A Study in Human Stupidity

By MARY ANN WOODARD
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To ALLEVIATE the monotony of drill on algebraic fundamentals Gustav Davidson's story of Galois' life was read to the class. The suggestion that it was excellent material for dramatization was enthusiastically received. The admonition that any production must be kept simple so that a minimum of time would be spent in memorizing and staging was given. The following was the result.

The curtain announcement was adapted from Lillian Lieber's "Galois and the Theory of Groups," page one.

The particular story
Treated in this little play
Is
The life of
Evariste Galois.

"Galois died,
Just one hundred years ago,
Before he reached the age of
Twenty-one!
In his short and tragic life
He developed
A branch of mathematics,
Which is of the greatest importance
Today.

He is ranked among the
Twenty-five greatest mathematicians
That EVER lived.*

Outside of his tremendous success
In his mathematical work,
His life was a series of
Frustrations."

We present this play with the hope that you will enjoy it and learn a little of the history of mathematics.

* G. A. Miller in *Science*, Jan. 22, 1932.

Written, directed and produced by THOMAS CASSERLY, JR., II, *and* BERNARD DEVIN, JR., *South Orange Junior High School, South Orange, New Jersey. Presented March, 1943, under the sponsorship of* MISS MARY ANN WOODARD.

A biographical play on the life of the French mathematician Evariste Galois.
> REFERENCE: The Life of Evariste Galois; Gustav Davidson: Scripta Mathematica reprint. Galois and the Theory of Groups; L. Lieber, Science Printing Press, Lancaster, Pa., 1932. Men of Mathematics; Eric T. Bell, Simon and Schuster, New York, 1937.

Characters in order of appearance:
> Narrator
> Peasant
> M. Jordan
> First Professor
> Second Professor
> Third Professor
> Secretary of the École Polytechnique
> Secretary of the Academy of Sciences
> Head of École Normale
> Messenger
> Spectator
> Evariste Galois
> Spokesman of the Academy of Sciences
> First Patriot

Second Patriot
Guard
Spectators   Patriots

The play is intended for presentation with the aid of a small public address system, giving the narration a proper dramatic impact, and allowing the use of recorded background music. The first movement of Tschaikovsky's Fourth Symphony is suggested.

Houselight off. Very quiet. Curtain is closed. Music begins, reaches introductory
climax, and dies.

NARRATOR: A body? A body in the road? What did it matter? Times were hard. What was it the authorities said—shot through the abdomen. No—not the first victim of a duel the province of Gentilly had seen by eighteen hundred thirty-two.

Curtain opens quickly but softly.
(Stage is lit dimly to preserve dramatic atmosphere, to avoid need of elaborate set, and to
simulate early dawn. Body is lying in heap in near center. Peasant enters from
right. Carries apparently very heavy bag of produce. Gets nearly
on top of body before noticing it.)

PEASANT: (*Allowing bag to slip toward ground*) LORD! Again! (*advances to and bends over body being careful to speak toward audience*) Poor chap's been shot. No one I know. Wait! He's breathing. Perhaps there is still time. The Cochin Hospital is not far. (*Looks sympathetically at body*) So young—so frail looking. But come—there is no time to waste. (*Straightens*)

Lights go out. Then curtain closes.

NARRATOR: (*Again soft music*) Of course the fellow died. Peasants of France have no knowledge of first aid. And so on the thirtieth day of May, Anno Domini 1832, Evariste Galois passed on to a better life. He was so young—only twenty, you know, so—but—that wouldn't interest you. It didn't interest anyone else. They all laughed when you mentioned his name. Yes, every last fool and simpleton and ignoramus laughed and tapped his forehead significantly. Let us turn from this sad situation to the study of a scholar, a generation later. M. Jordan, a mathematician by trade sits pouring over ponderous volumes and piles of paper.

(Curtain opens disclosing a middle aged man seated at a desk. The stage is softly
illumined. He writes as the narrator continues.)

Let us just get a little closer—what is that I see scribbled at the end of all those symbols? Why it is the name, Evariste Galois.

(Pause for effect. Music does not swell.)

Someone is approaching the desk. It is a small child.

CHILD: Papa I....

M. JORDAN: (*Very irritably*) Go away Lorraine! Can't you see I'm busy?

CHILD: Yes sir.

M. JORDAN: Lorraine, I am sorry. I really must learn to control my temper. But these accursed figures!

CHILD: What are they Papa?

M. JORDAN: Nothing, child. Go to bed—and say goodnight to your mother for me.

(Exit child, Jordan returns to his work.)

NARRATOR: (*again soft music*) We may well excuse M. Jordan for his outburst. For he is in the process of comprehending the scientific papers of one of the world's greatest mathematicians, Evariste Galois. Do you wish to know more? It is a sad story.

(Pause.)

Evariste Galois' short life began in eighteen hundred eleven. At twelve his parents sent him to the college of Lois Le Grand in Paris. It was not Evariste's fault that he was mathematically precocious, that he knew more than those who taught him. Resenting his genius his professors made no move to further it.

