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Making Stories, Making Sense

Here is a common vision of the ideal classroom writing situation: children, enthusiastic about their developing compositions, crafting suspenseful stories and elegant expositions, discussing their work with one another or collaborating on a common product, correcting their mechanics at the end of the composing process after the main themes have solidified, writing to create an effect on an audience—in short, using written language to communicate. As usual, the reality frequently falls woefully short of the dream. Faced with a class of children who write on widely varying levels, pressured by the educational bureaucracy to make sure they all know how to use quotation marks, and armed with little if any specific preparation or materials for writing instruction, teachers often feel that the dream is an impossible one.

Not every writing experience in school is uniformly dreary. Many teachers have discovered creative ways to engage students, both individually and in groups, in writing tasks. Such programs that have been documented include Kenneth Koch's (1970) successes in inspiring elementary school children to write poetry; the language experience approach explored by Allen (1976), Ashton-Warner (1963), Hall (1970), Stauffer (1970), and Moffett's (1976) student-centered curriculum. By and large, though, the educational, administrative and social context within which elementary school teachers teach writing tends to lead to three characteristics of school writing activities which may actually block a student's ability to write, rather than facilitating its growth. The first of these is the solitary nature of most writing tasks. Children usually write at their

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seats and write in silence, virtually never interacting with one another and only infrequently with the teacher. Writing, of all subjects taught to elementary school children, most effectively isolates individual students. Group games which promote interaction among children in reading and math classes are not as common in writing class. Reading is taught, at least some of the time, in groups which provide an opportunity for children to communicate with one another. Arithmetic problems are sometimes discussed by the class as a whole, and other subjects such as art and science lend themselves naturally to joint projects; but in the realm of writing, collective assignments are less common and class discussions of either the process or product of writing are rare.

The infrequent class discussions on *how* to write are an indication of the second problem school writing instruction often exhibits: a lopsided emphasis on the lowest level details of texts, such as grammar and spelling. Some of this imbalance can be traced to a general lack of research on comprehensive models of the writing process. Until recently, the research community has regarded writing either as an unanalyzable mystical process without separable components or as a task whose only teachable aspects are handwriting, spelling and syntax. Thus, much of the writing instruction in language arts textbooks focuses on these more palpable aspects of writing; Graves (1977) notes that almost three-quarters of the writing-related activities in a sample of grade five language arts texts are devoted to mechanics. Recently, however, research on both the writing process and the structure of its products has been moving toward a formal examination of more global textual properties—properties such as the role of setting and characters' reactions to story events (Mandler & Johnson 1977; Rumelhart 1975; Stein & Glenn 1977), the interplay of characters' plans and counterplans (Bruce & Newman 1978) and the function of rhetorical features (Booth 1961). Despite a few attempts to integrate this theory with classroom methods (Bruce, Collins, Rubin & Gentner in press; Clay 1975; Collins & Gentner in press; Graves 1975; Scardamalia in press), few of these emerging perspectives have yet found their way into education courses or standard textbooks.

The third troublesome aspect of writing activities is one which concerns the entire language arts curriculum: the isolation of writing from reading in the classroom. If reading and writing are viewed—as they should be—as the two necessary components of written communication, then it is clear that they are intimately and inevitably connected and that writing activities should produce texts which are meant to be read and to communicate. In school, however, children infrequently read what other students in the class have written (or what they themselves have written, for that matter), or write with the expectation that their composition will be read by anyone but the teacher. They rarely learn to identify an audience and consider its impact on what they write. In fact, one of the few connections between reading and writing in school is an assignment to write a theme about a book or story.

Reversing Trends in the Teaching of Writing

Although they may be hard to avoid in current school settings, none of these characteristics of writing lessons is inevitable. Educational methods or devices which reverse any of the three

trends described above have the potential to significantly affect the teaching of writing. Specifically, these three "reverse trends" would be: taking advantage of the potential power of the social situation in the classroom, focusing on higher-level structures in text and reintegrating reading and writing in school. In the remainder of this paper I will describe a set of teaching tools which embody this theoretical analysis and discuss their implications for the classroom.

