here for meeting this criterion in the Barthesian/Xebran reading of "The Bear" is a strong "+1." This rating is based on the fact that, while the ease within Xebra of doing the initial selection of appropriate strands of lexia sequences is high and the further manipulation of these strands is well supported in Xebra, there is no strong support for actually determining how these strands are interrelated. The fact that the text is broken into lexias is perhaps the best support, for the units of reading, being small, lend themselves readily to analysis.

**Evaluating Xebra: Criterion Seven**

Criterion seven, the shaping of subject through narrative styles, is a complex requirement, necessitating as it does the piecing together of many sub-networks of nodes of "The Bear"'s galaxy of signifiers into one internetwork. In the annotation, the naming of the text's signifiers, Barthes' practice in *S/Z* was to make few, if any, references to the larger issue of stylistics. This being the case, the work of the analyst could be complex, requiring extensive pattern-matching skills in order to satisfy criterion seven. This would be true, whether or not one was using a tool such as Xebra, if one were to follow Barthes' practice.

As it happens, Davis' specific example of the relationships of major section structures, as defined by the chronology reversals Faulkner uses, is relatively simple,
reflecting, as it does, an extremely immanent quality of the narrative--its continual citing of time or chronology. In order to successfully demonstrate the aid of Xebra in meeting this criterion, the first step is to obtain a list of all lexias that contain references to time. Then this list must be further culled to eliminate citations that are not pertinent to ascertaining the use of time in arranging the section structure. At this point, one would be ready to then individually read the lexias and to review their associated labels for clues as to the time-related structure of the sections. The real work can begin, in other words.

This real work would be to formulate a theory of the structure of the text that one has determined to exist through the preceding analysis by first formulating an hypothesis, then testing it against the facts of the text, iterating over this paradigm until one has finally refined the hypothesis to where it can be considered a respectable theory. That is, the theory at least accounts for all the known facts of the text in terms of the effect of the structure on shaping the text's subject. The facts of the text are represented, of course, by all of the labels in the Label Database and by all of their possible relationships.

To begin, then, with the problem of chronology and structure, Figure 6 reveals the pattern of time through the sections, based on retrieving from the Manual Label Database lexia numbers, with the code, "REF, Code of Chronology"
attached, then recording the actual dates associated with each and plotting the dates in relation to the sections. The dates used are narrative time, that is, the present time of the individual actors in each lexia. In this manner, flashbacks and flashforwards are caught as present time, but real time remembrances, or references to past events in conversation, records, stream of consciousness, etc., are labeled as being the time of the conversation, or the noting of a record's contents, or the thinking of the stream of thoughts, and so forth.

Thus, Isaac's thoughts about the events of 1883 presented in Section V as he moves across the area where Old Ben, Lion, and Sam Fathers are buried, are recorded as 1885, but the flashback to 1880, when he killed his first deer and the resulting misadventure with Ash, is recorded as 1880.
FIGURE 6: SECTION CHRONOLOGY EXAMPLE
The patterns of time reversal in "The Bear" are complex, but this graph captures the highest level (most abstract) relationships. One, it is clear that each section begins at some time, call it year zero, then moves away from year zero. Thus, no section is only concerned with one present time; they all have some movement away from year zero. Two, Sections I, II, III, and V are the simple ones, practically straightforward, compared to Section IV. Three, only Section IV has any flashforwards from the year zero. Four, only Section II moves strictly upward in time from year zero, and, in fact, has no flashbacks or flashforwards, thus, representing a linear progression in time.

These are the facts that can be garnered directly from the graph. It is up to the analyst/critic to relate these facts to the narrative and its subject development. To illustrate one method of doing this, one possible hypothesis for fitting the facts of the chronology to the subject development is presented here. This illustration relies as much as possible on those lexias that define turning points in time. Table 26, below, contains information regarding these turning points and their lexia numbers.
TABLE 26

CHRONOLOGY REVERSALS IN "The Bear" BY YEAR AND LEXIA ACROSS SECTIONS

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Section I begins in December, 1883, at the falling off from the cusp of the defining action sequence of the narrative, at the time when two men and two beasts, accompanied by a silent witness, have just met in final confrontation. If one looks at Figure 6 and Table 26, above, one can see that, after this point, narrative time falls away from 1883, down to 1877, then slowly rises back up to 1878 through the end of Section I. The rising time will continue through Section II, which begins in 1880 and ends in 1882. Section III begins in 1883, bringing the reader back to the same year, the same action that Section I began with, though not quite at the same point, being just a few days before the confrontation referenced in the opening of Section I. There is a brief fall back to 1877, then a return to 1883, where the action begun in Section I is brought to a climax, leaving three dead and two extremely upset. Just how upset is revealed in the next two sections.

Section IV is the most complex section in terms of time, with a nearly constant rise and fall from the primary year of the action of this section, 1888. Section V has a "quiet" time line, relatively, containing only two flashbacks and no flashforwards.

