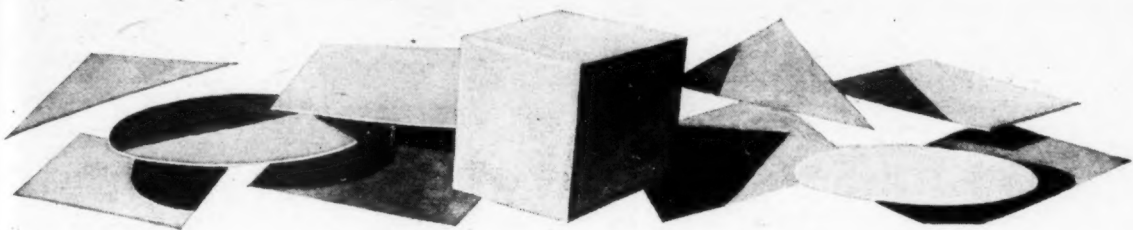


FLATLANDERS



Persons in the Play

MR. CUBE.

MASTER RATIO—A Schoolmaster, inclined to be fanatical.

CYCLUS—A young nobleman just entering school.

BARON MULTILATUS—Father of Cyclus.

Prologue

(Spoken by Cube)

Dear People of the Third Dimension,
I have to bring to your attention
A place that's hard to understand—
A country that is called *Flatland*.
The people here, as you will see,
Are long or wide—as the case may be,
But one thing they are wont to slight—
They never heard of having *height*!
That woman is a fashion-plate
Whose form's a line that's thin and
straight.

And, lest some man should fail to see
A line that's drawn so daintily
And e'er he'd time to step aside
With horrid bump they should collide.
She hums a note that's thin and clear
To let him know she's drawing near.
Since *Flatlanders'* nobility
Is *sides* instead of ancestry
The King's a circle, and his Princes
Are polygons of many sides.
The Triangle's prestige is small.
The Angle has no name at all.
And yet, unto a Cube like me
The case is grievous as can be.
For though I'll fight 'gainst circumstance
To pull them up from ignorance,
I fear in flight they may not revel—
For *Flatlanders* are on the level!

The Scene

SETTING: A schoolroom. Around the walls are hung various shaped cardboard figures—inhabitants of *Flatland*. There is the Teacher's desk, and the benches for the children. In the front row of these are—in line—a cardboard: Triangle; Pentagon; Straight Line; Octagon. Problems treating Areas are on the blackboard. Cyclus is just entering the school. Ratio enters on the other side.

The costumes may be all black and white with cardboard printed names hung around the necks of the characters. Cube may be inside a paper cube if desired.

TIME: Today, in *Flatland*.

RATIO: Good morning, Cyclus. So this is our new pupil.

CYCLUS: Good morning, Master Ratio. Father said you were to teach me my angles very well this year so that I will not make the mistake of associating with people beneath my rank.

RATIO: My students always know their angles very well. But first, let's see how much you know already. You look like a bright lad, and doubtless the son of the great Baron Multilatus has had practice in discovering the rank of his play-

A Mathematical Play in One Act

By Kathleen Millay

fellows. Begin over there on the first row, young man, and tell me the class of each child.

CYCLUS (*goes to cardboard figures*): This, this—let me see—why, this is a Triangle! How stupid of you to admit Triangles to such an exclusive school. I'm sure my father won't approve of it. And this next one—this is a Pentagon.

RATIO: Right, sir.

CYCLUS: And this—oh, this is only a woman. I won't even have to bother with it. But this next person seems to trouble me a quite a good deal. It couldn't be! Why, yes, you're a Decagon. I would like to walk home from school with you sometime, Mr. Decagon. I'm sure we'll have very much in common. Your father must be a Count.

RATIO: That will do, Cyclus. I see where your trouble lies. By the way, that last gentleman was not a Decagon, but an Octagon. I'm sure we can correct your faults very easily. Now, sir, have you any questions before we begin the lesson for the day?

