Educational media and technology are valuable supplements to books in classroom instruction, and the range of vicarious experience they can provide is itself humanizing. However, technology will not become natural or stimulating for students until it takes its place as a normal part of the classroom. The concerns which people have about technology can be summed up in a series of questions: 1) Are there potential dangers in a society where technological media dominate the school and outside school? 2) What will happen to literacy as our population comes to depend more and more on visual communication? 3) What is the intrinsic role of the technological media? 4) Will the newer technological media become basic rather than supplemental in our schools? 5) Who will be the managers of educational media and what will their role be? (JK)
I understood the title of this address to be "Humanizing Education Through Technology" before the convention theme was published. Perhaps that's just as well because it adds a fond, if perplexing, dimension to our discussions. It allows us to remember the kids. That's what education is really all about.

I'd like to introduce the subject with some autobiographical experiences and then address our attention to six major concerns with educational technology.

My first encounter with educational technology was in one of our great cities. The year was 1926. The grade was the second and the teacher's name was Miss Miller. Like good teachers today, Miss Miller involved the students in the operation of equipment. I was made the operator of an old stereoptican four by four slide machine and was allowed to help "bring the world to the classroom" by drawing pictures on yellow acetate film, binding the pictures between two glass plates...
and projecting them for the whole class to see. My first effort was a line drawing of the Mayflower!

Now, that's not much different than what goes on in many classrooms today when the teacher makes education relevant by assigning a chapter a day in a social studies book and then allows the students to draw pictures about all the places they have never seen.

Since the art projects were corrected and graded by teachers who had never seen the same places, some students received A's, some B's and some failed! Especially if the teacher graded on a curve.

I always got A's - which, I am assured, helped me a lot in later life!

My next encounter with achieving excellence through a lack of experience was in a smaller city. My teacher felt that if I came from a really big city I would know more than students whose life had been spent in a small city. Everyone knows that a big city is larger than a small one and, in big cities, one has more to choose from. In those days students from large cities were also more polite, had more picturesque vocabularies, especially in the category of "words that add meaning" - as we label adjectives today.
So a great and wonderful thing happened one day when I had to stay after school and write the same sentence two hundred times. I still remember the sentence: "I will not chew gum in school."

That was before we knew that gum chewing was detrimental to your teeth. It was enough that it was detrimental to learning about the remote areas of the world.

But Miss Mauer was sensitive in her relationships with students. She had not experienced the benefits of "sensitivity training" but she inherited human instincts and insights from her father who was the local mayor. When my theme writing was completed, she took the papers and said, "Monard, that was an excellent recitation you made today on the Nile Valley. How did you know so much about the pyramids?"

Now that was an open-ended question! And since students in those days were taught to use their imaginations, I quickly replied, "Well, I just got back from a trip to the Nile Valley before moving here this year."

Immediately her face brightened and she moved in with a sequential query. "Where else did you go on your trip?"

As I scanned the chapter headings in the geography book and matched my wits against hers, I was able to concoct visits to the Arabian desert,
th mountains of Turkey, the ruins of ancient Greece and the wonders of Rome. She was delighted and continued, "Would you tell the class about your trip during the next few geography classes?" Of course I obliged.

The beauty of this arrangement was, that when the class came to these romantic places in the textbook, sure enough, they were identical to what I had described for them orally! My trip was verified for both the students and the teacher.

Verified, that is, until my mother visited school one day and Miss Mauer enthusiastically greeted her with the remark, "It must be wonderful to have traveled as broadly as your family has done."

Miss Mauer had a problem with spatial relationships. If a family came from Chicago, she no doubt thought, Cairo and Bagdad were also within the realm of possibility.

But not my mother! She is the old-fashioned kind that can scent a tall tale even before the thoughts begin to slack in your head! And when mom consulted with dad about corrective measures for telling tall tales in school, I suffered physically. My parents believed in the transfer theory! My work detail was increased beyond my grade-level. They called it the "muscle-brain syndrome!"
It was different for Miss Mauer. She was psychologically disturbed. Crushed would be a better word. This was the first time in her teaching experience that she came close to making the text-book exciting for her students.

Let's jump from the past to the present. This kind of experience is still common in classrooms across the nation. But we have narrowed the gap from the printed page to reality with a variety of technologically delivered pictures and sounds from nearly every portion of our round earth and, lately, from space.