Given the obvious complexity of Section IV, one ought to focus in on it for clues to the shaping of subject in terms of time reversals. It is a time-based, kaleidoscopic panorama of a multiplicity of scenes, facts, characters, and
actions, which begins with Isaac's enunciation of his desire to escape his fate, and ends with him being totally ensnared in the same; not exactly what he had in mind when he set out to enter the woods in November, 1877.

Section IV appears totally disconnected from the major action line of Sections I, II, III, and V, except when one notes that there is a falling back to 1883, not to the confrontation sequence, but to a time when Isaac learns (systematically, ironically) from the old ledger books of his grandfather, father, and uncle, the nature of the history of his family, both black and white. Thus, we learn that Isaac has two reasons to be agitated: one, the death of his heroes (his mythic gods) and two, the totally corrupt nature of his bloodline (his inheritance).

The wildly moving time structure of Section IV is, among other things, a reflection of Isaac's internal state, his absolutely chaotic agitation, engendered in the bitter coldness of his loss in the confrontation between the Ideal and the Non-Ideal and the hellfire of the old ledger book. It also reflects Isaac's fate, of being frozen, as it were, in perpetual motion, oscillating between the twin points of evil in his life, never breaking free of either.

Readers experience a nausea, as if trapped on a rollercoaster, with a constant up and down and all around movement. Or, perhaps, the reader is in that surrey with Isaac as he enters the woods for the first time, but this
time, no matter how long one rides, the woods never get closer, one just goes up and down, up and down.37

If Section IV is a time-based whirlpool reflecting an image of Isaac's fate, Section V is a different view, a different image of that same subject, done in sequences of still life frames. The time frame matches the sequences exactly. They are flashed before us, as if in a slide show.

First, there is a quick portrait of civilization and the wilderness in the here and now (1885), of Jefferson and Hokes and their rising economy, and of the slow, but steady destruction of the woods. Then there comes an image of how they once were (1865), when Hokes was smaller, the woods larger. This is followed by yet another image of the here and now (1885), where this time the relationship of black man to white man (Ike, Major De Spain, Boon, Ash) is sketched. This leads to a return to a past time (1880), and a depiction of how Isaac and Ash once were.

Then the narrative returns to the now (1885), where one finds that in Isaac's imagination, the wilderness is still existent in all its glory, immortal and free, embodied in the souls of Old Ben, Lion, and Sam Fathers. But, in reality, the woods are still there, still holding danger for mortal man: snakes (Satan) for those with the imagination and intellect for moral struggle (Isaac), and squirrels for those who lack either (Boon).

37Ibid., 200.
This series of portraits are arranged in an order, by time and subject, that reflects the twin concerns of Isaac as he grew to know them: the destruction of the wilderness by man, and the destruction of man by man through slavery. From Isaac's view, the two are one. The existence of slavery guaranteed the land's corruption, thus, the wilderness' destruction, and, thus, the corruption and destruction of humanity.

In this brief review of narrative time flow in "The Bear," both across and in sections, it should be clear that discovering the effects of narrative style on subject shaping requires the recognition of narrative style patterns, proceeded by the intense following up of all the clues. With the aid of Xebra, it is possible to do the pattern discovery quickly. This is true because it is relatively simple to make queries that return data that can be analyzed through graphs and tables. In an entirely manual approach, such as Barthes' own in S/Z, an analyst/critic would have to search through the labels and lexia, consuming a great deal of effort. With Xebra, that effort can be expended on determining what the patterns might mean, instead of what the patterns are.

The rating for this performance in meeting the criterion is clearly a strong "+2," given that the system made the relationship discovery process straightforward. While it is true that the reading did not specifically state the
relationships sought, their existence was deducible from applying Xebra's capabilities to retrieve the appropriate data points that contributed to patterns of narrative style.

Evaluating Xebra: Criterion Eight

Criterion eight, determination of primary action, which Walter Davis stipulates is the tragedy of Ike and the wilderness, seems anticlimactic after the previous seven criteria. In fact, all seven criteria together form a very strong argument for Davis' assertion. If those seven had not been explored, however, one would still need to meet criterion eight. The Barthesian system, as implemented in Xebra, provides a very reasonable entry point into solving this type of problem.

As part of the labeling process, the action sequences are supposed to be named, sequentially, from the beginning of the text through the end, with the labeler being cognizant, at all times, of each sequence as a whole within the text. This should guarantee that there will be sufficient keys available to an analyst/critic who wishes to determine the relative importance of the actions within the text, including designating one as the primary.

