THE RADICAL DREAM
A Playlet for Puppets

BY J. M. LEPS, *Arcadia, Florida*

ACT I, SCENE I

The curtain rises to discover a young lady lying fast asleep under a gnarled old oak, albeit of exotic design. At her side she has several books bound with a strap. Her sleep is slightly troubled. A rail fence meanders across the stage just back of the tree and gives the effect of a highway with a pastoral background of Euclidian design. Near the left side of the stage is a bridge which apparently crosses a stream.

A sound is heard off stage and a tall, gangling youth enters from the left and strolls up the road toward the center, whistling a melancholy tune. He sees the sleeping figure and stops.

FOUR. What's your function?

POLLY. (Arousing from her slumbers and rubbing her eyes, answers) I don't believe I know you! (Her eyes say, "You impertinent thing.")

FOUR. Not know me? I'm one of the numbers—see (holding up fingers) One, two, three—me. I've been here from the first but not always quite so simple.

POLLY. I should hope not. I never saw such a simpleton!

FOUR. (Looks hurt and begins to sob. Soon he is singing through his sobs very pathetically.)

Four and twenty blackbirds were baked in a pie,
And when the pie was opened the birds began to sing:
But Four was baked to blisters and couldn't sing a thing!

POLLY. Oh, is that why you weep? (Relieved)

FOUR. Oh, no, no! But I must soon cross the bridge and become minus.

POLLY. I do not see why that should be so bad.

FOUR. How could you when you are imaginary and irrational at that?

POLLY. I am not irrational—I am not! . . . I think you are horrid—perfectly horrid! I . . . I . . . (Sobbing)

FOUR. I am positive—I have always been quite positive—and figures do not lie—They never lie—. Besides, if you're not irrational why do you have that radical sign over your head?

POLLY. That's only my parasol. (Indignantly)

FOUR. Parasol indeed! Look in your vanity or look away from your vanity for once, and see if it is a parasol. (Polly does and is dismayed at what she sees.) *That* is the radical sign. All irrationals are marked by it.

POLLY. Oh, I will not have that ugly thing over my head. Take it off . . . take it off, please.

FOUR. It will not come off until you have been squared.

POLLY. Squared! You speak as though I were a criminal.

FOUR. Why, no—(Soothingly). There used to be one in our family. She was the square root of two but was squared with the rest of the equation and now is a factor of four. She is my mathematical half. She *thinks* she is my better half. I will introduce you to two, too.

POLLY. Why, that sounds like a whistle. (The Four again in mournful tones begins to sing.)

> Sing a song of single men
> 　　With money in the bank.
> I used to be a single man
> 　　But then I was a crank.
>
> Sing a song of marriage ties,
> 　　Oh, Two, the filthy crook,
> Divided through my happiness,
> 　　And left me quite forsook.
>
> Sing a song of grief again
> 　　This life ain't half so funny
> Wifie, Dear, gets liberty
> 　　While I pay alimony . . .

POLLY. (Timidly) I think that is a very clever song. I should like to hear more of it—But how does one get squared? I am sure I do not want to be irrational any longer.

FOUR. All that in due time, my dear—Some day your equal factor will come along riding a white charger or driving a four cycle Ford. You will know him for your mate and if you are wise—together you may escape the radical sign and perhaps enter the land of two dimensions.

POLLY. How will I know him?

FOUR. I can not tell you any more. The only one who can help you any further is Old Man Involution. If you go to the Power House and see him he might help you.

POLLY. I must find Mr. Involution. How do I find him?

FOUR. You couldn't possibly. You're only an imaginary and could not find anything. You are not even a creature of the first dimension.

POLLY. (Weeping all over again. At this juncture four new characters enter from the left and approach the pair who have been conversing under the tree.) Oh, who're they? (Whispers as she retires behind four.)

FOUR. They are the four fundamental operations—They govern the realm of mathematics. One of them may take you to the Power House.