The three separate but closely related tools to be described here form a sequence in which the child contributes in increasing amounts to the process of producing a story. The first, called the Story Maker, is a piece of cardboard on which is written a large number of story segments. Children produce stories using the Story Maker by making a series of choices among alternative story parts. The second, the Pre-Fab Story Maker, is a device with which children can put together their own Story Maker out of already-written pieces of stories. Finally, the Story Maker Maker helps children construct a Story Maker virtually from scratch, writing the possible stories on their own.

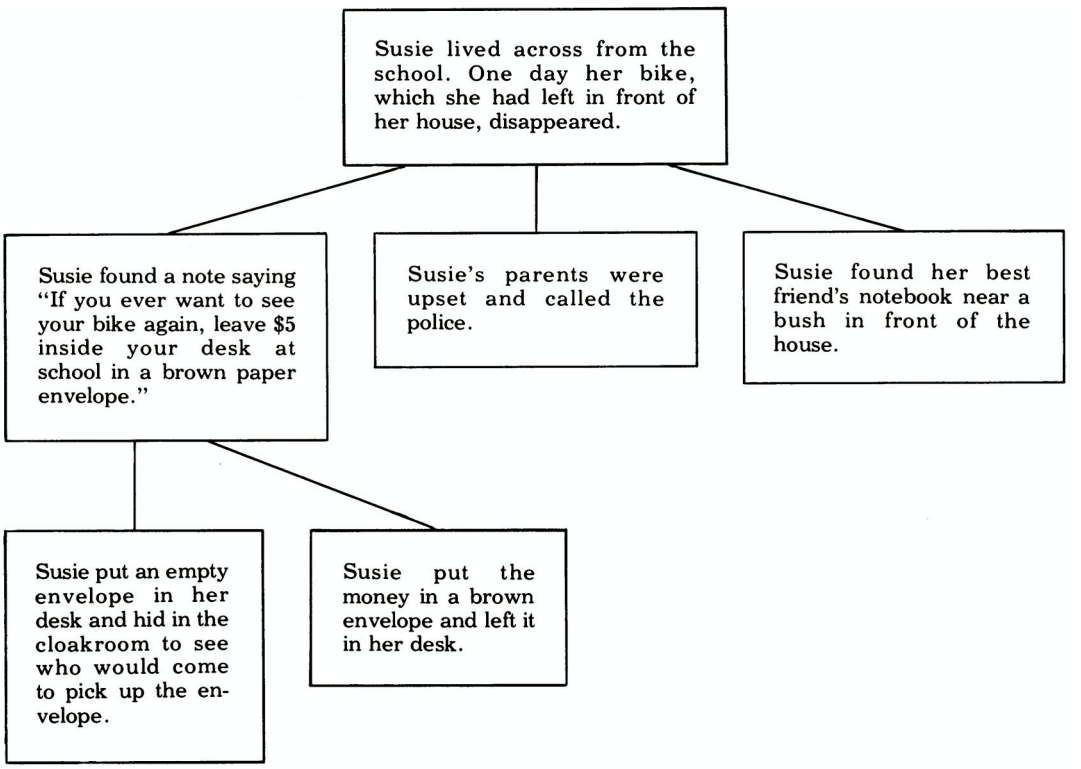
All three of these are best described in terms of a metaphorical "tree" that is commonly used in science. This kind of tree is most frequently used for family trees, for diagrams of sentences in linguistics and to represent the structure of the plant and animal kingdoms. Such a tree has its root at the top and its branches extending downward. It is composed of a collection of boxes which I will call *nodes* connected by lines which I will call *branches*. Each node except for those at the very bottom is connected to several lower-level nodes by a set of branches. *Left* and *right* used in reference to the tree are from the reader's point of view. A *path* through such a tree starts at the top node, goes next to a node which is connected to it by a branch and continues in this way through connected nodes until it reaches the bottom of the tree.

The Basic Story Maker

Using these terms, it is quite simple to describe the Story Maker; it presents children with a tree in which each node contains a story segment. Each path through the tree is a complete story. Children construct their stories by choosing a branch to follow at each node, eventually ending up with a complete path which starts at the top of the tree and continues to the bottom. Figure 1 shows the first stages of a story tree about a missing bicycle. Each story that could be constructed using this tree would start with the story segment in the top node; each of the nodes connected to this top node represents a different direction for the story to proceed. Based on personal preference, or, as I describe in more detail below, other story quality goals, the child chooses one of these three possibilities. The next set of choices, then, are those which are connected to the chosen segment; if a child had chosen the leftmost option, for example, she would next have to choose among the two bottom segments.