In the case of "The Bear," from the first lexia forward, every encounter with Old Ben was coded as "ACT, Man/Bear Confrontation." If one simply uses Xebra to count the

\[38\] Davis, 9.
unique occurrences of all the ACTs, then the graph in Figure 7 can be derived. This graph contains all of the ACT codes that represent more than three percent of the total number of unique occurrences.
FIGURE 7: ACT CODE WEIGHTS

Action Sequences

Man/Bear Confrontation (19.24%)
  To See (13.11%)
  To Look (10.78%)
  To Listen (10.15%)
  To Own (6.13%)
  To Hunt (5.92%)
  To Attack (5.50%)
  To Go Back (4.86%)
  To Be Free (4.86%)
  To Believe (4.44%)
  To Speak (4.23%)
  To Travel (4.02%)
  To Drink (3.38%)
  To Hope (3.38%)
From the graph in Figure 7, it can be seen that the "ACT, Man/Bear Confrontation" sequence forms, by far, the highest percentage: nearly two to one over its three nearest competitors. When one considers that there are a total of thirty-five action sequences in "The Bear," and that only fourteen of them individually account for more than three percent, the twenty percent that "ACT, Man/Bear Confrontation" accounts for is clearly important.

Certainly, one would not want to rely on numeric data alone to determine the primary action of a text, but graphs such as Figure 7 can give a critic a large step forward in their project. In this particular case, it happens that the action sequence that occurred most frequently (as signifying nodes in the text), coincides very well with Davis' assertion that the primary action of "The Bear" is, indeed, the tragedy of Ike and the wilderness. To see that this is true, one would need to read each pertinent lexia, as well as, its associated labels, looking for clues as to what is happening in terms of action in the text.

If one were to do that, one finds that the movement of the text through the first three sections is constantly, consistently, relentlessly flowing toward the climax at the end of Section III, where three primary characters (representatives of the Wilderness as Ideal) are killed, and the other two participants in the confrontation are very much shaken. This is a clear indication that the
destruction of the wilderness is a key action of the text, and, indeed, a tragic one.

As for Isaac, the "ACT, Man/Bear Confrontation" key is not sufficient. To supplement it, one must look through the various lexias and their labels which are associated with the confrontation sequence, searching for clues as to other possible participants in the primary action.

In this case, one should note that the "SYM, Antithesis" is always coincident with the "ACT, Man/Bear Confrontation," which should lead an analyst/critic to retrieve all the records in the Label Database with the "SYM, Antithesis" code. If one does that, then it should become clear that Isaac is, indeed, involved intimately with the tragic dialectic structure that is the main symbolic structure of the text. From this, then the analyst/critic should conclude that Isaac is, indeed, a primary participant, along with Sam Fathers, Lion, Old Ben, and Boon, in the tragedy that is overcoming the wilderness; that Isaac is, in fact, a participant who, also, is finally, destroyed, over time, by the same tragic forces.

The rating for the Barthesian/Xebran reading performance in relation to meeting criterion eight regarding discovering the main action of the text is a "+2." Again, it requires sophisticated used of the analytical functions of Xebra to trace down the possibilities, but the answer is in the data, and the tools do aid the analyst/critic very directly.
Evaluating the Evaluation

In the beginning of this chapter, three general criteria for judging the success of the Xebra project were given:

1. demonstrate Xebra's capability to aid in performing a Barthesian reading well;
2. compare results of an actual Xebra-based analysis with accepted readings of a specific text to demonstrate its ability to discover, name the facts of the text and the larger patterns of those facts;
3. show that a Xebra-based Barthesian analysis aids in deepening our understanding of the text.

The preceding eight sections were each devoted to demonstrating the effectiveness of Xebra and, more generally, of the Barthesian method in aiding a critic in the task of unearthing the facts related to each of Walter Davis' set of criteria, vis-à-vis pre-interpretation necessities. That being noted, three claims are made here regarding the Barthesian/Xebran process.

First, the claim is made that if Xebra, and more generally, the Barthesian methodology, were not effective aids in gathering the facts of prose texts, then meeting each of the eight criterion using the same would have been difficult, if not impossible.

Second, the claim is made that, in fact, each criterion was, indeed, met through the production of a Barthesian reading using Xebra.
Third, the claim is made that there was, in fact, a deepening of the understanding of the text that resulted primarily from the use of the tools of Xebra.

Before examining these claims, recalling the main points concerning the prospective problem areas that were enumerated and discussed in earlier chapters is appropriate. One, it was stated that such problems were of two types: theory and practice. Two, regarding the latter, there were three concerns: precision, completeness, and consistency regarding the application of the system to a given text. Three, regarding the former, there were five concerns: the agrammaticality of the method; number of possible codings of a given signifier (lexia); and related to that, the number of possible patterns that the signifiers can enter into; the validity, or more concretely, the usefulness of the five codes; and the applicability of the system to inter-text analysis. In evaluating the evaluation, all three problems of practice will be addressed, as will be four of the five problems of theory. Only the intertextual analysis problem will be put aside for the moment, as it is a matter for CHAPTER V, where future extensions, uses of Xebra and the Barthesian methodology, will be explored.

Given that the first claim for the success of the Barthesian/Xebran reading is totally dependent on the successful defense of the second, attention is directed to it, letting the arguments made for supporting claim two
stand as arguments in favor of claim one.