The dignitaries had come abreast of the pair on the stage by now. They make a motley group. Count Subtraction is short and wide. He has a quick, graceful way of moving. His fingers have the nimbleness of a presti-digitator. Count Addition is a jolly, fat, fellow—round and hearty with a rhythmic laugh. Count Multiplication is a huge man, ponderous but swift in movement with a booming voice. He has long legs, a straight mouth, and casts a shadow like a pair of engineer's dividers.

COUNT SUBTRACTION. Well, Four, it's time you were transposed.

FOUR. Not yet—*Please* not yet—I am not ready to be transposed. Operations generally leave one minus and I don't want to be minus. (Tearfully)

COUNT SUBTRACTION. Come! What nonsense! There are no two times to do things. That would not be logical and things are never done illogically in our realm.

COUNT MULTIPLICATION. Well, let us be off. There is much we must do today.

POLLY. Oh, please—May I go along? I do want to be rid of this irrational, I mean radical sign. (Breathlessly)

COUNT MULTIPLICATION. But, my dear, I am afraid your mind is not sufficiently developed to travel in the realm of pure reason. You must be patient and when all the premises have been set forth and approved we will consider the solution of your problem. I will make a note of it.·

POLLY. Oh, thank you so much. I hope it will not be long before I may go with you to the Power House.

COUNT MULTIPLICATION. Well, good-bye, my dear, you must get your tables by heart.

COUNT ADDITION. And do not forget your combinations. (Waving)

Multiplication and Division move off toward the bridge and are soon followed by Addition and Subtraction. Four goes along reluctantly between them. Polly waves until they reach the bridge. In the meanwhile Multiplication and Division have gone off the stage on the right.

COUNT ADDITION. We cannot keep up with those fellows

you know. We must always travel at a uniform rate while they travel with a uniform acceleration. You see their speed varies as the time squared. Do you see?

FOUR. Oh, yes I see. (With an air of not seeing at all)

On the middle of the bridge a little figure raises a window and says:

Check, please.

> The Lord of Mathematics doth
> On us this rule impose:
> You always change your sign, sir
> Before you can transpose!

COUNT SUBTRACTION. The two sides of our country must always balance so we keep account by signs.

He snaps a plus sign off Four's coat and receives in return for it a minus sign from the gate keeper which he places on the Four—The three proceed to the left talking ad lib—.

In the meanwhile Polly has wandered to the right a little way and back toward the bridge, apparently more interested in her own thoughts than in the country about her. Finally she seats herself at the foot of the tree and soliloquizes.

POLLY. I should be going home now because supper will soon be ready and I musn't keep Daddy and Mama waiting. I must dress because Bob is coming around tonight. I would like to go to the theatre and see Clark Gables' new picture. He's grand! I could love a man like that. . . . But Bob's cute, too—I suppose Mama'll make us stay home and get our lessons.

A frightful creature with a black envelope and a revolver appears from behind the tree and shouts in a hoarse voice:

BANDIT. Hands up! Your money or your life.

POLLY. I have no money, sir. (sobbing) Who are you?

BANDIT. I am X, the Unknown, the Al Capone of all the rackets in this realm of Mathematics. Those who do not pay I put on the spot.

There is a clattering off stage to the right and a figure on a white charger rides in bearing a long pencil as a lance. He lowers his pencil at the bandit and shouts.

HERO. Aha! X, you are equal to zero. (Strange to relate the robber resolves from sight behind the oak.)

POLLY. Oh, brave Sir! You have saved my life!

HERO. Oh, tut, tut, tut, 'twas nothing—I just completed the square and when I took the square root of both sides the solution was zero.

POLLY. Oh, I think you're wonderful!

HERO. I think you're very pretty, too.

There is a moment of embarrassment while Polly tucks her head and scratches designs in the sand with her toe. The Hero persuades his horse to cavort in a very thoroughbred manner.

POLLY. What a beautiful horse you have.

HERO. Thank you, I call him Calculator. Would you like to ride him?

POLLY. I'd love to . . . sometime . . . I have to go . . . now!

