Problems of administrative and faculty understanding of computer use in schools are discussed. Administrators are said to need to know more about computers and to help the faculty overcome misapprehensions. Administrators are urged to create computer-assisted instruction projects in their own fields, as a means of becoming better acquainted with CAI use. (SK)
I want to change the title of this paper from CAI from the "Administrator's View Point" to CAI from One Administrator's View Point" for if it's one thing I've learned as an administrator, it's the fact that we are all different, bringing to the task all kinds of different backgrounds and interests. I can only speak of my own experiences surely, and that of others only in loose, probably irresponsible terms. I suppose most of us have gained knowledge of computers from public news sources, Time Magazine and television news, etc. Later, curious, we proceeded in our sublime manner, to look to educational news sources for what's going on in computers. We find of course that we have language problems for, at first, most of us don't know much about what bits and bites are in the computer context. We don't know the difference between batch processing, time sharing; the difference between computer assisted instruction and computer managed instruction, and we are assailed constantly by acronyms. It sometimes appears that part of the effort of computer folks is concerned with the development of acronyms. Special languages are developed by technologists with the idea of shortening the length of time it takes them to communicate with each other. That is worthy, but subsequently two things appear to happen (a) the entrance of lesser people into the same field expands the process in order to develop a sort of private conversation and (b) the language, developed originally for a good purpose, takes over as the official language, not only to be used among themselves, but to be used as an identity, and eventually becomes almost exclusive for the field. Such a language was "Washingtonese," but with the departure of the Nixonians, such "Washingtonese" seem, happily, to be on the wane.
Most of us who are not in the business are confounded by acronyms such as CONDUIT, PLANITS, TICCIT COMPUTE, STATUS AND PLATO. (I am praying daily that, very soon there will appear on the scene an acronym called "WHOOPEE!")

Then there are facts, lots of fact. In the fiscal year 1973-74, $23 billion were spent on computers, activities and machines in the United States. There are in this country today 120,000 computers; 10,000 of those are in schools. (Those facts, comforting (or unnerving) as they are initially, don't really mean much to an administrator in a very practical setting like a dental school.

Now past the beginnings, the usual administrator has already decided he needs to know more, but in specific and common English language terms. So he goes to seminars; talks to those people on his national committees who are in the business and tries to discover what role computers may play in his manageable situation and how much, alas, the effort will cost. Further, he wants to know how well these computer scholars and their machines may be integrated with other machines such as television tapes, slides and films. He then enters the arena of Systems, with a capital "S". When I hear the word, I begin to worry - systems, systems analysis, systems management. I am, after fifteen years in administration, hardened to the word so that I now no longer fly into black dispair, but rather recognize that, admixed with the abundant impracticalities which systems have impsed on the world, there are some precious examples of perfectly good systemic ways to do things. I learned to question the methods of systems people because of their attempts to mange scholars' and scientists' creativity and imagination; qualities
peculiarly unsuited to that process.

But I have come to cheer systems in the management of such things as the purchase of supplies, equipment, logistical procedures, etc. Now then, one becomes aware, as an administrator, that what one needs next and desperately, is a scholar who can give advice and hopefully join the faculty. The obvious way that most administrators do that is to review credentials and determine minimal standards of achievement and, after that, engage in conversations with prospective candidates. Into those conversations will go all of the administrators previous experiences. From those conversations he will suffer certain alarms if he hears the same things which had been said previously by someone who flim-flammed him in Los Angeles, and experience reassurance if the candidate says those words which had impressed him so much in Chicago. If he is as fortunate as I was, and succeeds in persuading an excellent scholar like Karen Duncan to join him, he brings together the computer scholar, and those people in his faculty who have also elicited some interest in computers. They put together a series of goals. Everybody must understand early and clearly that the first priority of the computer group will be for education, second, research and last, fiscal affairs; that for several reasons. In the first place, most faculty believe that computers do other jobs only when they are finished with percentages, decimal points and dollar signs. They will be skeptical (if they are purdent men and women) until somehow or other you prove to them that the teaching priority is real.

After this small group of people have defined their goals and the administrator is able and ready to support them with money and space, etc.,
he then tries to engage the remaining faculty who have been, to this date, christ-ened with negative information. The first thing that everybody learns about computers is "garbage in - garbage out." That's cute, and they never forget it. For it alone can be an excuse to remain aloof from computers and computer folks. They have been told (if they have been on the faculty more than seven nano-seconds) that it takes 4,681.3 hours to prepare a computer assisted instructional exercise which will last, for the slowest student 23.68 minutes. And if that's the case, of course, it is a fruitless and thankless task to worry about the whole baloney. And, by the way, don't forget that computerized telephone bill for $75,000.