CYCLUS: Please, sir, what is a straight line?

RATIO: A Straight Line is formed by a moving Point.

CYCLUS: And what is an Area?

RATIO: An Area is formed by moving a Straight Line.

CYCLUS (*musing to himself*): Then, I wonder why they couldn't move to the right or left.

RATIO: I beg pardon, sir. You wonder why *who* couldn't move to the right or left?

CYCLUS: I was just thinking about a very strange dream I had last night. I was in a strange land. The people all seemed to me to be very unhappy because they were so crowded together. They could not run about and play as we do, but had to move all the time in a Straight Line. They could never pass each other, but when they met all they could do was to go back again the way they had come.

It was all so tiresome and stupid. I insulted their king by taking him for a woman, although how they could tell him from anyone else is more than I can see. A funny Straight Line bumped into me, and I told him to go to the right. He looked at me in a blank, helpless sort of way, and began to back up. Master Ratio, what do you suppose was the matter?

RATIO: That was a very peculiar dream, Cyclus, but it is all quite clear to me. You see those people only knew one dimension. How much happier they could have been if they had only known that they could move to the right or left in areas. Your dream proves to you, sir, what a lucky person you are. Your life is not hindered by ignorance of the possibilities you have.

CYCLUS (*hesitating*): But, Master Ratio, sometimes I think I am hindered. I wonder what would happen if you should move an Area.

RATIO (*calmly*): Nothing at all would happen. See, I will illustrate for you. (*He pulls a piece of paper around on the top of his desk.*) There, I have moved it to the right and it is still in the same shape and size. And now to the left—backward—forward. You cannot change an area. (*There is a knock at the door.*) Come in! (*Cube enters. Master Ratio goes up and feels or inspects his angles. Of course, all he can see of the cube is a cross section.*) Ah, yes, Mister Square. How do you do? And what can I do for you today?

CUBE: I am not a Square; I am a Cube.

RATIO: A what?

CUBE: A Cube.

RATIO: And where do you come from?

CUBE: I come from the Land-of-the-Third-Dimension.

RATIO: Third Dimension! What a peculiar language you have. According to the meaning of our word *dimension* there is no third dimension. And you call yourself a Cube. And yet, you are exactly what we call a Square.

CUBE: My language is just the same as yours, Master Ratio, only the range of my vocabulary is much larger. And I tell you again that I am not a Square. If you take a Square and move it up, you will discover what I am.

RATIO: Up?—Up?—Now what can up mean? Not this way—(*illustrates again pulling his paper over the top of his desk, right, left, etc.*)—nor this, this or this. Cyclus, get me the dictionary, for I must find this word. And what do you mean, sir, when you say *Third Dimension*?

CYCLUS: Maybe we're as ignorant as the people of my dream, after all.

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Acknowledgment

Flatlanders was first performed before the Mathematics Club of Vassar College, February 20, 1919. The Prologue and Epilogue were written by Kathleen Millay, '21, and the Scene was adapted by Lucile Free, '21. It is an adaptation of E. A. Abbott's *Flatland*, and is reprinted from the *American Mathematical Monthly* for June, 1919, by permission of the editors. Miss Millay is a sister of Edna St. Vincent Millay and has published volumes of poetry on her own account.

Ohio Relief

(Concluded from page 18)

discover whether any Federal laws had been broken in Ohio in the administration of relief funds, while in Franklin county the grand jury opened its investigation, and the General assembly, at Columbus, moved into action, after the lower house had adopted the Senate resolution.

Within a week after he had taken charge of the expenditure of Federal relief funds in Ohio, Mr. Stillman discharged 25 relief headquarters employees, began eliminating chiselers from the relief rolls, announced his intention of cutting down the monthly payroll from \$90,000 to \$80,000 and ordered the replacement of grocery orders by direct cash relief. He said he had learned that in one case 499,000 pounds of meat had been allowed to spoil in a Toledo warehouse and that an illegal charge had been imposed for the handling of 245 cars of potatoes.