HERO. When may I see you again?

POLLY. I come this way most every day—Sir Knight!

HERO. Good-bye, fair Lady, until another day.

POLLY. Tell me who saved me from the wretched robber's plot.

HERO. I'm just the answer. Bless the chance that brought me to this spot.

He wheels about and rides off the stage. Polly waves and watches until he is out of sight.

Curtain

ACT II, SCENE I

Curtain rises on same scene with one exception. The curve of an equation appears against the Euclidian background. Its highest point is near the right of the stage and its lower point is a little left of the center. At the highest point of the curve sits Max E. Mum. At the lowest point sits Min E. Mum. Max looks at Min and waves his hand.

MAX. Hell-o, Min.

MIN. Hi, Max, come down.

Max slides down the curve to Min and they both sing.

MAX AND MIN:

> Max and Min
> Sat down to spin
> A root for baby function,
> But baby grew
> A series too
> Which showed a lot of gumption!

MIN. Do you know another verse?

MAX. No, but I know another song.

(They sing.)

When love begins to integrate—
The lives of boys and girls
They fail to differentiate
The problems of this world's.

Then love is at the Maximum
And none consider cash
Thinking's at a Minimum
While everyone acts rash.

A noise is heard off the left and Polly and the Hero enter hand in hand, but not before Max and Min have retired to their original stations.

POLLY. Don't you think it was fate or something the way we met?

HERO. I think it was the most wonderful thing that ever happened.

POLLY. Do you believe in love at first sight?

HERO. I didn't until I saw that old bandit pointing his gun at you.

POLLY. Oh . . . (Long pause) Have you ever been to the Power House?

HERO. Why, yes, I was there once with my father when I was a small fellow.

POLLY. What was it like?

HERO. Oh, it was very interesting. There was a vast room filled with desks and busy figures. The clerks were all working at their desks or at calculating machines. Messengers hurried here and there with books and papers. At opposite sides were the offices of Dr. Involution and Dr. Evolution. All around were alcoves. In some, clerks were using verniers, calipers, slide rules and other calculating devices. In some, books were stored. In one, artisans were making radicals of different sizes, while assistants were attaching indices. Several contained cabinets in which were rows and rows of orderly decimals. A large alcove was marked "The Orphanage," and from within came the sound of dry sobs.

POLLY. What was the matter?

HERO. The numbers whose logarithms could not be found were in there. It was sad but the Board of Calculators will find homes for them in due time.

POLLY. How very prompt to find homes for them in due time. Most boards never do anything in due time. In fact it is always too late when they do anything.

HERO. And then there is the Hall where the radicals in love are joined together in perfect squares.

POLLY. I thought they were joined together with a ring!

HERO. That is just another illogical and inaccurate idea. Have you ever noticed the shape of a boxing ring?

POLLY. Oh, my Knight . . . wouldn't it be cute if we . . . I mean wouldn't it be right . . . (tucks head with eyes downcast).

HERO. (The light dawns) You wonderful, wonderful figure. Do you really mean it?

POLLY. (As they fall into the time tested and immemorial routine for such occasions) This is so sudden!

Curtain

SCENE II

An imposing entrance to a walled enclosure is shown on the left side of the stage. Behind the walls is indicated the presence of a large building. Above the gate way appears the title "The Power House." On the left of the wall there is a parked area. A guard with a huge curved scimitar and a scarlet uniform paces back and forth before the gate.

Polly and the Hero enter from the left hand in hand. Polly seems a little reluctant or undecided about something. They pause beneath a tree.

HERO. Come, let us go and get our license.

POLLY. My darling, I'm frightened. Do you really love me?

HERO. Of course, you know I adore you. I adore you . . . I have since the first time I saw you near the bridge. And every day I've seen you since I've grown to love you more.

POLLY. And you don't think I am a bold girl to have fallen in love with you so easily?

HERO. Of course not, Silly, I think you are the most desirable girl in the whole world.

POLLY. Don't you think we should wait for a little? Everything is so strange.