Notice that each choice the child makes determines the next set of choices; different choices at any point lead to totally different sets of nodes to choose from next. This characteristic is an important difference between the Story Maker and Mad Libs (a commercial game published by Price/Stern/Sloane in which blanks in a story are filled according to designated parts of speech). In Mad Libs, each choice is essentially independent of the others: the

Figure 1. A Mystery Story Tree



word chosen to fill any particular blank has no effect on the allowable fillers for other blanks. The interdependence of choices in Story Maker is revealed progressively to children as they make their way through the construction of a story. At any one time, children see only the current set of options. Thus, the consequences of their choices sometimes come as a surprise when the next set of story segments is revealed.

The fact that in Story Maker a child's early choices have important consequences for the rest of the story means that this device can be used to teach notions about the structure and coherence of stories. In fact, a child is encouraged by Story Maker to focus on these higher-level characteristics of the story since details of spelling, writing and syntax are handled by the device. *Every* story that can be produced with Story Maker will be correct along these dimensions.

Our prototype Story Maker is made of large pieces of oaktag on which the individual story segments are written and covered with pieces of colored construction paper. The branches of the tree are explicitly indicated by lines drawn between the segments. To produce a story, a child reads all the choices at a given point by opening the paper doors, chooses one segment with which to continue the story, indicates that choice by closing the other doors, then goes on to read the next set of choices. After the child repeats this process several times,

the words showing through the open doors constitute a complete story which she can copy, illustrate and compare with other children's stories.

This most basic Story Maker activity demonstrates a way to begin to re-unite reading and writing. While the child is producing a story, he is also reading its components; often, in fact, a child will read the story aloud from beginning to end each time he chooses the next segment. The story he ends up with may have more sophisticated words, sentence structures or plot than a story he would make up himself, just as a story he reads may stretch his language skills. Yet because the child has participated in the creation of the story by choosing directions for it to proceed, this Story Maker exercise functions as a writing activity as well.

The Story Maker in the Classroom

In one of our first experiences with the Story Maker, we discovered that it also has the potential to turn this writing/reading experience into a public event, thus materially affecting the social context of the classroom. We took the Story Maker into an open classroom of children in grades K through 2 in a local private school. The teacher chose two girls in second grade who could read fairly well to work with it. Together they chose a story, agreeing on most of the choices and arguing about a few. When they had finished, they wanted to show off their story, so they invited the teacher to listen to them read the story aloud in unison. By this time, all the activity had attracted some of the other students, many of whom could not yet read at all. They watched, fascinated, as the two girls read their story again and again, pointing to the story segments as they went along. The younger children had the opportunity to observe an exciting reading and writing activity as well as having a short story read to them several times in a row with its words clearly visible.

After a while, the two girls decided to construct another story; this time, the younger children tentatively offered suggestions about who the invaders might be (they were working on a science fiction story) and how they might be dealt with. Had the session continued longer, these children could have been even more actively involved in writing a story without an adult's help—even though they couldn't read. None of this would have happened had the two girls read or written stories alone at their seats.

In order to heighten children's focus on high-level story characteristics such as plot, suspense, conflict and surprise, we have added another aspect to the basic Story Maker task by asking children to produce stories that fulfill a goal or match a description. With the simplest story trees, we have them write funny, boring, long or short stories. In a more complex case, such as that illustrated in Figure 1, the instruction might be something like: "Write a story in which Susie and her best friend have a fight." Confronted with this goal and the choices illustrated, a child would be more likely to succeed if she chose the rightmost branch (which mentions Susie's best friend) than if she chose the middle branch (which brings in Susie's parents and implies Susie will have a smaller role). We encourage children to discuss the reasons for their choices; having two children cooperate in producing a story provides a context in which it is easy for them to talk about the contribution of each choice to the overall story.

A wide range of story characteristics can be explored in this way in a collec-

tion of story trees. Individual paths through a tree may illustrate stories told from different characters' points of view, with differing amounts of suspense, with varying temporal sequences, with different morals, or with conflicts between varying sets of characters. The Story Maker helps a child shift the focus of her writing activity away from lower-level details such as spelling, grammar and basic sentence structure by guaranteeing that every story will pass a teacher's scrutiny on these dimensions. Each story may or may not successfully fulfill a previously set goal of a "story in which Jill tricks her brother," but this is the problem the child must solve, rather than the problem of forming words and letters correctly.

