Book Information

Paul Zindel, The Effect of Gamma Rays on Man-in-the-Moon Marigolds

Quiz Number: 10030
Bantam Books, 1970
ISBN 0-553-28028-7; LCCN 109 Pages
Book Level: 4.2
Interest Level: UG

The poignant and disturbing Pulitzer Prize winning drama presents the story of a disturbed mother who vents frustration upon her two daughters.

Award: ALA Notable/Best Books; Margaret A. Edwards Award; Misc./Other; NCTE Notable Children's Books in the Language Arts; Pulitzer Prize

Topics: Community Life, Mental Illness; Emotions, Misc./Other; Family Life, Domestic Abuse; Popular Groupings, College Bound; Recommended Reading, California Recommended Lit., English, 9-12

Main Characters

Beatrice Hunsdorfer    a mentally unstable and frustrated woman
Chris Burns    the boy whom Ruth has a crush on in school
Janice Vickery    Tillie's main competitor in the science fair
Matilda (Tillie) Hunsdorfer    Beatrice's younger daughter, who wins the science fair
Miss Hanley    a teacher at the girl's school who knew Beatrice when they were high school students
Mr. Goodman    Tillie's science teacher and mentor at school
Nanny    the elderly woman Beatrice cares for in her home to earn money
Peter    Tillie's rabbit which she later gives to Ruth
Ruth Hunsdorfer    Beatrice's oldest daughter, who is mentally unstable because of a traumatic experience in her past

Vocabulary

atom    the basic building block of all matter
convulsion    the violent, uncontrollable shaking of a body
effeminate    having or portraying feminine characteristics
marigold    a hardy plant that yields many orange or yellow flowers
mimeograph    a mechanically reproduced document; a predecessor to the photocopy

Synopsis

The relationship between Beatrice Hunsdorfer and her two daughters is never stable or predictable, as Beatrice's actions swing between threatening and consoling her children. Ruth, the oldest, is mentally unbalanced due to a traumatic experience in her past, and Tillie, her younger daughter, is fascinated with science but is socially awkward. Tillie introduces the play by explaining how she became fascinated with the atom. The action opens with Beatrice on the phone, sweetly explaining to Mr. Goodman, Tillie's science teacher, that Tillie often chooses not to go to school. After the call, however, Beatrice turns on Tillie, blames her for making him call their house, and forbids Tillie to attend school that day.

Ruth then enters, looking for her mother's lipstick. She tells Beatrice that the other students laughed at Tillie at a science assembly the previous day, which causes Beatrice to threaten to keep her home even more. From Ruth, the reader also learns more details about the family's past and about the cause of Ruth's mental problems.

In the next scene, Tillie tries to explain the idea of radioactivity and half-lives to her mother as Beatrice takes care of Nanny, the old, senile woman Beatrice boards to make a living. From Beatrice's cruel words to her daughters and Nanny, the reader is made aware of her intense frustration with her life and with the world. She further reveals her insecurity in her later conversation with Mr. Goodman about her concern over the safety of keeping Tillie's marigolds,
which had been exposed to radiation, in their house.

That evening, Ruth has one of her frequent nightmares. Beatrice is able to wake her before it turns into a convulsion, and the two share a tender moment reminiscing in the dark about Beatrice’s father and her childhood escapade with his vegetable wagon. The conversation is, however, frightening at times, as Ruth starts to explain about the man she saw die, and Beatrice tells Ruth about her own recurring nightmare.

In the next scene, Ruth rushes in and proudly tells Beatrice that Tillie is one of the finalists for the school science fair. Rather than being excited for her daughter’s achievement, however, Beatrice can only think about how people will laugh at them. Still, she seems to have a change of heart when she sees how much she has hurt Tillie.

The biggest conflict in the play occurs when all three are preparing to go to the science fair assembly at school. Ruth helps Tillie get ready and talks about Tillie’s strongest competitor, Janice Vickery. Beatrice tells Ruth she must stay home and care for Nanny so Beatrice can go with Tillie, as Beatrice claims that this is the first time in her life that she has ever been proud of anything. Ruth intends to retaliate by belittling her mother and, although Tillie gives Ruth her rabbit, Peter, to keep her mouth shut, Ruth, in her rage, tells her mother that everyone is waiting at school to laugh at her. Beatrice crumbles and Ruth goes in her place. While Janice and Tillie explain their projects, Beatrice is lashing out at everything in her life. She sends Nanny home, calls the school to insult the teacher who revealed Beatrice’s old nickname, “Betty the Loon,” and finally, in an ultimate act of revenge, kills the rabbit that Ruth loves.