HERO. But, my Darling, our arrangements are all made. Dr. Involution will be waiting for us.

POLLY. My dear, he frightens me so.

HERO. He is really very pleasant and besides our friends are all waiting for us. Miss Quadratic Surd is to be your maid of honor. Prime Factor is to be the best man.

POLLY. And Old Man Synthetic Division will give me away.

HERO. We will motor to the land of Polar Coördinates for our honeymoon.

POLLY. Is it cold there?

HERO. Oh, no. Very little of it, really, is cold. There are many famous highways there. We will take an old one called the Spiral of Archimedes, after a very learned man of Syracuse. The country side is very beautiful. Many famous engineers have worked there plotting points and constructing curves. We shall be so happy. Our love will be a geometric progression diverging into infinity. We will not take a discontinuous curve as so many unfortunates do.

POLLY. I do love you so. You are so good to me. I seem so undecided. Sometimes I wonder if I am really Polly after all. There are times when I think I am only an imaginary dreaming I am Polly. Then again I think I'm really Polly dreaming I'm imaginary. What a fix to be in! I don't know whether I am a real person dreaming I am a dream or a dream dreaming I am real. But I love you so much I think I will go with you. Then if I am really Polly everything will be fine and if I am an imaginary no one will ever know that all this has happened. How could anyone know what happens to an imaginary? There, I call that very square logic indeed. I am sure I can not be entirely irrational. At any rate I shall be rid of this radical sign, don't you think?

HERO. Why, of course, you will, Darling. I think you are a very smart person to understand there are two sides to everything. Only ignorant people are sure about things. The wise man knows it is hard to distinguish the good from the evil. What is good for one is bad for another. Time may still further alter conditions because nothing can be judged with any degree of accuracy unless time is considered as one of the factors. It has been said that the objective emanates from the subjective. The subjective follows the objective. When one is born the other dies. One is positive and then negative. Which is the better state? One does not know but, when one can comprehend the center, the origin at which all infinities converge, the positive and negative alike become one. Joy is so much like pain, and pleasure holds so much of grief that one finds it hard to tell which is which, if there is any difference. It takes a great deal of knowledge to understand the incomprehensibility of all things. But it does not take much thought to understand that we are complements one of the other and that nothing should ever separate us again.

POLLY. How astute you have grown! I'll tell you a secret. I really couldn't exist any longer without you.

HERO. You Darling! I have the dearest little home for us at (1,1) ready for your orders when we return. I have persuaded our old family factotum, the Function of One to be our butler and Common Fraction to cook for us. I hope you will love it. Come. Let us go now.

They approach and Cancellation, the guard, brings his sword to port.

CANCELLATION. "Who goes there?"

HERO. It is I.

POLLY. And I.

CANCELLATION. Oh, the imaginary units. Not quite so loud. It is not a capital I, you know.

HERO. We wish to see Dr. Involution.

CANCELLATION. Advance then and give the sine and cosine.

HERO.

> In any triangle as *ABC*
> Where *C* is an angle of 90 degrees;
> The sine of *A* is *a* over *c*—
> The cosine of *A* is the sine of *B*.
> For either is written *b* over *c*.

CANCELLATION (lowering his sword and standing aside). Enter.

When the young couple have passed through the door Cancellation resumes his post.

Curtain

EPILOGUE

The curtain rises again on the scene of the first act. The daylight is beginning to face, and the atmosphere is not quite so geometric as before. Polly is lying in the same position and seems to be asleep again but now there is a smile on her face. A tall man with a brief case and an umbrella enters from the right and stops before Polly.

THE PROFESSOR: Why, hello, there. Haven't you been home yet?

POLLY (waking, rises and rubs her eyes). I have corrected your paper, Polly, and you got the answer. That's fine.

POLLY. Oh, yes, I got the answer.

Curtain

The schools, representing the common people, resent the attempt to make free public education in America like a charity handed down from the bounty of the rich.—WM. J. BOGAN.