In eight sections of this chapter, criterion by criterion, it has been demonstrated how each could be met through appropriate use of the two databases constructed in the labeling phase of the Barthesian reading process. While it is true that problems in the databases were unearthed, none of them were fatal to the project of discovering the facts and the patterns which those facts form.

Further, it is important that those problems were almost universally related to human error, and not inherent in the process or in the tools. The downside to this, then, is that the existence of the errors demonstrates that the tools do not totally immunize a user against personal limitations of intellect, skill, or experience.

In that regard, because of the computer tools, there was, in fact, a lessening of the number of errors. In particular, the ease of using three different methods for producing lexias, and the computer support for labeling them, together helped assure completeness, precision, and consistency.

Thus, by having three different lexia-based views of the text, it was more difficult to miss aspects of the text. In other words, the differences in where the text was cut helped highlight different signifiers in the text. This was especially true when the signifier, in one form or another, was buried in a long lexia, but in, at least, one set, it
(the signifier) was in a small lexia, isolated. Conversely, the large lexias aided in capturing signifiers that spanned significant amounts of text. Since small signifiers were often intermixed with, if not actually part of, larger ones, this ability to see the same text differently was vital to making a complete labeling of the text.

Further, by using a database engine with its rigid definition of record structures, it was more difficult to vary the form of the labels and the content. When problems of this sort occurred, particularly with regard to content (since label form was controlled quite rigidly), the tools of the database were helpful. For example, when two or more terms were used to label the same concept, it was simple to cull the list of extent labels for all such duplicates, settling on just one version. Thus precision and consistency were supported, all in the same procedure.

As for the theory questions, as a general proposition, it can be claimed that, if the agrammatical in the system, or the apparently infinite possibilities of labeling and of pattern formation, or the assumed limitations of the five codes, were truly problems, then the resolving of the eight criteria was not achievable. This can be deepened, however.

First, agrammaticality was, in fact, an aid, not a hindrance, simply by forcing the Barthesian reader's attention on discovering the signifiers in a specific lexia; with only peripheral regard to related signifiers in the
text, it became easier to find them. By interrupting the expected grammatical flow, a labeler is jolted out of complacency, and is more tightly and completely focused on the task—much like a driver of a car on a road with potholes is more likely to pay attention to the pavement than one who is driving on a smooth, flawless surface.

The problem of too many possible codings is addressed, first, by the controlling of completeness, precision, and consistency, and second, by noting that the method depends on connotation. Thus, the infinite capability of language to connote is the method's strength; not its weakness.

The problem of too many patterns is similarly not a problem, if one accepts Barthes' insistence on the validity, indeed, the necessity, of the infinite play of meanings. However, assuming that one is not sanguine on this point, then the solution does lie in practice. For instance, as an analyst/critic peruses the labels in the Label Database, determining various patterns via unions, intersections, and disjoint operations, only those patterns that strike the analyst/critic as being of interest are ultimately pursued.

The human mind automatically limits the number of patterns that can be and, thus, are considered at any one time, as noted in CHAPTER I via Edsgar Dijkstra's defense of the analytic method. We have only so much capacity for carrying patterns in our minds. With the tools available in Xebra, the process of forming, analyzing, and either
accepting or rejecting a candidate pattern, is actually quite fast and simple. A manual approach would be nearly impossible for any but the smallest of texts, but with a computer system, virtually any existent text becomes quite accessible to manipulation and analysis in this manner.

Finally, the notion that Barthes' five codes might be insufficient to the task of revealing the facts of the text, or, put differently, that there is a fundamental problem of incompleteness to his scheme, is not supported by the evidence of this Barthesian/Xebran reading. Since all eight criteria are met using only the five codes, this would suggest strongly that they are sufficient to the task.

On a cautionary note, it should be remembered that the absence of evidence for a condition is not proof that the condition is nonexistent. However, as stated at the beginning of the chapter, one of the reasons for selecting "The Bear" as the test object was due to the extreme complexity of the text, the premise being that such complexity would stretch both Xebra and its underlying reading model, that is, Barthes'. However, on the assumption that there exists, at least, one exception text that would break the Barthesian system, Xebra was designed to be extensible to other labeling systems. This aspect of Xebra will be explored in CHAPTER V.

As for the third claim, that there was, indeed, support for a deepening of the understanding of the text, one need
but turn to Figure 6. In that graph, the fluctuations of time, especially in Section IV, are made quite apparent. While it is true that it is possible to come up with such a graph without Barthes' method or Xebra, it can be readily shown that the graph is just a simple by-product of a computer-based implementation of his method, while any other approach, especially, a less systematic one, would hit on this as much as by serendipity, as by force of intellect. Further, because of the lexia approach, one's attention can be tightly directed and focused on one, and only one, aspect of the text, such as the time lines and their intersection with the subject material of the text.