Crime

Under the direction of Secretary of the Treasury Morgenthau, almost 3,000 criminals in narcotics peddling, liquor distilling, smuggling, counterfeiting, tax evasion and other offenses were seized in surprise raids throughout the country and more than two million dollars of their property confiscated. A force of almost 12,000 Treasury police and secret-service men were thrown into the battle against the criminals, many of whom will be prosecuted, as was Al Capone, for evading income tax payments.

The greatest haul was made by the Alcohol Tax Unit, which arrested 1,175 suspects at the height of the drive. The Narcotics Bureau grabbed almost 600 and the Customs Bureau (concerned mainly with smuggling) arrested almost 300 persons, and confiscated property valued at \$2,000,000, including jewels, narcotics, livestock, lottery tickets. The Coast Guard, the Alcohol Tax Unit and the Secret Service confiscated property valued in the neighborhood of \$300,000, including stills, boats, automobiles as well as drugs.

As a result of these raids, the United States becomes the possessor of 40,204 gallons of liquor, 900 moonshine stills with a daily capacity of 219,866 gallons and 119 automobiles.

But probably more valuable than the whole sum of seized property is the information resulting from these arrests which was passed on to Elmer L. Irey, chief of the Special Intelligence Section of the Internal Revenue Bureau. This data will be used as the basis for suits for tax evasion against no less than 500 of the "big-time" criminals seized.

During the course of the raids, the dramatic incidents of Prohibition days were re-enacted, with the Coast Guard in pursuit of six vessels believed to be engaged in rum-running, three of them off New York, two off the Delaware Capes and one off Boston. Five of these were seized and also confiscated were one truck, 378 gallons of alcohol, eight cases of counterfeit Canadian revenue stamps and an electric apparatus for making whiskey seem older than it is.

The Treasury raids, it is hoped, will break up the gangs which have been successfully counterfeiting money. The Secret Service arrested fifty men and women for counterfeiting, possessing counterfeit money, dealing in counterfeit and passing fake coins and dollar bills. Six members of one gang were nabbed in New York, in the Italian quarter of which one batch of \$12,100 in fake Federal Reserve notes were found. More than \$1,000,000 in lottery tickets, which

had been smuggled into the United States in bundles of rags and in similar ways, were part of the raiders' haul. Taking place "within the shadow of the Capitol," one raid accounted for twelve dealers in drugs, eleven of them wholesalers, and a \$20,000 supply of drugs intended for distribution in the southern states.

The drive against crime and criminals had been planned for two weeks, and with such secrecy that the underworld was taken wholly unaware. The concerted series of raids were directed by Harold N. Graves, special assistant to Secretary Morgenthau, and, in the case of the Alcohol Tax Unit, were carried out by men who have been without pay since Dec. 1 as the result of the McKellar amendment to a Congressional deficiency bill, but who have stayed on and worked on in the hope that Congress would eventually vote recognition of their services.

N. R. A.

Donald R. Richberg has been named acting chairman of the National Industrial Recovery Board, on which labor now has equal representation in the person of Sidney Hillman, of the Amalgamated Clothing Workers of America. Both Mr. Richberg and President Roosevelt have made it clear, in testimony and interviews, that the N. R. A. is not merely to drift along, but is to continue its job of enforcing codes, while the President asserted that he is determined Congress shall extend the life of the N. R. A. for another two years. The N. R. A. is not as dead as a dodo, said Mr. Richberg, referring to the phrase used by his predecessor, Gen. Hugh S. Johnson, but "a living creature," although it is to be simplified in its code structure, as Mr. Richberg declared in his earlier testimony before the Senate Finance Committee which is investigating the N. R. A.