(First and Second Professors enter apron in front of curtain from the left. May be spotlighted.)

FIRST PROFESSOR: Why only today he questioned what I lectured in class. He spends five minutes on a two hour assignment.

SECOND PROFESSOR: But does he arrive at the correct solutions to your assignments?

FIRST PROFESSOR: Yes—but it is not right. He spends all his spare time reading books that are beyond him. Why *even* I would have to study them for hours to understand their true import. He is a queer insubordinate boy.

(They meet Third Professor at center—talk quietly among themselves.)

NARRATOR: This same criminal indifference and neglect greeted young Galois in everything he did. At sixteen Galois was absorbed in equations of the fifth degree, vainly hoping to prove them soluble. Though he nor anyone else ever accomplished this, his research opened the way to present day methods of solving equations with algebra.

(Pause.)

And still they laughed.

THIRD PROFESSOR: *(With pomp and authoritative finality)* His ability in which one is supposed to believe, but of which I have not witnessed a single proof, will lead him nowhere.

(Three Professors leave at right.)

NARRATOR: At seventeen Galois decided to enter the École Polytechnique.

(Spot shows secretary seated at desk in front of curtain.)

SECRETARY OF ÉCOLE POLYTECHNIQUE: *(Writes as he speaks in broken phrases)* We regret to inform you—that after due consideration of your—application—we can find no place for you in our—institution.

(Spot out. Music swells, then softens.)

NARRATOR: Undiscouraged Evariste continued his attempts to enter a mathematical school. Meanwhile, convinced that he had discovered a number o truths of a fundamental and far reaching nature, he submitted a memoir to the Academy of Sciences. No answer came from the academy, not even an acknowledgment. At length Galois wrote to learn the fate of his paper.

(Voice from left exit near stage.)

SECRETARY OF THE ACADEMY OF SCIENCES: We are sorry to inform you that the paper of which you write has been mislaid. Yours very truly ————

(Music comes out and drowns out last.)

NARRATOR: *(Music softens)* Do you know what happened to the Paper? *(Intensely)* It was lost—lost through the infernal numbheadedness of Cauchy, a mathematician greatly admired by Galois in his youth. *(Bitterly)* Ah paradox!

(Pause.)

Continuing his efforts the boy finally entered the École Normale, a fairly good school. Managed to enter. Indeed, he who knew more than his faculty, who could run rings around his professors—*(sarcastically)* they very kindly saw fit to accept him in their little kindergarten when they should have considered it an honor for him even to know the place existed.

For two semesters Evariste remained at École Normale, a time spent in constant battle for recognition from the blundering, know-it-all, cruelly indifferent professors. The inertia of their minds could not conceive of his genius and the miracles he was begging them to accept.

Sensitive, impatient of delay and the dull-wittedness of those above him, the boy became more and more introspective. Then at the conclusion of the second semester. . . .

(Spot shows man seated at desk. Galois stands just out of the area of light, a thin, tall, almost pathetic figure.)

HEAD OF ÉCOLE NORMALE: Galois, we have discussed your case and have come to the conclusion that your presence here has a detrimental effect upon the student body. Therefore we are forced to order your dismissal.

(Spot out.)

NARRATOR: And as the last drop in Evariste's cup of despair . . .

(Voice through microphone.)

MESSENGER: M. Galois? I have been sent to inform you that your father has just committed suicide.

(Music swells, then softens.)

NARRATOR: Expelled from school, virtually destitute, Evariste sought to sustain himself by delivering lectures in the rear of a bookshop run by a man named Calliot. Out of pity or curiosity there were always listeners. They certainly did not—could not—comprehend him. For Galois was now in the highest realms of mathematical theory, treading those mystic heights where only the initiated may follow. The truth of the matter is that the whole mathematical faculty of the École Polytechnique would have come away from the little bookshop with exactly the same comprehension as did the loafers who listened.

(Curtain opens disclosing interior of bookshop. Person playing Galois must be convincing in his portrayal of a discouraged, emaciated youth who though he has been thwarted at every turn, is very eager—just a trifle fanatically overeager, to impart some of his genius to others. The details of the interior are simple. A few tables, a number of books and perhaps a chair will suffice. Grouping of listeners is up to director. A "crowd" of about ten persons comprises this group.)

EVARISTE GALOIS: *(As if continuing a lengthy exposition) (Pauses to wait for effect of statement. Group makes no sound)* Perhaps if I put it in a simpler way. Given: A group, G, with n elements in it: and a subgroup, H. Containing r elements. To show that r is a factor of n. Let the elements of H be:

$$a_1, a_2, a_3, \cdots a_r.$$

Now choose some element, b, in G but not in H, and multiply it by each of the r elements, etc.[*]

FIRST SPECTATOR: M. Galois, I fear the hour is late. Perhaps another time . . . .

GALOIS: *(sighs)* You are right my friend. Thank you for listening. Good night.

(Group files out with general goodbyes and shrugging of shoulders. Calliot, the owner of the shop, and Evariste remain.

CALLIOT: You did well today my friend. While they were here they bought eight books.