If one reads only those lexias where the turns in time occur in Chapter IV, one quickly realizes that Isaac is involved in a complex escape process, and his racing back and forth in time is an analog of his attempt to find some way, any way, to escape from the fate that claimed him at the end of Section III. Knowing this, the analyst/critic is led ever more deeply into the relationship of time to subject. Thus, pattern tracing becomes a recursive process, moving ever inward, to the most basic sub-nets, as well as, ever outward, to the highest, most abstract internets, all interrelated metonymically.

In summation, then, the final numerical rankings, criterion by criterion, of the Barthesian/Xebran reading of "The Bear" are:
1) Criterion One: +2
2) Criterion Two: +3
3) Criterion Three: +1/+2
4) Criterion Four: +2
5) Criterion Five: +1
6) Criterion Six: +1
7) Criterion Seven: +2
8) Criterion Eight: +2

When summed together, the total is "+14" or "+15," depending on how number three is counted. This resolves to an average score of "+1.75." This score, being closer to a "+2" then a "+1," clearly supports the claim that the tool helps a great deal, assuming a capable reader and an equally capable analyst/critic are performing the tasks necessary to each function. If such is the case, then succeeding in fully discerning the basic patterns of meaning in the text is clearly possible using the Barthesian/Xebran reading system.
Reflections On Time, On Xebra, On Whys and Wherefores

The onflowing of Time, as depicted in "The Bear," is often held to be a good thing, a blessing, bringing with it a chance for renewal, the lifting of old curses, the atonement of old sins, the healing of old wounds, the fostering of untainted, uncorrupted growth, for the founding, discovering of new Canaans, lands overflowing with milk and honey.

Counterpoint to this organic, ever-renewing, renewable concept of time in relation to space, "juxtaposed and relieved against it,"1 is the constant flow of images, scenes, and circumstances that quite insistently assert an opposing view, where nothing ever changes, at least, not for the better. Slaves remain slaves, as with Uncle Ash, or worse, they become free, as with Fonsiba, becoming prey to all the natural, not to mention human-concocted ("lynching mobs against the race their ancestors had come to save")2

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2Ibid., 284.
disasters. Atonement is impossible (Just who gained from Isaac’s relinquishment, one wonders? Was it the former slaves? Perhaps it was Sam’s other people, the American Indians? If not these, then who?), and escape is a nightmare (old man snake, hiding in the bush, appearing and disappearing at will, blocking all avenues). Thus, everyone is condemned to incessant repetition, perpetually reliving the evil men do, without end, without hope.

After experiencing "The Bear," it is difficult to think of time in terms of anything other than a trap, a wheel of misfortune. Still, there appears to exist a need in human beings to believe that all is not for naught, that building for the future does not always have the Ozymandian end. So this dissertation turns itself toward the question of the Xebran future, of what that future might be for the Experimental Eclectic Barthesian Reader’s Assistant.

There are a number of possible futures, but all the best ones demand that Xebra have, first and foremost, a capacity for ease of adaptability to the changing needs of its potential user community. No matter how well a tool is crafted for its present application, its adaptability to changing circumstances, changing values, and changing needs is the key to short and long term survival. Secondarily, Xebra needs enhancements in functionality just to make it a better tool for the present. Serendipitously, some of the changes benefit both the present value and future value.
This chapter concerns itself, then, with the what and the how, of the changes Xebra must have in order to blossom, organically, into a fuller, more capable tool.

On Xebra: The Near Present Time

In CHAPTER IV, the problems encountered were, by and large, driven by human error—the error of the coder and the analyst/critic attempting to apply the tool and the underlying Barthesian system. Since one of the advantages of a computer-based tool is the reduction, if not the elimination, of human error, it is clear that Xebra requires additional support for the human coder and the human analyst that will help avoid such errors.

The errors were of two types: insufficient labeling and mislabeling. Insufficient labeling means that a lexia should have been given a label, but was not. Mislabling, on the other hand, means that the incorrect label was applied. Incorrectness can be one of two kinds: incorrect type or incorrect level of abstraction. Type can be further subdivided into wrong code or wrong concept.

Examples of each of these are to be found in Table 27, below. Since not all types of errors were committed during the coding of "The Bear," some of the examples were invented as illustrations. The only two kinds of errors made in the Barthesian/Xebran reading of "The Bear" presented in CHAPTER IV were those of insufficiency and level of abstraction. Using wrong codes and wrong concepts was avoided.
TABLE 27

LABELING ERROR EXAMPLES

Insufficient Labeling:

Lexia 270: "This is the way he wanted it. He told us." He told us exactly how to do it. And by God you ain't going to move him. So we did it like he said."

Problem: "This is the way he wanted it." is a reference to a burial rite, so the lexia should have been coded "REF, Code of Rites and Rituals," but was not.