In effecting this shift in focus, the Story Maker paradoxically both speeds up and slows down communication processes in appropriate ways. By handling the low-level details, it speeds up the composition process so that children do not get lost worrying about punctuation. At the same time, it slows down the process of reading a story, requiring a child to pause and, being aware that the story could go on in various ways, select a direction for it to proceed; in short, it forces children to focus consciously on alternative meanings in the middle of a story.

Before introducing additional devices related to the Story Maker, I want to mention a few variations on the basic idea I have described so far. One related device, which was developed independently by Edward Packard (1976, 1978) and is currently commercially available, is a set of books that a child reads by making choices about the way the story will proceed at intermediate points. These books include instructions to turn to different pages according to answers to choices about the story, e.g., "If you decide to walk down the beach, turn to page 5. If you decide to climb the mountain, turn to page 7." These books differ from the Story Maker primarily in that they are not designed to illustrate any particular structural aspects of stories, so the individual stories do not differ systematically and, in fact, may even contain some of the same episodes. Even so, these books provide good starting points for some Story Maker activities.

More closely related is a Story Maker we have implemented on a small desktop computer. The computer displays the set of options at each point, accumulates the story as the child makes choices, and prints it on a small printer at the conclusion of the process. Children are fascinated by the computer and in particular by the sudden appearance on the screen of each set of options for the story. The major difference between this version and the cardboard version is that, while the structure of the tree is explicitly indicated on the cardboard, the child must infer it from the computer. Discovering and explicating the structure of the tree can be an added dimension in a child's use of the Story Maker.

The Pre-Fab Story Maker

The next step in the sequence is the Pre-Fab Story Maker, with which children create their own story trees from already-constructed nodes and branches. Children are provided with story segments on index cards and are asked to fit them into a pre-drawn tree structure so that all the paths through the tree make sense. The skeleton tree may be drawn on a piece of cardboard with slits at the nodes into which the index cards fit or it may be made from a pegboard using pegboard hooks as nodes on which hang the cards and yarn as

branches which connect the hooks. This second method has the advantage of being more flexible, since the hook-and-yarn configuration can be changed from one time to the next, and children can also be asked to place the yarn branches correctly along with the cards.

Completing a Pre-Fab Story Maker requires the child to make decisions about the sequence of events in a story, to follow causal sequences and, perhaps, to understand how devices such as flashbacks affect the order of presentation of story parts. Coordinating different story lines which share a common beginning can help children focus on the points in stories where various possibilities diverge. When several children work together on such a device, this writing project easily becomes a social activity. Assembling a Story Maker provides an opportunity for a child to elicit feedback from other children in the classroom who produce stories using it.

A large number of related activities follow from the Pre-Fab Story Maker idea. For example, students can be presented with a story tree containing several blank nodes and asked to make up segments which would coherently fill the blanks. Constructing a segment which fits into two diverging stories in the tree can be a particularly challenging task. Children may also experiment with switching the placement of two individual segments in a tree, making judgments as to whether or not the resulting stories are coherent.

The Story Maker Maker

The third tool, the Story Maker Maker, requires the most creative input from children, yet is the easiest for teachers to construct. A Story Maker Maker is simply a bare tree structure made from cardboard or pegboard in which the branches are provided but the nodes are blank. Using this device, students make up their own Story Makers from beginning to end by writing story segments and placing them in the tree. In our experience so far, this has worked best if students working in teams are encouraged to brainstorm about their chosen topic and write down individual ideas (which do not have to fit into a single story) on index cards. After they have collected several story segments, they begin to fill in the structure (again, it is easiest if the tree has been pre-drawn) and generate more ideas to fill in the holes still left in the tree. Another method for generating such a Story Maker would be to start with an entire story and create a branching structure by asking at several points along the way: "What else could have happened here?" More sophisticated children can also provide the story goals to go along with the Story Maker.