Before this committee appeared Clarence Darrow, famed Chicago lawyer, to say that he would hate to give the N. R. A. credit for any improvement in conditions, that he believed the small business man had suffered terribly under it, that big business continued to enjoy the advantages and that the concentration of wealth was continuing; that, in effect, the best thing Congress could do was to abolish the N. R. A. To this view Mr. Hillman offered a demurrer, saying that the N. R. A. was responsible for the re-employment of 3,500,000 workers, the betterment of working conditions and the abolition of child labor.

Business

Business is showing considerable improvement in many lines, according to the latest report made by the Business Advisory and Planning Council, the members of which include some of the most important commercial and industrial corporations in the country. Some concerns report a 30 per cent improvement in volume of output and profit. Firms reporting no improvement were confined to the heavy industries, railroads, cotton and milling products. "The enlarged government housing program," hopefully reports H. P. Kendall, chairman of the council, "will be an effective aid in the heavy industries and through them to transportation and the consumers goods sector."

The 34 per cent improvement which business conditions have enjoyed over the past two years is almost better than business deserves, Joseph P. Kennedy, chairman of the Securities and Exchange Commission, told a roomful of business men at a recent luncheon gathering, because New York City was infecting the rest of the country with the economic "blues."

He asserted that men of finance were jittery and worrying overmuch about the intrusion of government in business and were thus exerting a discouraging influence on men of business and finance outside New York.

A bill to "provide for aid for the operation and maintenance of adequate public-school facilities throughout the country" has been introduced in the House of Representatives (H. R. 6360) by Congressman Lundeen of Minnesota. This should be cheering news to those communities where schools have been closed because of the depression. If you are interested and want a copy of the bill write to Mr. Lundeen in Washington, or Mr. Lynn Thompson, President of the Board of Education in Minneapolis, Minnesota.

Flatlanders

(Concluded from page 9)

RATIO (irritated): No, no, Cycclus! What an absurd idea! What would your father, magistrate, of our village, say if he knew you entertained such thoughts! No, no! (*Ratio and Cycclus search dictionaries. Cube inspects figures on the wall. Baron Multilatus enters without knocking.*) What a fruitless search. Up is not in any of our dictionaries.

BARON MULTILATUS (sarcastically): Well, well, Master Ratio! I thought I should some day catch you unawares! Of course, up is not in the dictionaries. There is no such word. Do you think that you can put any two letters together and make a word? Why not look for m-i, or k-t, or p-b, l-l, anything instead of using u-p.

RATIO: But Mister Cube, this fellow here whom we commonly call Mister Square, wants me to move a Square up and find the Third Dimension. Baron! (*Dramatically.*) I feel as though I were on the point of making some wonderful new discovery! Something that will help our future generations to live freer, happier lives than ours have been. Something that will—

BARON MULTILATUS: Enough of this, my man! I fear you are becoming mentally unbalanced. You'll only end by being burned as a heretic. And if you continue in this fanatical idea of yours I myself shall see that you get your just punishment. Come along, Cycclus—we'll seek a better master, and a saner one.

(*Exit Baron Multilatus with Cycclus.*)

RATIO (musing): He thinks I'm crazy, does he? Well, well, perhaps I am—but we'll see. We'll see. (*To Cube.*) And now, friend Cube, I'm off to my fellowmasters to see if I can get any help in this miraculous problem you have suggested. Doubtless they, too, will think me mad. Oh, when will the world learn to respect a man who is seeking after new truths? But—I'll meet you later, sir, and perhaps then we can bring happiness to my poor people.

(*Exit Ratio.*)

Epilogue

(*Spoken by Cube*)

And thus, my friends, this demonstration Portrays a grievous situation—A people who would like to find A way to educate the mind, And yet, who miss inevitably A truth we know quite naturally And, sometimes, when I contemplate, Their ignorance so desolate I wonder if we fail to see Some evident reality.

And so, I bring to your attention The subject of the Fourth Dimension.

CURTAIN.