Faculty must be offered tangibles of some sort. One of the easiest to come by is to provide them with grades the instant after the close of the academic quarter. When I first came to my institutiton, I was extremely happy about that and, I thought, already we are ahead on attitude. But I then dis-covereded that although they did provide us with grades, the faculty complained that the grades were invariably wrong. Somewhat or other that proved to some of the faculty that computers and computer people were not worth powder and shot. The fact is, that while they memorized the ditty of "garbage in - garbage out," they did not recognize that they, the faculty, were the garbage suppliers and that the machine is pretty much responding to the usual laws of physics and doing as it should do in hands of the people who fed it.

However, it is necessary to sympathize with faculty scepticism, because the most earnest and diligent of them probably suffered for one reason or another some disappointment at the hands of computers. Everyone, I think, is tempted to make the mistake of thinking that computers are
capable of acting alone in malice or pique. We never talk about that computer programmer who did such and such. We say that the computer did such and such. I don't know why that is. Perhaps programmers, as a distinct group of workers in this world, have just been more clever than the rest of us at the techniques of shifting blame. I don't remember having anybody say that the Dean's pen did something or the Dean's typewriter did something. Rather, they think "that fool is at it again."

One of the realities of life is that whatever work we are in or whatever study group we associate with or whatever the programs we engage in, we invariably include in our group, a few flim-flam artists. I've been flim-flammed and so have you. I can remember when I first traveled around this country looking at audiovisual centers. I came back with the realization that I had seen two or three that actually worked the way people said they worked and ten or twelve at which I had been flim-flammed. So it does no good to put down faculty skepticism by saying that there just aren't any ineffective people or places in business. There are!

One of the things an administrator can do to develop confidence is to create CAI projects in his own field. He can understand at once the fun or, and the trials of doing a CAI project, and, will be able to understand some of the tactical problems involved in transferring his thoughts into some kind of machine action. I can remember that when I did a CAI diagnostic problem myself (after all kinds of indefensible delays for frivolous reasons), I set the thing up on paper, went to the programmers and had great fun trying to out-think myself and imagine all of the possible questions which might occur. When I went, some several weeks later, back to the computer terminal (and I confess
to being thoroughly pleased with myself that discipline had overcome indolence),
the product was appearing on the screen in front of me. At the end, I was
suddenly collapsed by a computer which dared to say to me, who had created the
program, "Wrong, try again." Try again indeed! I suddenly understood
poor Doctor Frankenstein; the impertinence was overwhelming. Then I
remembered that there were such things in this world as synonyms and
I had given only one of the synonyms for the diagnosis. To my immense
relief, supplying the machine with another synonym saved me a psychiatrist
and the machine from banishment.

There are at this point some serious discussions which must be held
with faculty to convinced them that machines of whatever nature, which produce
a visual product should be, in the main, limited to elemental educational
materials and not used for conceptual teaching. There is nothing in the world
which will take the place of an excellent scholar in all of his or her three
dimensions, responding to the questions of students with the emotion, the
drama, the conviction that only a live human being can bring. Further, the
faculty should, of course, know that only a human being can possibly contain
enough information so that he or she is prepared to answer the inconceivable
questions which students are able to ask. Only human beings can then launch
into a thought or an idea from that question, a discussion which will be fruitful
to all those who hear.

The last note I will make is to assure the faculty, by whatever way possible
that their administrator is not interested in being "first on the scene" or "trying
to be the only school" with computers. Computer based instruction is not only
fun and a novelty but can be truly and extremely helpful to faculty, taking from
them the banal elements of teachings and freeing them for that individual and small group reaction with students which is the best part of education.

In closing, I can tell you that it's not a simple task because the only way that you can prove to faculty that computer assisted instruction works is to have a massive output of computer assisted instructional exercises, and the only way you can get that massive output of computer assisted programs is to prove to the faculty that it works. Thus, you have to take it in slow and patient steps, and if you have skillful people who are optimistic about the possibility, you will eventually see it takes its proper place in the universities' educational curriculum, for universities are the handsomest and grandest of institutions. The genesis of those ideas which led to the computer were spawned at universities...as are most things good!