Misperlabeling:

Incorrect Type:

Incorrect Code:

Lexia 45: It was not Uncle Ash on the mule. It was Sam, returned. And Sam was waiting when he finished his dinner and, himself on the one-eyed mule and Sam on the other one of the wagon team, they rode for more than three hours through the rapid shortening sunless afternoon, following no path, no trail even that he could discern, into a section of country he had never seen before

Problem: The difference between SEM and SYM is particularly difficult. Here it was the latter part of the passage which was coded, starting with "sunless..." as "SEM, Blindness," which is correct, but "SYM, Blindness" could be used, but probably should not. A seme is a brief naming of a fleeting theme, while a symbol stands in for something larger, more substantial, it is more than a mere name. "One-Eyed Mule," on the other hand could very well be symbolic of all those men who seek to be kings of the blind, yet they themselves can not see all that well.

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*a Ibid., 251-252.

*b Ibid., 204-205.
TABLE 27-CONTINUED

Incorrect Concept:

Lexia 26: Each morning the gray of dawn found him and Sam Fathers on the stand, the crossing, which had been allotted him. It was the poorest one, the most barren. He had expected that; 

Problem: If someone, not reading carefully, coded this as "SEM, Poverty," it would be wrong.

Incorrect Level Of Abstraction:

Lexia 371: in none of which he dared undress because of his secret golden girdle like that of a disguised one of the Magi travelling incognito and not even hope to draw him, but only determination and desperation, he would tell himself: I will have to find her. I will have to. We have already lost one of them. I will have to find her this time.

Problem: This lexia was coded "ACT, Travel," which while correct in a sense, is at the wrong level of abstraction. What is really involved is the action of "Questing," which is a subset of "Travel."

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*Ibid., 201.*

*Ibid., 272.*
All of these errors are best addressed via the same set of enhancements to Xebra's user interface. First, a third database type needs to be added to the two existing ones: Lexia and Label. Second, an online dictionary, preferably the *Oxford English Dictionary (OED)* should be made available to the user. Third, an application-specific interface should be built on top of the databases and the dictionary, thus, allowing a user to interact with the databases and the dictionary seamlessly, consistently, and precisely.

The new database, the Label Definition database, would contain all of the labels that a user had ever assigned to any lexia in any text. Along with the label, a definition of it, and one or more examples of the lexias it was used with, would be held, as well. This database would be used, first, by the coder in selecting labels during a coding phase, and, second, by the analyst/critic during the analysis phase. The coder would use it to help assure completeness, precision, and consistency of labeling, while the analyst would use it to aid in understanding what the labels are meant to indicate. This would help eliminate all of the various known types of errors.

The dictionary would be used to supplement the definition database. As new labels were needed and new concepts were encountered, which the stored labels did not quite express, the dictionary would help in clarifying the wording needed to express the concept. Secondly, it could
be used to research items. For instance, the meaning of "Ben" as the inner room in a two-room Scottish cottage was found in a dictionary.

Finally, by having an application-specific interface between the databases and the dictionary, the user could be guided into using each database and the dictionary in profitable ways, while keeping them from having to know the specifics of the database engine and the dictionary software. This application would have to be designed to support the kinds of operations that a coder and an analyst/critic, using the Barthesian methodology, would need and want.

To support the lexia coding phase, the interface would have windows open to: the dictionary, the lexia database, the label database, and the code definition database. As a coder scrolled down through the list of lexias, or through a particular lexia, it would be possible to scroll through the code definition database in search of pertinent labels. As they are found, they could be selected and automatically posted to the label database for the lexia under study. If no appropriate labels were found, then the coder could use the dictionary to help form another label. The software could support the entry of this new label in a way that would insure consistency of syntax.

Analyst/critics, conversely, would use the dictionary and the code definition database windows to ascertain what
the coder had meant when applying a particular label to a
given lexia. Besides using the three database and
dictionary windows, the analyst/critic would have access to
a text editor for note taking purposes.

Given these enhancements (a new database for code
definition, a dictionary, and an application-specific
interface), most of the problems concerning the mishandling
of labels would be ameliorated, if not eradicated.

On Xebra: The More Distant Time

Walter Davis, in *The Act of Interpretation*, while
discussing dialectical criticism, states that dialectical
critics hold that

literature is a special mode of knowing which alone,
perhaps, gives us an adequate apprehension of concrete
experience. Whereas other ways of thinking inevitably
compromise life's complexities, literature preserves
'the whole of things' in a nonreductive and concrete
totality. ... Literature strives, in effect, to
establish a coincidence of itself with the real; thus
the essence of literature lies in the cognitive
relationship between reality and form.3

A user of Xebra, and more specifically, a coder using the
Barthesian method, is attempting to preserve the reality,
the essence of elements, of atomic units of meaning, of
signifiers that exist within a specific text under study.
By using the results of such a preservation action, a critic
has the facts of the text in a form that allows for the

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application of any of the array of existent critical methodologies in order to engage in an act of interpretation. The question arises, however, concerning why one would want to apply such an array of methods.

