From Simile to Symbol:

A New Direction for Readability Assessment

by Donna M. Congleton

In *Alice's Adventures in Wonderland* when Alice, the Hatter, the March Hare, and the Dormouse sit down to tea, the Hatter asks, "Why is a raven like a writing desk?" Alice, delighted at the riddle, says," I believe I can guess that." "Do you mean that you think you can find out the answer to it?" says the March Hare. When Alice responds with "Exactly so," the Hare says, "Then you should say what you mean." Alice, annoyed by her obtuse companion, replies: "I do ... at least — at least, I mean what I say —that's the same thing you know."

"Not the same thing a bit," says the Hatter, creating further linguistic confusion. Alice, frustrated by the conversation, gives up on the riddle saying: "I think you might do something better with the time ... than wasting it." What ensues is chaotic misinterpretation of common metaphor as the characters speak of "wasting time," "speaking to time," and "beating time.," "Ah!" says the Hatter, "He won't stand beating."[1]

Alice and her companions have given readers a delightful example of the way in which figurative language works both to reveal and to obscure meaning. As we read, we attempt to sort out meaning logically from a combination of both literal and figurative language. Reading comprehension, necessary to academic success, is predicated on our ability to develop and hone this skill. Moreover, as a society, we have become concerned with the readability of newspapers, popular journals, informational text, and educational materials.

A need to determine the readability of these materials has led pioneers of reading research to develop numerous formulas which provide fast and accurate assessment of readability. These formulas, based upon a variety of factors such as average sentence length, number of syllables per word, vocabulary, and use of personal pronouns, represent a major contribution to education and provide immeasurable aid to teachers. As significant as that contribution has been, however, it has not displaced the "intuition" of experienced teachers of lan-

guage and literature who often rely upon "feeling" or "gut-response" in choosing one story, novel, biography, history, or work of nonfiction over another.

Originally developed for determining the readability of textbooks, the formulas have been applied to novels and tradebooks by sources such as *Good Reading for Poor Readers* and *Gateways to Readable Books*. Indeed, it seems to be a common misconception that readability formulas accurately predict the grade level at which any reading material can be successfully employed. Reading experts such as Dechant and Smith, however, have cautioned that readability formulas "alone cannot give a complete measure of readability."[2] The formulas do not, as Spache pointed out, "measure the difficulty in terms of context or the syntactical position of words, the structure of the paragraph, the organization of content, or the inherent difficulty of the context for a reader" — all of which are important in understanding literature.[3]

Over the years since the creation of the formulas in the 1920s, researchers have attempted to discover the various elements related to readability. Among the factors was figurative language, which although not statistically significant, was found to contribute to reading difficulty.[4] In 1958, Brinton and Danielson identified figures of speech among the factors related to readability and suggested that a "profitable course" of reading investigation might be to determine if the inclusion of stylistic factors in a formula would result in "better prediction."[5] So far, it has not been done.

Furthermore, research in children's understanding of metaphor conducted by Pollio and Pollio,[6] Winner, Rosenstiel and Gardner,[7] Cometa and Eson,[8] and Billow[9] led us to believe that children respond to and understand metaphor long before they can successfully mimic the creation of its syntax, that there is a general developmental trend among children in the ability to interpret metaphor, and that they more readily understand metaphors common in adult speech.

Investigating the relationship of metaphor to reading comprehension, Cunningham found that prose passages containing no figurative language are easier to understand than those containing metaphor.[10] In 1976 Arter discovered that readers consider passages containing metaphor to be more important and find them easier to recall.[11] Reynolds and Ortony concluded that simile was more easily interpreted than metaphor,[12] which seems to bear out the theory of Barbara Leondar who proposed a scale of figuration ranging from simile to metaphor, symbol, myth, and proverb.[13]