GALOIS: M. Calliot! I pour out my heart and soul to them in an earnest endeavor to create some glimmer of light in their feeble intellects and you—you worry about your book sales!!

[*] L. Lieber, "Galois and the Theory of Groups" cover.

CALLIOT: (*Eager to prevent Galois from becoming angry*) Well one must eat you know.

GALOIS: Do I know!! Man—would I stand here day after day haranguing people like a fishwife, were that not too true? Nay—I would be hard at work proving my theories until I should be recognized. (*Dreamily*) Someday, perhaps, that day will come. Hah! That is poetic, is it not! Calliot—tomorrow I shall send another memoir to the Academy of Sciences. Baron Fourier is now secretary. Perhaps he will listen to me.

<center>(<i>Lights out. Music swells, Curtain closes.</i>)</center>

NARRATOR: Perhaps, at last, Evariste will get some results. For Baron Fourier has taken this second memoir home with him to read. Surely he will see that, here, mathematical conclusions of the sublimest order are set down. Surely he—wait! What is this? The Baron's home is draped with funeral wreathes. Surely—yes—the Baron is dead. (*Pause—then eagerly*) It is possible he did read the memoir. But no—he didn't. (*Bitterly*) Listen to the logic of this spokesman for the Academy.

SPOKESMAN: The loss is a very simple thing. Baron Fourier was to have read it, but d'ed, and so, the memoir got lost. (*This from right front exit near stage*)

NARRATOR: Evariste was then ready to give up. But he met another mathematician a man named Poisson. Poisson offered to intercede for Galois at the Academy. Once again the memoir was written and intrusted to Poisson. But Poisson was in no hurry. For four long months the memoir lay on his desk. After a number of reminders from Galois the memoir was returned marked "incomprehensible." This was indeed the last straw. Filled with the fury of broken hopes, Evariste threw himself headlong into the political maelstrom of the French Revolution. At a meeting of patriots came Galois' final undoing.

(*Curtain opens disclosing group of patriots, about ten in number, around a table, as if finishing a banquet. Everyone is quite happpy and, as the curtain opens, a buzz of conversation is heard. After a momen' Galois rises from his chair holding a wine glass aloft in his right hand and in his left a small dagger or pocket knife.*)

EVARISTE GALOIS: (*Unconsciously flourishing knife*) A toast gentlemen. To Louis Phillipe! May his life be long! (*Galois in his excitement is thus deliberately p oposing a toast to the bitter enemy of his group. However, instead of laughing at the joke, the group misinterprets the significance of the waved dagger*)

FIRST PATRIOT: Hah! Evariste Galois, you are clever! You wave the knife, eh? And on what date do you intend to do away with Louis Phillipe?

GALOIS: (*aghast*) Do away with Louis Phillipe? Clever with the knife? Why I was using it to cut my chicken. I never. . . .

SECOND PATRIOT: That is all right, Evariste. We have no spies. Why are you so afraid to admit. . . .

<center>(<i>Enter guard, hurriedly.</i>)</center>

GUARD: Quick—Soldiers outside—they have heard everything. To the secret passage!!

<center>(<i>Assemblage departs in wild confusion as the curtains close.</i>)</center>

NARRATOR: Secret passages are not always sure avenues of escape and Galois was thrown into prison. Unable to present concrete evidence they had to free him. Two months later Galois was again locked up, this time as a dangerous agitator. Again he was freed, on parole.

But life no longer meant anything to him. Mathematical conclusions that could have electrified the sciences flashed through his brain, but now he shunned them. They had brought him nothing but grief and desolation. Evariste became reckless and defiant.

<center>(<i>Pause.</i>)</center>

And then he was embroiled by a woman. The exact circumstances are obscure. All that is known is that sometime on May 26 or 27 he was challenged to a duel by two men purporting to be the uncle and fiance of the woman, but who were her confederates. The circumstances were such that Galois could not refuse the challenge and keep his face, although he knew that acceptance meant certain death. On the eve of his tragic end he wrote in an open letter to all republicans . . .

(Footlights on. Galois stands sadly in front of curtains. Definitely no spot.)

GALOIS: "I die the victim of an infamous coquette. My life is quenched in a miserable piece of gossip. Forgive those who have brought death upon me; they are of good faith."*

(Lights out.)

NARRATOR: Evariste Galois also wrote another letter before he died. In it he gave a resume of all his contributions to mathematics. This letter he sent to his friend. Auguste Chavelier. That letter today, carefully preserved, is one of the most precious documents in science. Even today the full flowering of Galois' genius is not for us to attest. That privilege is left for a mind that is still to come, as transcendent as Galois' and also attuned to the murmurings of the infinite sea.

(Music swells)

(Loud report)   Sound effects.

A body? A body in the road? What did it matter. Times were hard. What was it the authorities said?—Shot through the abdomen. No, not the first victim of a duel the province of Gentilly had seen by eighteen hundred thirty-two.

(Music continues. Swell-climax.)

FINIS

* Galois's "Letter to All Republicans."