Story Maker Maker activities address all three of the theoretical perspectives described above. First, they forge an important link between writing and reading by introducing the idea of audience. Other children in the class provide a natural audience for a child constructing a Story Maker (and accompanying goals) since they will use it to produce stories. Their feedback can be quite focused as they evaluate the alternatives at each point in terms of the goals they are trying to satisfy or in terms of the coherence of the story. In our first attempt to use the Story Maker Maker one ten-year-old boy created a story tree about a baseball game. Because he had some trouble coordinating several story lines at once, some of his stories were less coherent than others. When he finished, we invited another friend of his to produce some stories from the baseball Story Maker. The friend, how-

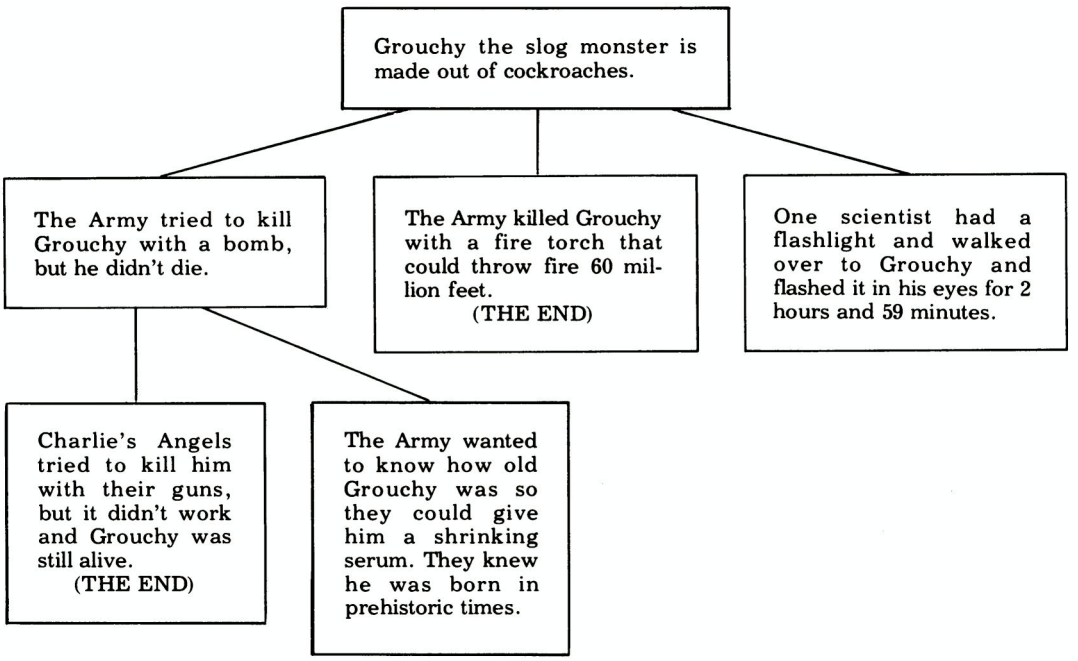
ever, didn't like some of the stories and even commented about one, "That's not a story!" The discussion that ensued was unusual in that two students, without a teacher directing the conversation, were commenting to one another on story structure and coherence. The modifications which resulted from that conversation significantly improved the story tree.

Such conversations about story qualities illustrate one way the Story Maker Maker addresses the second perspective—the importance of an increased focus on higher-level structures in text such as specification of characters' plans, coherence of cause-and-effect chains, and introduction of humor or surprise. The Story Maker Maker is different from the other two devices described here because, in providing the child more opportunity for input into the story, it re-introduces the levels of syntax, vocabulary and spelling as potential problems for him. But by dividing the writing process into two steps—crafting individual sentences and fitting them together into a coherent tree—the Story Maker Maker enables a child to manipulate story segments in which he has already worked out some of the lower-level problems and to concentrate instead on their juxtaposition in a story. Editing is facilitated as well since changing a sentence means replacing an index card, not recopying an entire page, and rearranging a story completely can be accomplished easily. Although it is not a component of writing stories in general, the need to create alternative continuations for stories makes children aware of the differences among those options—differences which exist on dimensions other than spelling, handwriting and syntax. If they decide to create, for example, a "funny" set of stories and a "scary" set of stories in the same tree, they must begin to appreciate the story characteristics which differentiate these possibilities.

Finally, the Story Maker Maker not only makes possible group writing experiences, it almost demands them. Our earliest experience, described above, showed us that a child working alone may not be that successful in building a story tree. Later attempts, in which children worked in pairs, produced more coherent, creative trees. A final anecdote illustrates both this positive influence of the social situation and the kinds of editing operations the children performed which hinted at their growing conception of the structure of stories.