When Tillie and Ruth arrive home in triumph after Tillie wins the science fair, they discover their mother drunk and defeated. Ruth insults her again, and Beatrice tells her that the rabbit is dead. When Ruth brings down its body, she starts to convulse. Tillie and Beatrice get her downstairs, and Beatrice tells Tillie she hates the world. The play closes on a hopeful note, however, with Tillie’s concluding remarks for her science fair project. She says that all things and all people are important because of the beauty of the atoms with which they are made.

Open-Ended Questions

Use these open-ended questions as the basis for class discussions, student presentations, or extended writing assignments.

Initial Understanding

Why does Beatrice seem to dislike Mr. Goodman so much?

There are several reasons for Beatrice’s hostility toward Tillie’s science teacher. First of all, Beatrice appears to believe that everyone else judges her and finds faults in her; therefore, she probably feels that she has to defend herself to him. Secondly, it is likely that Beatrice compares herself to him and is jealous because she does not have the education and status that he does. As a result, she probably feels threatened by him because Tillie obviously looks up to him and respects him. He gives Tillie a rabbit and provides her with the opportunity to do her science fair project, things that Beatrice could never do. Beatrice may also feel that he interferes with her life and her way of raising her children, and she perhaps resents him for that as well.

Literary Analysis

Which of Beatrice’s two daughters is most like their mother? In what ways does she take after her mother?

Ruth seems to follow most closely in her mother’s footsteps. She cares a great deal about fitting into society and about creating favorable impressions on others. Because of their focus on appearances and approval they both smoke, wear lipstick, and hold distinct opinions about fashion, often disagreeing about what the other should wear. Because both of them have very aggressive and strong personalities, they are both willing to do whatever it takes to get what they want and will even resort to bribery and threats to ensure their desires are met.
Inferential Comprehension
Make a prediction about what will happen to each family member in the future. Be sure to support the prediction with evidence from the story.

Students will have a variety of answers. In general, Tillie is probably going to succeed in science and go on to live a better life, and Ruth, without proper care, will probably deteriorate and will either end up as bitter as her mother or locked up in an institution. Beatrice’s future is questionable as, on one hand, she appears to be ready to give up all hope yet while, on the other, she seems to want to change her life but does not know how to do it. If she makes a change, she could find happiness, otherwise she will probably continue to become increasingly depressed and withdrawn.

Constructing Meaning
How does the reader know that Ruth has mental problems?

Ruth’s records at school state that she has problems; she has convulsions at home; Beatrice refers to Ruth as her “convulsive” daughter; and Ruth tells stories and exaggerates often.

Teachable Skills

Recognizing Plot  The play is filled with conflicts of all kinds (i.e. person vs. person, person vs. self, person vs. society). Divide the students into groups of three to five and have each group choose a scene in which a conflict occurs. Have the groups act out their scenes for the class and then, in a class discussion, ask the students to identify the conflict in each scene and describe what type of conflict it is.

Understanding Characterization  Beatrice Hunsdorfer is an interesting character because sometimes the reader wants to hate her for all the pain she inflicts upon her daughters, and other times the reader feels sorry for her having to deal with so many challenges. Set up a class debate to discuss the following question: Is Beatrice a protagonist or an antagonist? Make sure students support their arguments with evidence from the story and can show that most of her characteristics are those of a protagonist or of an antagonist.

Recognizing Details  The atom is a central idea to the play, as much of the plot revolves around Tillie’s fascination and love of it. To help the students understand the concept, have them each create a three-dimensional model of the atom, complete with an explanation of its characteristics and qualities.

Responding to Literature  Have the students act as critics and write reviews of the play which address the following questions. Did you like the play? Why or why not? Did you think the play was realistic? Are the characters believable? Did the play seem to end on a positive or negative note and why?