

June 26, 1964

TO: Senator Humphrey

From: Julie

Re: TUESDAY JUNE 30, 1964 -  
2:00 P.M.

BACKGROUND NOTES FOR YOUR  
C.B.S. RADIO TAPE INTER-  
VIEW WITH DAVE GARROWAY

Encls: Notes for Background  
to Garroway's Phone Call

*See  
File.*

## BACKGROUND NOTES ON:

### "MEDICAL COMMUNICATION:

- PROBLEM
- OPPORTUNITY
- CHALLENGE"

### The Problem

There is a "Medical Information Explosion."

Research knowledge is being generated

- so fast
- in so many places
- in such volume

that the information often piles up relatively unknown and unused by those who may need and want it.

### The Facts

- A "flood" of 1/4 million medical articles appears in the world's literature each year.

- 125,000 researchers are studying problems in the Life Sciences (biology, medicine, etc.).

Thus, if any one researcher tried to read "all" the journal articles published in any one major field -

pediatrics	cancer
heart	obstetrics
psychiatry	blood

- he wouldn't have any time to perform any research whatsoever.

And practitioners, especially general practitioners, are even more handicapped in keeping up with the deluge of knowledge about the practice of medicine.

### Who The Problem Affects

- You and I, as citizens and potential or actual patients. We are entitled to the latest and best therapy that medical science can provide.

- The busy doctor - who wants to give us the most modern service, but doesn't have enough time in the day to "brush up" -

- to read fully (there are 5,000 medical journals in the world);
- to attend professional meetings;
- to see and hear "floods" of medical exhibits, audio-visuals, etc.;
- the busy pharmacist, nurse, dentist, technician, none of whom can "keep with the literature" in the other healing arts;
- the busy researcher;
- all of us, as taxpayers. We are entitled to get the most from the money spent for Federal research programs. For example, the National Institutes of Health spend \$1/2 billion of taxpayers' money a year to support research projects. Dollar for dollar, this is about the best single expenditure in the whole Federal budget. But this money will do still more good if we meet the "Information Crisis" more effectively.



## Samples of the Problems

Mystery - "What are the latest findings - from anywhere in the world - about mystery diseases whose causes science doesn't know and whose cures it doesn't know?"

(Samples: Multiple Sclerosis  
Muscular Dystrophy)

Heart Therapy - "Millions of heart disease patients are given anti-coagulants daily to prevent another attack. Some doctors, however, doubt the value of anti-coagulants. What are the latest findings, comparing results in patients who do take anti-coagulants with those who don't? Which group has a better chance of survival?"

Rehabilitation - "What techniques seem to work best in rehabilitating arthritides, victims of strokes and others who have been crippled or paralyzed by disease?"

Healthy Births - "4 million babies are born in the U.S. each year. 3% are born with some type of congenital defects. What are the latest findings on how to help minimize the birth of deformed, ill infants?"

### The Answer

No "cure-all" solution is possible.

(a) We need faster, better, more complete "tools" to cover recorded information

- abstracting
- indexing
- translating
- evaluating
- computers

(b) And we need to experiment on the most imaginative uses for communicating non-recorded medical information:

- closed circuit and open circuit TV  
(e.g., internationally, via Space Satellite)
- FM radio
- tape recordings
- programmed learning machines

(c) We need to provide for better medical communication to the public, also. Most of the above techniques have been thought of for scientist-to-scientist purposes. But many of these techniques can be adapted to answer the layman's problems in layman's language.

## The Central Role of the Electronic "Brains"

Computer "Banks of Knowledge" - We need "Medical Memory Banks" in every city and in every major hospital. These "Banks" would get "deposits" and would provide for "withdrawals" of information from anywhere and to anywhere on earth - via long-distance phone lines and Telstars.

"Print-Out At Your Desk" - Press a button in New York City at your computer and you should be able to question the

- local computers, elsewhere in the city;
- a "Central Bank" of computers in Washington, D.C.;
- overseas "Banks", in England, Russia, Japan, within seconds, at your local machine there would be printed out (at speeds of hundreds of lines per minute) either the answer<sup>to</sup>/your medical question or a list of articles from the world's literature where you, yourself, could find the answer.

Photo-Display At Your Desk - Press another button at your Computer-TV Console. In minutes, long-distance signals could search the world's "Banks" of microforms. There would then be flashed back on your picture screen a magnified image of any page of any book or any journal, published anywhere, at any time, on any medical subject, including translated items from foreign languages.

Actuality-Reality - This is not fiction or fantasy. Almost all of the elements of this "World Medical Brain" already exist - technically. Most of these elements - for international electronic exchange - are already in use for Military Science.

The \$64 Question - Are we willing to pay the price to apply these techniques - not just to kill potential enemies, but to heal human beings?



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