Two ten-year-old boys constructed a tree about a character they called Grouchy the Slog Monster. The beginning of their story tree is shown in Figure 2. They first generated ideas about Grouchy's genesis and how he could or could not be killed by various groups. When one boy couldn't think of anything to add, the other took over, enabling a greater richness and density of ideas than if they had worked separately. When they began to put their story segments into the tree, some interesting revisions took place. The sentence "Charlie's Angels have guns that can't kill Grouchy." was replaced by "Charlie's Angels tried to kill him with their guns, but it didn't work and Grouchy was still alive.", indicating more of a narrative style. When most of the tree was filled in, the boys discovered that one path through the structure created a story in which a sentence about the Army's attempts to kill Grouchy was followed by a sentence about scientists' putting Grouchy in the Museum of Science. They realized this story line was incoherent, so they discarded the Museum of Science card and continued with the Army theme. Once again, they had been

Figure 2. The Beginning of a Story Tree Written by Two Fourth Graders



able to focus on issues of story sense and had, through their interaction, motivated themselves to improve their product.

Summary

This brief description does not exhaust all possible Story Maker activities. The basic notion of story trees suggests many other variations. For example, children might be asked to construct from a Story Maker the story which they think a particular friend, relative or teacher would choose. Teachers and children can create story trees in which stories diverge along different dimensions, such as the degree of conflict. More experience with the Story Maker in classrooms is needed to explore its relationship to other language arts activities, to develop guidelines for choosing appropriate activities for specific children, to work out methods for creating story trees, and to consider sequences which gradually lead children through more advanced writing challenges.[1]

In addition to its significance as a specific educational device, however, the Story Maker sequence also exists as an embodiment of three important elements of an approach to teaching writing. First, it demonstrates ways to reunite reading and writing by providing experiences which include aspects of both and by making concrete the idea of audience which links the production and reception of communication. Second, it

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[1]If you are interested in trying out any of the ideas in this article and would like a few sample story trees with which to start out, write to Center for the Study of Reading, c/o Bolt Beranek and Newman, 50 Moulton Street, Cambridge, MA 02138. In return we would appreciate comments and anecdotes about your experiences with them.

Ginott illustrates this point in *Teacher and Child*:

> Marsha, age 12, helped the teacher rearrange the books in the class library. The teacher avoided personal praise. ("You did a good job. You are a hard worker. You are a good librarian.") Instead she described what Marsha accomplished: "The books are all in order now. It'll be easy for the children to find any book they want. It was a difficult job. But you did it. Thank you." The teacher's words of recognition allow Marsha to make her own inference. "My teacher likes the job I did. I am a good worker." (1972, p. 126-127)

When we address ourselves to the composition, rather than praising or criticizing the author, the focus is shifted from the writer to the product, and to a consideration of how it can more effectively fulfill the writer's purpose.

Comments to children about their work will not necessarily always include all four of the aspects of teacher responses discussed here: reactions to what is said, suggestions for improvement, corrections, evaluation and reasons for the judgement. However, the one type of reaction that the teacher should always offer is interest in the child's reported ideas and experiences.

Comments on children's writing require thoughtfulness and time. Some teachers elect to give written notes to each child at least once a week. If the child keeps these in a folder, they become a continuing individual reference source and evidence of growth and achievement.

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helps both children and teachers avoid the pitfall of focusing primarily on aspects of text such as syntax, spelling and grammar by removing them temporarily from the child's control, thus freeing up their attention to concentrate on the way characters interact, the coherence of the story and such devices as surprise and humor. Finally, it breaks the isolation of writing by creating a social and cognitive context in which group writing efforts and discussions happen naturally. Investigating other educational methods which share these theoretical underpinnings should be a valuable future research direction with the potential to affect classroom language experiences.

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6) *When your husband Edward wrote about you, he said, "Who knows, maybe a great children's book on soaring will be forthcoming one of these years." Have you and your husband considered collaborating on such a book for children?*

Ed has been my greatest source of encouragement over the years. He always believed I would eventually be successful, and in the periods when I got discouraged and went back to school to get a masters degree, or whatever, he would say, "Just don't close the door on your writing." However, I am convinced that our collaborating on a book would not only close the door on my writing forever, but also on a perfectly good marriage.

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