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Jim Dator

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MM said: We shape our tools and thereafter our tools shape us. A major agent of social
and environmental change is technological change. New tech allows new behavior
changes beliefs, values and institutions--major source of social change--and conflict.

As a futurist, have to follow closely the diffusion of existing and the development of new
and emerging technologies.

But when I started out, that meant especially changes in transportation techs (steam ships
and trains 19th c; automobiles and airplanes 20th C).

But in fact no change in trans since the jet in the 1960s (or 747 in 1970s). Almost all of
the actions since then has been in communications technologies.

I learned early on that what we "know" and how we communicate our knowledge,
depends on the models and media we use to observe the world. Japanese language. VPI
Math models, visual models.

In 1972, when I attended East-West Center Communication Institute International Conference
sponsored by Jim Richstad and Stan Harms, Wilbur Schramm told the audience that there would be
no major new developments in communication techs--everything had already been
developed. I was skeptical. "Some possible new communication technologies," in Jim Richstad and L.
S. Harms, eds., World Communication. East-West Center, Communication Institute, 1973

Boy was he wrong. McLuhan said that TV was going to revolutionize society, and SO I
produced a TV show on KHET here called "Tune to the future". It won a national prize
for creativity. So in 1974 I went to Canada--to TV Ontario, the main educational TV
station in Toronto-- to learn how to produce TV. I believed that TV was clearly the wave
of the future. From literacy to mediacy. When I returned, I taught media literacy classes
at UH, encouraging people not to write papers but to video the concepts.

One day in 1976, George Kent came to my office and told me to come downstairs to
DURP and see the demonstration of a Wang word processor.

I was amazed by what I saw, but didn't understand its power. I still believed visual
literacy would win. But I was wrong. The Wang set back visual literacy at least 50 years.
Though Apple, and now the iPhone, Youtube and the rest seem to be restoring it, we are
still way behind where I thought we would be by now, because of Wang and the PC

Nonetheless, it was the personal computer that changed my life more than anything else.
In 1976, Murray Turoff of NJIT invited me to join EIES. I was probably the first civilian

to experience what became the Internet. Originally a Texas Instrument key board with no memory. Then a Radio Shack 100 and then 200. Apple One to Saipan in 1980.

Now digitization sweeping world.

Paju Book City experience.

In Korea because of my "Dream Society" activities.

Still too focused on reading and writing. As I said iPhone Apps. You Tube making AV easier, and will improve, but a long way to go.

But what is beyond digital?

Biology and biotech may be to the 21st C what Physics and electronic tech were to the 20th. Communication via genes and enzymes may replace comm. via electrons

We may soon learn how to communicate in more senses than sight and sound. Smell, touch, pressure, temperature largely ignored.

Brain to brain and object to brain comm. may be possible:

A suite of 116 genes that give us our gift of the gab are controlled by a master-switch gene called *Foxp2* that has recently been discovered. If can manipulate it, thenwe may finally "break through the interface" and communicate directly without words, pictures or manufactured symbols.

Early on in human evolution, at least 200,000 years ago, humans developed huge brains that enabled them to create culture, domesticate fire, make pottery and beads, bury the dead, and worship the gods. But we could not talk until about 35,000 years ago when something happened to our larynx and we developed speech and language

The importance of language is not as a communication device, but as software for the brain. With language we now had something to think with.

Language turned the brain into the mind, and enabled humans for better or worse to emerge in an evolutionary flash from puny hairless apes into the dominant creatures on Earth.

So even if we master Foxp2 and all the rest, we must also develop a software, equivalent to language, for transferring meaning directly from the genes in one person to those in another.

And when that happens, the evolution of posthumanity will be one step closer.