

The Importance of People

Numbers for Plunar

Ann M. Coffey

IT IS appropriate that I set down for those concerned a brief description of my efforts to set up a satisfactory mathematics program on the planet of Plunar. I was in one of the first rocket cadres to be stationed there. My commanding officer was an ex-college professor who was constantly worrying about the lack of formal education on the planet. It became such an obsession with him that when it came time for our outfit to rotate to Earth, he asked me into his cell for consultation.

At first he was rather indirect in his discussion with me. He asked me if I had been alarmed by the lack of schools on Plunar. Since I had already been informed through scuttlebutt of the skipper's obsession, I assured him that I had been most concerned. In my mind's eye was the possibility of this sympathy working toward my promotion occurring more rapidly; actually I had not noticed any serious effect this lack of schooling had had on the people of Plunar. Perhaps though I had not been too observant, having my own topics of favorite observation: the food and of course the night life.

Encouraged by my cooperativeness, the skipper began to be more confidential. It seems that he had run the cards of my buddies and myself through the service computer and had discovered that I was the only one who had ever

successfully solved Advanced Problems in Curriculum on Earth. I could tell by his manner that in his mind this was a real attribute. I began to glow at the sense of my own worth.

Finally he got specific. Would I be willing, he wondered, to remain on Plunar on full salary and be given authority to do the necessary groundwork at least to set up a trial program in mathematics? As my helper I would have the son of a local builder, a man who on his own recent trip to Earth had been impressed by the frequency and size of the school buildings there and had seen a real possibility for his own career if Plunar, too, would undertake this type of building.

Having not yet completely mastered the steps of the Plunar Polka, I was anxious to prolong my stay and this seemed a likely opportunity. So, of course, I agreed. Now please do not get the impression that I was approaching my new task without some degree of interest and sincerity. I had long been anxious to apply some of the things I had learned in college and this seemed an appropriate time. Recalling the basic tenets of the curriculum process, I realized that perhaps I should begin my formulation of objectives by conducting a quick survey of the community.

I remembered that the curriculum process should be on-going and that

problems could be tackled at any point and the process could be carried on from there until the cycle was complete. However, I hoped that since this was a new curriculum for an as yet unschooled area, I could be forgiven for starting at the first.

My helper seemed bright and cheerful and so we began our task. I queried him about the number of young people on the planet and, since he could not give me the information offhand, he urged me to accompany him to the library so that we could find out. I had been intending to visit the library ever since my arrival at Plunar and was most happy that finally I was to be more or less compelled by circumstance to do so.

Just a few seconds away by the municipal monorail was the huge structure which our indoctrination map described as the library. It did not look like a library on Earth, being much larger and being situated more or less at the hub of the metropolitan area. I had a moment's trepidation as we stepped on the moving sidewalk adjacent to the building, but my helper reassured me by pointing to a directional arrow which said "Statistics" and pointed in the direction we were going.

In a few seconds we halted at a booth in the northeast corner of the structure. My helper took out his Plunar Pass and inserted it in the slot made for this purpose. He did so with the same skill and simplicity that I had admired in the citizens on this planet wherever we went—restaurant, theater, swimming pool, or submarine.

Before I continue, I will describe the Plunar Pass. It consists of a piece of brilliant metal cut into a rectangle about two by four inches. It would resemble the credit card carried by shoppers on Earth, but is larger and more complex.

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Besides the basic information of name and address it carried an individual code number in the binary system, often a hundred places long and reminding me of our Social Security numbers on Earth. The Plunar Pass was an automatic admission to anywhere on the planet. Some passes I had seen were set with precious jewels and other decorations, but I did not discover their significance.

Here, at the library, as everywhere, I was impressed by the rapidity with which things began to happen after the code number had been used. My helper quickly typed his number on a keyboard that was waiting in the booth. In a moment, a voice spoke over the microphone, called him by name, and asked him what he wanted. He phrased the question involving the statistics we had come for in a concise way that caused me to start in surprise. He had a better understanding than I of our task, and it

was his first community survey! Almost immediately a ticker tape emerged from a slot in the typewriter, carrying the information we desired.

My curiosity was aroused by the tremendous efficiency of the library service and I wished to take advantage of it to ask a few more questions. I directed one such question to my young assistant and he in turn relayed it to the voice on the microphone. The answer was prompt and to the effect that this type of information was not revealed to minors. I decided to try my own Plunar Pass and after plucking out with some awkwardness my own code number which was preceded of course by the letters "U.S.," I asked the question. The answer was even more prompt and to the effect that this type of information was not revealed to foreign agents. I realized then that I could not pursue my own research until accompanied to the library by an

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adult citizen of Plunar, something I resolved to accomplish in the near future.