Not only in school, but in leisure time, students now have electronic eyes and ears that bring the world and space into their living rooms.

Without inservice training for parents or baby sitters our children observe the winning of the West, the war in Asia, dancing alphabets, adult movies, political events, frogmen swimming among the sharks, starving populations caught in the struggle for survival, gambling casinos, sporting events and thousands of suggestions about how to spend their parent's money. And most of what they see and hear has not been correlated to their subject area or grade level of interest. What a tremendous resource for good teaching!
Is it not a humanizing thing to provide experience backgrounds like this? Is it not humanizing to consider the kids and the kind of a media-saturated world in which they live? Is it not humanizing to bring the remote, the ancient, the dramatic, the scientific wonders of the world and space into the school environment...on a regular basis?

Technology will hardly become a natural or stimulating thing for students until it takes its place as a normal part of the classroom environment. We still show tell-tale signs of talking about the newer educational media as though it had just been discovered, as though it could hurt students if not used according to our behavioral prescriptions.

Or is the projection machine the part of technology that de-humanizes? If none of these, perhaps our convention theme is aimed at the computer which makes numbers of us all instead of curious, inquisitive, and responsive warm bodies. Lately it has become popular to dam computer technology by referring to machines that can talk but, have nothing to say!
A contributor to the *Saturday Review* waxed poetic some time ago about machine-teaching when he wrote satirically:

"The word has come down from the dean
That with the aid of the teaching machine
King Oedipus Rex could have learned about sex
Without ever touching the queen."

Others respond to educational technology by arousing our emotions. They hark back to the 19th century heroes of America who made our country great through "independent study." Some refer to the famous lines about James Garfield sitting on one end of a log and Mark Hopkins on the other as "peer education" at its best. I used to think that this log business was a rather desirable form for an educational environment until somebody asked what I'd do if Mark Hopkins' lack of experience was the wrong kind!

But we're getting closer to the ghost behind the convention's theme. Sometimes we laugh nervously about things that really do haunt us. And I have a suspicion that most of us are just a little bit uneasy about the possibilities for de-humanization in educational technology.

A leader in the field of educational technology is quoted as saying:

"The old way of teaching did all right for the past but we are in a
transition period. I intend to do away with books in school. In order to
teach children you've got to interest them, and we don't interest them with
our present way of teaching."

You might hear such a statement at Minneapolis in 1972, but this was
spoken by Thomas Edison in 1912. He didn't succeed in eliminating the
print media from the schoolroom and we won't either. If we are interested
in the kids, we really don't have to think in terms of "either-or".
Fortunately for our children the newer educational media have not been
censored, prescribed or adopted. This would introduce an element of
de-humanization we really don't need in an affluent society. A congressman
recently told some of us that while he favored federal funding to promote
the acquisition and use of the newer media in our schools he was frightened
to contemplate its impact in irresponsible hands.

Have you thought about that?

So far we don't have enough media in the average classroom to make this
a major concern. But the possibilities for mind-control are present in high-
impact communications technology. And, while the experts tell us that it takes
fifty years for a new idea to become generally adopted by the slow moving
educational bureaucracy, that is really quite a rapid pace.
I'd like to throw out to you six major concerns that have been expressed to me as I toured the country viewing people in all branches of education in preparation for this seminar. You may want to consider them for future meetings.

1. Are there potential dangers in a society where both the school and the non-school environment is dominated by technological media? Would this seriously restrict the number of voices that could be heard? Is there danger of controlled information? You might reflect on whether Tom Paine could have raised the money for a national telecast of his ideas before the American Revolution.

2. What will happen to literacy by 1980 or 1990 as our population becomes more and more dependent on visual forms of communication? Will we be in the "post-literate" world? Will we become non-literate? Is visual-literacy enough?

3. What, if any, is the intrinsic role of the technological media? Are some media intrinsically suited for the affective domain and others for the effective domain?

4. Will the newer technological media become basic rather than supplemental by 1980 in most of our schools? Will the adoption laws of states be changed to include non-text materials?
5. Will what we now call media-specialists or educational technologists become part of the decision-making power structure of our schools in the foreseeable future? Should they?

6. Who will be the managers of educational media by 1980? Where will these leaders come from?

Other questions may be of concern to you and your school district as the communications revolution slowly but surely finds its place in the classroom. It is time to consider the basic dimensions of a change so massive before it overtakes us.