One might do it in order to know the text as text, that is, to gain a deeper experience of it as textual art. The "Art for Art's Sake" mode of approaching art and literature, certainly has its appeal and its devotees.

Or, one might do it in order to know, as deeply as possible, that "whole of things," that reality, that concrete experience which the text attempts to preserve "in a nonreductive and concrete totality." This is a major reason why a critic attempts the act of interpretation or why a reader reads a text: to achieve a knowledge of the world, of how things are, one would not otherwise have.

One might do it for both purposes, of course. Consider Algernon Swinburne, a passionate practitioner of that style of art, that theory of art, where art is its own justification. In particular, consider "Faustine": the poem, the succubis, the queen, the woman, the

She who loved the games men played with death,  
Where death must win;  
As though the slain man's blood and breath  
Revived Faustine.5

4Ibid.

And in considering, note that while there is beauty there, there is also knowledge to be gained, a knowledge that is nonreductive, concrete, and carried in a totality. Indeed, beauty itself is part of that knowledge, preserved via a mode of preservation within a literary work—the poem's beauty preserves the beauty of Faustine, in truth, of all Faustine's (and Faust's, one could assert). So the denials of the Pater's and of the Wilde's concerning art's "usefulness" can safely be resisted by those who so desire.

But if a literary work is an act of preservation of a particular concrete experience as a totality, then what is a set of literary works? Indeed, what is the set of all literary works? Carrying out the logic of Davis' statement, one could assert that they are, in fact, the preserved collection of all such concrete experiences known to the human consciousness which artists have attempted to preserve in this manner for the generations of readers, of "knowers," to come to each, individually and collectively.

If this is the case, one might next wonder what the relationship between each preserved totality, each work of knowledge, might be. Upon reflection, it becomes apparent that the relationship is of three kinds: that of part to whole, whole to part, and part to part. Upon further reflection, a critic in the Barthesian mode would most likely assert that these three kinds of relationships are traceable in the atoms of meaning (signifiers) that Roland
Barthes, in *S/Z*, was attempting to foreground. Now, if this is true, then it follows that as each text is a galaxy of signifiers, then the set of all texts is a universe of signifiers, interconnected at a variety of levels through the individual nodes, through the subnets of nodes, and through the subnets of texts.

That is, there are:

1) individual nodes in a given text that are connected to individual nodes in other texts;

2) subnets (patterns of nodes) in a given text that are connected to subnets in other texts;

3) subnets of texts, containing inward connections (as defined in statements one and two) that are, themselves, connected to yet other subnets of texts.

If this hypothesis is correct, then a Barthesian/Xebran reading approach should not only work with individual texts, it should allow readers and critics to make inter-text, inter-galactic, as it were, explorations, as well.

Assuming that the hypothesis is correct, then one can attempt to determine what Xebra must be that it currently is not in order to make these inter-textual explorations. First, Xebra must become what was outlined in the section above, "On Xebra: The Near Present Time," for it would be difficult to manage inter-textual readings without a fully prepared and expanded tool. To do so would be a task akin to taking a row boat made for a lake on a voyage across the
Atlantic Ocean. Second, it must be able to operate on more than one text (preferably, an indeterminant number) independently of each text. Third, it must be able to allow the user to: one, discover the inter-text connections, as represented in the paths between single nodes in one text and another, as well as, those between subnets of nodes, and even those subnets that are themselves comprised of multiple texts; and two, recognize the larger patterns that are formed via these connections, given the capabilities outlined in statements one and two, above.

The first need, that of completing the necessary enhancements to Xebra for making it a better present time tool, can be taken as a given. They can be done, as they do not stretch the current state of the art in computer technology. The second need is actually fulfilled, since Xebra, as it sits, already can handle multiple texts, concurrently or sequentially. Adding the enhancements mentioned as necessary for present time needs will not delete or dilute that capability as it now exists. The third need is more problematic, requiring some small amount of thought before one can affirm its feasibility.

In order to handle the third need, of aiding in the making of explicit inter-text connections and the patterns those connections form, several actions must be taken. First, a codification of the codes used to label lexia must be accomplished. In the present time Xebra enhancement
package presented above, it was suggested that there be an addition of a Label Definition database connected to the work on a particular text. But for inter-text work, this database must be accessible for use across texts, while not diluting or infringing on its usefulness for a single text. Indeed, there must be but one such database for use by all Barthesian coders and analyst/critics, because this codification, this standard for codes, must be used by all Barthesian coders of texts. This requirement ensures that the codings in the database will be accessible and usable by all Barthesian/Xebran users.

Which segues to the analytical tools which the analyst/critics use, both those incorporated in the database engine and those residing within the spreadsheet engine. Xebra users must be able to have access not only across the databases associated with a single text local to their own workspace, but to all such databases for all the texts previously coded, locally in the analyst/critic's workspace, as well as, those created and stored elsewhere in the world.