My own limited research in metaphor leads me to believe that: (1) a scale of figuration does exist, (2) figurative language can be reliably identified, and (3) a consideration of metaphoric complexity might be useful in selecting and ordering literary texts in accord with reading development. I studied seven young adult novels to determine the types of figurative language used in books with readability estimates ranging from grades four to six. The figurative language varied in these novels from simile to symbolism. For example, in *A Day No Pigs Would Die*, an autobiographical novel by Robert Peck, the figurative description ranged from a crow which "fell like a big black stone" to the symbol of mother earth "ready to be mated with seed."[14] Not unexpectedly, I found a similar range of figurative language from the simple to the complex in *Sounder*,[15] *Durango Street*,[16] *Tuned Out*,[17] *The Pigman*,[18] *Johnny Tremain*,[19] and *One Fat Summer*.[20]

The most strikingly metaphoric of the novels was *Johnny Tremain*, a story of the Revolutionary War by Ester Forbes, which contained approximately 140 examples of figurative language. Seventy-six percent of the figurative language in this novel, however, was either the simple metaphor or simile. For example, in the line "Seemingly, they had nothing but the guns in their hands and the fire in their hearts," fire is

what is known as an implied metaphor representing the rebel's desire for freedom.[21] Similarly, in William Armstrong's *Sounder* there were numerous examples of simile like, "The road which passed the cabin lay like a thread dropped on a patchwork quilt."[22]

In *Tuned Out* by Maia Wojciechowska 33 percent of the total number of examples of metaphoric language were symbols, while 26 percent were allusions — another class of figurative language which may be more difficult to interpret than simile or metaphor. In Wojciechowska's novel, readers are expected to grasp the idea that the circle reflects the central character's dependence

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upon drugs and his inability to free himself from them. The delusion of seeing the circle is one of the manifestations of the character's drugged state. His brother, who fervently desires to help him, believes that if he keeps talking he can "keep those circles at bay."[23] In addition, there is "a good presence" and "an evil presence" (presumably an angel and a devil) who play important roles in the metaphoric structure of the novel. References to Bela Lugosi, who played Count Dracula in the popular film; James Boswell, the biographer of Samuel Johnson; and to the crucifixion and resurrection of Christ all make the novel relatively challenging.

In contrast, *Durango Street*, a novel about a black youth in the ghetto, contains more than 130 occurrences of metaphoric language almost all of which are either metaphor or simile. There are few allusions and no apparent symbols. This novel, though similar to the others in readability assessment, demands far less from readers in the exercise of mature metaphoric skills.

Having examined these novels, I decided to investigate the relationship of metaphoric complexity to readability still further. In order to do so, using a number of standard literary handbooks, dictionaries, and literary texts, I established a list of definitions for simile, metaphor, personification, analogy, allusion, paradox, hyperbole, and symbol. To determine whether readers actually perceived differences in the difficulty of these items, I randomly selected thirty-eight examples of figurative language from the seven novels and asked twenty-eight college educated readers to rate them on a numerical scale from one to five as simple (1), moderately simple (2), average (3), moderately complex (4), and highly complex (5). The readers were asked to determine "the level of complexity" or the "reading difficulty" of the items.

The responses appeared to cluster toward each end of the scale. Essentially, the readers agreed that items were either "moderately simple" or "simple" (60 to 93 percent) or that they were either "moderately complex" or "complex" (74 to 72 percent). Readers generally agreed on the complexity of twenty-one of the thirty-eight. The purpose at this point was only to determine if adult readers perceived differences in the difficulty of these examples of figurative language.

Next, I asked nine people trained as English teachers, English education, or reading specialists to rate the thirty-eight examples of figurative language. The ratings were analyzed statistically to determine rater reliability across the thirty-eight items. Inter-judge reliability on each of the nineteen items ranged from .54 to .89, and one additional item also showed raters in high agreement. From the responses of these judges, I constructed a metaphoric complexity scale ranging from 1.7 for examples of personification to 4.2 for examples of symbolism.

Table 1

To test the scale, I selected five 250-word passages by lottery from thirty young adult novels. The guidelines I set to ensure uniform assessment of each novel included: (1) each passage must consist of 250 words; (2) the passage must be a full page of print; (3) each example of figurative language would be classified according to specific definitions; (4) each example would be rated numerically from the scale; and (5) the rating of the examples would be totaled for

each separate book.