To make the most of our present stop, however, I collected a few more statistics. I then had an inspiration and asked my companion if there was a section of the library devoted to schools. He was mystified by the word for a moment and then recalled that his father had mentioned that it had something to do with buildings. So we pushed the directional arrow called "Structures" and the moving sidewalk took us to another part of the library.

Here the voice on the microphone asked us if we were interested in some particular school, and so I mentioned the one I had graduated from back on Earth not too many years before. The procedure was a little different, and instead of the ticker tape coming forth, a black curtain was dropped around us which gave me a moment's discomfort. In a few seconds, though, I was relieved since a device I recognized as a streamlined microfilm projector began to operate and there was my Alma Mater in full color! I couldn't help shedding a tear or two in nostalgia. My helper was most impressed and asked me if he would love his school when we got it built. I assured him that he would.

That night as I was falling asleep I had the kind of inspiration that comes to someone who is conscientiously trying to do a creative job of his task in the universe. I realized that there was a distinct relation between the individual code number and the concepts of mathematics. With this glimpse into appropriate content for my curriculum, I fell asleep.

The next morning the first question I had for my assistant was to ask him to convert his code number to a base ten value and to repeat its name. Imagine

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my consternation when I found that he could not do so! I taught him in a short while and was only slightly nonplussed when I noticed his repeating of the digits under his breath as he punched the machine that would deliver us our breakfast. It had slowed down his reflexes, but I was sure the delay would be only temporary and was more than compensated by his pride in his new accomplishment. He would be a good student.

This reflection served to remind me that soon I should be considering the students and their needs. I asked my man Friday, as I had nicknamed him, to invite some of the young folk he knew to come to my cell to see me; in the meantime I sent him out to collect some more statistics. I would handle the personal interviews.

Time elapsed. I had learned all the intricate steps of the Plunar Polka and

was now concentrating on the Saturn Slide. Our report on the community was nearing final form and I was about ready to dictate it to a printing machine. I had met with a group of young people a few times; most of them had learned how to convert their code number to base ten and say its name without difficulty. I felt that here I had made a start into setting up the subject matter itself. I felt quite secure at starting with this advanced concept of reading large numbers in other bases as most of the students seemed to handle it reasonably well.

The most rewarding experience of this time was the night when one of these young folk called on the tele-telephone and showed me his father's code card so that I could tell him the proper name and he could proceed to instruct his father in reading large numbers in base ten. I had visions of setting up a school that would really be a vital influence in the community.

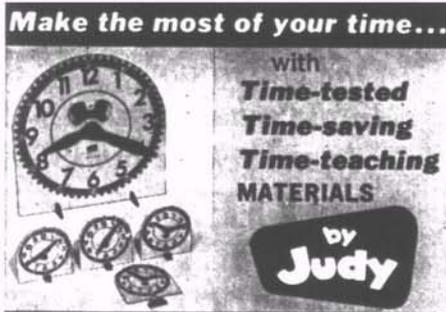
I enjoyed my meetings with the young people. They were happy and eager to answer my questions. As I became better acquainted with them, I realized that their problems were very similar to those of the youth I had worked with on Earth. The boys were intense about sharing experiences about customizing their rockets or modernizing vintage space ships, and the girls were fascinated by the boys.

One day when I was trying to lead them into more serious consideration by directing their talk toward their judgment of the Plunar regulation that prevented their taking their rockets out of the planet's atmosphere before they reached voting age, I learned something. One of the boys commented about the Thinking Library, and it was only then that I learned that there was another

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library—this one more remote—which bore this name. I determined that we would visit it and sent permission slips home to the parents so that my pupils, as I now thought of them, could accompany me on a field trip. Most of them were not often allowed to accompany their parents there and they were thrilled at the prospect of going with me.

Since I had not been there myself, I found it rather difficult to structure the field trip. They seemed quite secure in their preparations for the trip anyway and so I felt that their backgrounds had probably prepared them adequately for adjusting to any situations that might arise on the journey. I did feel a compulsion to insist that they collect various quantitative data so that we could do some computation on our return about distance, time and rate. It was only later that I learned that one of the boys cleverly solved this for the group by

taking a trip to the regular library and collecting the necessary facts.

Once the vacuum tube journey to the Thinking Library was complete, I was a little concerned about the necessity of phrasing a question for the microphone that would properly impress my class with the vast storehouse of universal knowledge. Counting on necessity to assist me, I delayed the entrance a little by taking pictures of the campus of the library. The building was on a wooded hillside, surrounded by gardens and a wildlife preserve. It had many wings and each was constructed of a different type of fieldstone. They were blended together in such a way that the human eye could not really see the joints. I must admit that it was the most impressive building I had ever seen. I trust that the builders of the Space Needle in Seattle, my previous favorite, will forgive me for saying so.