This standardization of labels is not an easy task. It is a necessary one, however, if a Barthesian/Xebran approach to gathering basic facts of text is to ever have more than a small impact in the world of literary critics. As it happens, there is a movement within the computer science community, as well as, the publishing community, to develop, maintain, and use a standard approach for coding texts.
called Standard General Markup Language, SGML for short.

It appears possible that this SGML use movement might provide a way to shorten, to make more reasonable, the task of standardizing Barthesian labels. Unfortunately, it requires some reengineering of the SGML standard.

The SGML standard is aimed at marking up text in terms of structure. That is, the structural elements such as title, authors, table of contents, chapters, sections, paragraphs, figures, tables, equations, and so forth, are captured by surrounding each such element in a text with a standard label for that element. A Barthesian markup (or coding of a text) is aimed at capturing content, not structure. Further, an SGML markup of a text occurs directly within a text; indeed, it is a part of the text in a very concrete manner. A Barthesian coding of a text most often exists outside the text, though one might argue that Roland Barthes’ example in S/Z does, in some sense, intermingle the two. Still, it is the case that, with Xebra, the coding and the text are separate.

Neither of these two differences are insurmountable, however. The SGML community of theorists and practitioners has long since recognized the need for content coding; they just have not, to date, acted in a concerted way on that recognition. A few individual practitioners have started coding texts with locally defined extensions to the SGML standard, while theorists have begun to work on a standard
approach to the problem.

As for the other problem, certainly the codings of a Barthesian/Xebran coder could be stored back into the text. Though one would still want, indeed, need, the present format as well, since it is the database form of the codes and the text that is most easily manipulable for pattern matching and analysis.

What is being proposed here is a two-step process. First, there needs to be a reworking of the SGML standard to include the concept of content markup, as well as, structural markup. Second, there needs to be a reworking of the Barthesian model, as currently embodied in Xebra, to support the SGML approach to markup. This has to be both in terms of importing a text into Xebra for work by coders and analysts, and exporting it back out for dissemination to other users, both Barthesian and non-Barthesian.

The latter step, the reworking of Xebra, is clearly feasible. The former step, of reworking the SGML standard, is more problematical. Since it is an international standard, any changes to it have to be made through the various controlling standards bodies, both inside the United States, and throughout the rest of the world. This is, clearly, not a simple or straightforward matter.

All of this discussion presupposes that Barthesian readings will be done in some quantity, an assumption that certainly has some risk to it. However, given the impetus
of the SGML standard and the needs of the users of SGML, there is no risk to the prediction that content markup will be incorporated in some form into the standard.

One could argue, quite logically, that it is in the best interest of literary researchers, practitioners, and theorists, to either influence this standard in terms of their needs, or, at the very least, to use whatever standard finally results. The amount of prose text, fiction and otherwise, that will be available in machine-readable form, marked up in SGML, will be growing, possibly exponentially, over the next decade. This text data will provide a rich reservoir for literary researchers using computer-based tools such as Xebra. If these tools are SGML-conforming tools, then the text will be all the more accessible.

Clearly, bringing Xebra into the future as a fully SGML capable tool, conforming to the standard in all pertinent ways, is a reasonable direction for supporting further research beyond that presented in this dissertation. It will assure Xebra users accessibility to all SGML-conforming texts, a very important source of raw input to the Barthesian methodology as implemented in Xebra, as well as, any other coding approaches with which Xebra can be used.

On Xebra: Towards The Always Already Rising Sun

Performing a Barthesian reading on "The Bear," or any large, complex text, is a very intense, excruciatingly detailed, always exhausting effort. If one accepts the
theory that literary works are the result of an effort to preserve the totality of concrete experience in a "nonreductive, concrete manner," than it is hardly a major finding that any effort to comprehend that which is preserved by a work as complex, dense, and complete as "The Bear," would result in a difficult Barthesian reading process. As CHAPTER's II, III, and IV have shown, a Barthesian reading is, itself, a complex activity, even when the input to the process is something as small and simple in nature as a two or three sentence paragraph.

That being said, there are three conclusions that should be clearly realizable by this time. They are drawable, first, from the experiencing of Roland Barthes' decidedly extraordinary performance in S/Z, and second, from the experiments and the discussions presented in this dissertation concerning both the Barthesian system, as such, and its Xebran implementation. The three conclusions, which constitute a summing up of the goals of this dissertation, are that:

1) the results of a Barthesian reading are worth the expenditure of effort;

2) given a tool such as Xebra, a Barthesian reader's efforts can be profitably turned to intellectually difficult, very necessary tasks, that only humans can do, the computer having spared the Barthesian reader the arduousness of the detailed clerical (yet
just as clearly necessary) tasks involved in the performance of a Barthesian reading;

3) a computer-based tool such as Xebra can directly aid in the intellectual analysis work of a critic by presenting the data in forms that would otherwise not be available to anyone undertaking a fully manual process.
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