Three hundred and eighty-four examples of metaphoric language were identified and rated. The examples were rated by three university professors of English who easily identified examples of simile and metaphor. Symbols, however, which had been removed from context like the other examples, were sometimes identified as metaphor or failed to receive a label. The raters unanimously agreed on 182 of the examples of metaphor and 27 examples of simile. Of the 384 examples of figurative language, 209 examples of metaphor and simile were rated identically by the three raters. A Pearson coefficient of correlation showed inter-rater correlation was .98 between raters one and three. The correlation between raters one and two was .87 and between raters two and three .90. I considered this information important because it shows statistically that, although Gray and Leary discouraged the inclusion of figurative language in readability assessment by saying readers will "probably err" in their count, individuals can reliably rate examples of figurative language.[24] Essentially, the scale reflects an objective assessment of text which some teachers may practice "intuitively" when making selections of literature for the classroom.

To determine the value of a metaphoric scale, I assessed each of thirty novels on the Fry Readability Graph and the metaphoric scale, ranked them from highest to lowest, and compared their metaphoric rank with their readability rank. What I suspected from my own "intuitive" response to the novels appeared to be accurate — readability ratings did not correlate significantly with metaphoric complexity. The resulting coefficient was of low magnitude (rho = -.27). The direction of the relationship between readability and metaphoric complexity was negative and not significant. What this meant was that novels with similar estimates on the Fry Readability Graph might be quite different in the language challenge they presented to readers.

Table 2

To illustrate this point, in *A Day No Pigs Would Die* (grade four on the Fry Readability Graph with a Metaphoric Complexity Score of 54.3), there were many occurrences of figurative language varying from the relatively simple to the complex. The major theme of the novel was the birth/death cycle specifically represented through a series of symbols including the sky, snow, blood, and the grave. At one point, the death of the central character's father is

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Table 1

The Metaphoric Scale								
0	1.7	2	2.1	2.3	3.7	3.8	4.2	5
	personification	metaphor	simile	analogy	hyperbole	allusion	paradox	symbol

foreshadowed by a conversation between father and son. "Papa," says the central character, "of all the things in the world to see, I reckon the heavens at sundown has got to be my favorite sight." In reply, the father says, "The sky's a good place to look and I got a notion it's a good place to go."[25]

Traditionally associated with the seasonal cycle and an archetypal symbol of death, snow is this novel is connected with the slaughter of the boy's pet pig. As the boy describes the pig's approaching death he says, "She just stood there in the snow looking at my feet ... I got down on my knees in the snow and put my arms around her big white neck smelling her good solid smell."[26] This "good solid smell" is contrasted with the rank odor of death which the boy smells on his father. "Papa," he says, "after a whole day at rendering pork, don't you start to hate your clothes?" "Dying is a dirty business," responds the father."[27]

In addition to the snow and the odor of death, there are other objects used symbolically in *A Day No Pigs Would Die* including purple clover, a hawk, a rabbit, a litter of kittens, hand tools, and the barn in which the boy eventually discovers the body of his father. Structurally, the arrangement of these symbols reflect the boy's growing maturation, his developing perception of the birth/death cycle, and his approaching manhood.

Novels of similar metaphoric challenge can be found among those listed in *Good Reading for Poor Readers* and *Gateways to Readable Books* because the assessment of readability is based upon vocabulary, sentence length, and number of syllables per word. What these readability estimates cannot address is that rather nebulous area of "meaning" so often conveyed through figurative language. Perhaps as Brinton and Danielson suggest, if we really want "better prediction" of readability, we should seriously pursue attempts to assess metaphoric complexity so that unlike Alice and her companions when we estimate readability, "we can say what we mean" and "understand what we say."

References

[1]Lewis Carroll, *Alice's Adventures in Wonderland and Through the Looking Glass.* 1865. (New York: Bantam, 1981), 51.

[2]E. V. Dechant and H. P. Smith, *Psychology in Teaching Reading*, rev. ed. (New Jersey: Prentice Hall, 1977), 295.

[3]George D. Spache, *Good Reading for Poor Readers*, rev. ed. (Champaign: Garrard, 1978), 35.