I was pleased to find that my trust in my followers was not misplaced. The atmosphere seemed to hold an aura of near reverence for them, and even the clown of our group was quieter than usual as we approached the entrance. The machine rejected my Plunar Pass and one of my students thought quickly and asked the voice in the microphone if no one else from Earth had ever visited there. The answer was negative. My students requested special permission for me. There was a delay of several minutes, but we took advantage of this period to have a cold drink from a handy dispenser.

The decision was that I could enter, but the staff would retain the right to edit any information I might request until they had further chance to consider my credentials. In the meantime I had thought of a question that I believed would sufficiently impress my followers.

It had to do with the current theory of Plunar experts on the training of youth. I felt here I might actually gain some insight into the reason for the lack of formal education which by now I deplored as much as had the man who had commissioned me to my inspirational endeavors.

After I had worded the question in my best vocabulary, the inevitable voice commented that since the answer would take four hours, we would probably be more comfortable in the little theater. We agreed and the automatic elevator took us there.

The cinemascop presentation started with an introductory statement about the necessity of our having proper background to understand the answer to the question. In rapid order then we watched dramatizations of excerpts from Plato, Herbart, Dewey, Conant and others. There were even some summaries of speeches from N.E.A. and P.T.A. During the intermission that occurred between this historical material and the more current, I had to awaken two of my pupils.

Long lectures have always had a sedative effect on me also and I'm afraid that I missed part of the second reel. The main recollection that I have was of some mother giving a speech on the general topic of "Leave the Training to Us."

My evaluation of the field trip was that it was very valuable to us all. Some of the pupils were not mature enough to appreciate it, but they had gained by being for a short time treated like adults. When their own life problems called for a trip to the Thinking Library, they would be prepared. And of course I was most flattered when a plaque came for me, recognizing me as the first Earth citizen to visit the Thinking Library.

My communication to earth asking my former commanding officer for advice as to how to proceed with the necessary appropriation papers had not been answered. Perhaps he was trying to get me a grant. Meanwhile I had completed the community survey and made my recommendations that these youth be given a practical course in modern mathematics which they seemed to need if their reading of other peoples' code numbers easily was ever to become possible.

The students continued to come to see me. We played records and danced after we had a few minutes drill in base ten. One afternoon I expressed a wish to find out about juvenile delinquency on the planet. I knew that every once in awhile one of them was arrested for driving his rocket too fast, but I was not familiar with other crimes. As a suggestion I asked them if they knew any instances of people's Plunar Passes having been stolen. They were confused and amazed. The concept was hard for them to understand. I had to explain the process of stealing and demonstrate it by taking a knife out of my man Friday's pocket and putting it into my own. They promised to think about it and write up their reflections for next time.

Much to my regret, though, there was no next time. That very evening I received a rush transfer back to my original unit on Earth. No explanation was forthcoming. I have wondered for a long time why fate dealt with me in this manner. Perhaps my medical officer did not think I could stand the Plunar atmosphere any longer.

One day recently I obeyed an impulse to visit my former commanding officer and to ask him what he thought might happen to the mathematics program I had envisioned for Plunar. He said that he had requested a report, but that it

did not have the information we desired. It did have some personal news that he thought might interest me. It seemed that the clown of my class had mischievously hidden the Plunar Pass of one of the other students who then hadn't been able to get home for dinner on time. The irate parents had enlisted their friends in protesting to the authorities about my mathematics class and they had agreed to investigate it.

I have three more years in the service. No work I can do will interest me like my attempts at giving some worthwhile mathematics training to the young people of Plunar. It is my ambition to return there when my enlistment period is over. Just the other day I realized that those young people had absolutely no concept of our decimal monetary system.

—MRS. ANN M. COFFEY, *Chairman, Mathematics Department, Edwin Markham Junior High School, San Jose, California.*

Nonlearning Child—Berlin

(Continued from page 447)

In summary, the tensions and anxieties, the troubles and problems current in our society are reflected in the student and his parents. Teachers today in overcrowded classrooms with many hyperactive, disturbed, nonlearning children face almost impossible tasks.

Recognition of the vital mental health aspects of education for these nonlearning, angry or indifferent students may make it possible to devise the necessary teaching methods already being tried in classes for retarded, brain injured or psychotic children. Reality assessment of these problems would also make it mandatory for small classes and auxiliary services to help an ever multiplying group of children to become useful citizens.

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