[4]William S. Gray and Bernice E. Leary, *What Makes a Good Book Readable* (Chicago: University of Chicago Press, 1925), 112.

[5]James E. Brinton and Wayne A

Table 2

	FRS	MCS	FRR	MCR
Relationship of Metaphoric Complexity to Readability key: FRS = Fry Readability Score; MCS = Metaphoric Complexity Score; FRR = Fry Readability Rank; MCR = Metaphoric Complexity Rank				
1. *Across Five Aprils*	9	29	29.5	19
2. *Jenny Kimura*	9	28	29.5	18
3. *The Soul Brothers and Sister Lou*	8	25	28.0	15
4. *My Name Is Aram*	7	14	26.0	7.5
5. *Lisa, Bright and Dark*	7	11	26.0	5
6. *Edgar Allan*	7	7	26.0	1.5
7. *Tuned Out*	6	53	22.5	30
8. *The Outsider*	6	31	22.5	20
9. *Sounder*	6	26	22.5	16.5
10. *Nilda*	6	10	22.5	4
11. *Speedway Contender*	5	44	15.5	26.5
12. *Go Ask Alice*	5	36	15.5	21.5
13. *Where the Lilies Bloom*	5	45	15.5	28
14. *Escape From Nowhere*	5	23	15.5	13.5
15. *The Contender*	5	23	15.5	13.5
16. *The Pigman*	5	18	15.5	11
17. *A Kingdom in a Horse*	5	16	15.5	9.5
18. *Island of the Blue Dolphins*	5	14	15.5	7.5
19. *Then Again, Maybe I Won't*	5	9	15.5	3
20. *Are You There God? It's Me, Margaret*	5	7	15.5	1.5
21. *Hot Rod*	4	52	6.0	29
22. *My Darling, My Hamburger*	4	44	6.0	26.5
23. *Durango Street*	4	43	6.0	25
24. *Johnny Tremain*	4	42	6.0	24
25. *Jazz Country*	4	38	6.0	23
26. *The Nitty Gritty*	4	22	6.0	12
27. *Henry Three*	4	16	6.0	9.5
28. *Hold Fast to Your Dream*	4	26	6.0	16.5
29. *That Was Then, This I s Now*	4	12	6.0	6
30. *Boy Gets Car*	3	36	1.0	21.5

Rho - (-.27)

Danielson, "A Factor Analysis of Language Elements Affecting Readability," *Journalism Quarterly* 35 (1958): 420-26.

[6]Marilyn R Pollio and Howard R. Pollio, "The Development of Figurative Language in Children," *Journal of Psycholinguistic Research*, 3, 3 (1974): 185-201.

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[9]Richard M. Billow, "A Cognitive Developmental Study of Metaphor Comprehension," Developmental Psychology, 2 (1975): 415-23.

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[11]Judith Land Arter, "The Effects of Metaphor on Reading Comprehension," *Dissertation Abstracts International*, 37 (1976): 6429A. University Microfilms, 77-8922.

[12]Ralph E. Reynolds and Andrew Ortony, *Some Issues in the Measurement of Children's Comprehension of Metaphoric Language.* Report

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[13]Barbara Leondar, "The Structure and Function of Metaphor," *Dissertation Abstracts International*, 29 (1968): 1871A. University Microfilms, 68-12,069.

[14]Robert Newton Peck, *A Day No Pigs Would Die* (New York: Dell, 1972), 41.

[15]William Armstrong, *Sounder* (New York: Harper and Row, 1969).

[16]Frank Bonham, *Durango Street* (New York: E. P. Dutton, 1965).

[17]Maia Wojeciechowska, *Tuned Out* (New York: Harper and Row, 1968).

[18]Paul Zindel, *The Pigman* (New York: Dell, 1968).

[19]Ester Forbes, *Johnny Tremain* (Boston: Houghton Mifflin, 1943).

[20]Robert Lipsyte, *One Fat Summer* (New York: Bantam Books, 1977).

[21]Forbes, 245.

[22]Armstrong, 19.

[23]Wojciechowska, 87.

[24]Gray and Leary, 131.

[25]Peck, 67.

[26]Ibid., 127.

[27]Ibid., 106.