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Challenge . . .

Living standards are continually rising in the sense that mankind is being continually given more and more labour saving systems and devices which are adding to his comfort, relieving him of manual labour and extending his capability, both for general gain of the community (i.e. his work contribution) and his own personal pleasure and recreation.

These gains are being provided by the technologist, who is capable of applying new technological developments in ways which he considers will be of benefit to mankind. He is guided to a certain extent by market forces, which tend to ensure that there is a degree of public acceptance of the directions in which technology progresses. In this regard, the proudcts of technology have a very good measure of public acclaim in that people are prepared to expend money in order to purchase them, and this is both a pragmatic and tangible tribute to both the skills and the objectives of the technologists.

There are two other factors which are starting to emerge, particularly in the highly developed communities. The first is an education system in which everyone is taught to question everything. This is now being applied to the products of technology; the non-technical, lay, but otherwise well educated (to question) population are now questioning the aims of the technologist and the values of his product. If carried to extremes, this tendency will eventually undermine the confidence of the technologist and of the market forces supporting his efforts. Carried to an extreme, chaos in technological development will result, with technologists being confused and support for their efforts withering, leading to run down in their capacity and consequent decrease in manufacture.

The second effect has its origins in pre-history, in which man developed as a being who survived from his own efforts; a society is now developing in which the effort necessary to survive is becoming very minimal indeed, and man's urge to fend for himself is not being fulfilled. This ancient urge may well be contributing to the growing tendency of people to involve themselves in matters in which they may have only a very superficial knowledge, and the consequent tendency towards questioning of the directions to which technology is being applied.

These considerations naturally pose a question for society generally and for technologists in particular; whilst a society is eager to pay for its products the answer is clear; the question remains however as to how much, and for what, will society pay for the products of new technology in the future?

In the first paper of this issue of ATR, a competent and well respected technologist has portrayed, in a somewhat light-hearted manner, some of the possible consequences of a new technology which is in the early development stage.

We would like more opinions on this, or other, topics so that we can form a better opinion of where technology is heading.

What is your viewpoint?

BIOGRAPHY

GAVAN ROSMAN was born in Melbourne in the depths of the Great Depression, between the two World Wars. It is an ill wind indeed that blows no good, and the low birth rate of the time was a considerable help in later life as he squeezed into various quotas based on peer grouping. One such occasion which had a profound effect on his life style and thinking processes was an Engineer Cadetship with the then PMG's Department. Then there was a Japanese Government Science Scholarship which enabled him to work for a year (1963) on microwave radio propagation at the Electrical Communication Laboratory of Nippon Telegraph and Telephone Public Corporation.

The difficulties of working with a channel as changeable as the weather finally led him to see certain attractions in the study of less variable media such as coaxial cable. So in 1970 he went to the extent of taking a year's leave - without - pay to work on the high frequency characterization of coaxial cable at the BPO Research Centre.

These activities now appear to have been a mere cover for his central role as an observer of humans and their close relatives, the engineers and scientists (both hard and soft). At the time of writing, Mr. Rosman is Head of the Visual Communications Section but now that his cover is blown, Personpower Planning has been called in to re-arrange this area of work as quickly as possible.

Societal Impact of Portable Computer Terminals OR Bring Home the BACON

G. ROSMAN
Telecom Australia Research Laboratories

CONTENTS:

1. *Down to the Station, Early in the Evening*
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5. *Departure*

1. DOWN TO THE STATION, EARLY IN THE EVENING

In the corner of the room there lived this panel that served to interconnect the variety of devices that composed the integrated Multimedia Office Terminal. Milton had risen from his chair and, reaching over the video display units, was groping to unplug those leads connected to his portable BACON sub-unit (Bimodal Access COmputer Node). In effect he was reversing the integration so as to take the briefcase terminal home. That was in fact the chief virtue of the installation which was rather cumbersome in style and operation when compared to standard computer terminals. Once home the keyboard and logic units interconnected with telephone line and domestic TV set to constitute a video display unit with access to the powerful Central Computer. His present task was to insert a Works Program into the memory banks of the Host Computer Store and the deadline was fast approaching. He had hoped to spend the entire day on it but his concentration had been disturbed both by visitors to his office and the usual telephone calls. Some callers refused to leave messages on his answering machine and contacted him instead through the phone in the nearby laboratory.

This sort of thing often led to displacement activity where he rummaged through the "in" tray and even took to reading the business files, or the monthly reports on expenditure. Then daydreaming could easily set in, triggered off by pondering the nature of a month: "In the last orbit of the moon around your planet, expenditure on minor items was in excess of projections but shortfalls in other areas leave the Branch total within limits". The area swept out by a Section in unit time, expressed in dollars, should be constant. In the next seven rotations of the planet estimate the expenditure for the next orbit around the Sun; books to balance at apogee. Who dares contend we're not influenced by unearthly things.

Communication implies "interruption"; so the office with the most communication channels has the greatest potential for interrupting the occupant. Even with an answering machine to alleviate the immediacy of the phone problem, in that the shrill ring no longer startled him, he found that he had become sensitized to the knocking of its relays and solenoids and the flashing of the front panel lights. And there was the intercom device which signalled its direct access with a most urgent and insistent buzz.

By 5:30 the Bacon terminal was at the ready in the transit condition, and he was busily sweeping papers into another briefcase trying all the while to make sure that no vital document was missed. His unfortunate habit of sorting papers by temporarily placing them on cabinets or chairs had made the task that much more difficult. The sound of a transistor radio announced the arrival of the JPO (Junior Paper Organizer; a messenger, a bombardier in paper warfare), who had decided to accompany him to the station.

"What's the time?" asked the JPO urgently. Before Milton could reply the JPO had gone and the thin sound of the radio had been replaced by a thumping on the rear stairway of the building. A new record for a complete clearance of the "out" trays was in the making.

"There you are - seven minutes, and all trays empty." Milton wished he had such a well-defined objective.

Finally they set off; Milton with his two briefcases, the JPO with his transistor radio.

"What I need" said Milton half to himself, "is one of those water-carrier yokes like they have in China. A pole that balances on the shoulders and a tub that hangs on each side."

"I could make you one at carpentry class."

"No, on second thoughts it wouldn't work, how would I get through the ticket-barrier at the station?"

"But you'd have a hand free to hold your ticket."

He had touched a sore point there. Milton felt like a trained dog carrying his ticket in his mouth because of both hands being occupied. It wasn't really the physical weight of the cases that dragged him down, but the sins of all programmers. The prospect of wrestling with a cryptic inscrutable computer when he could be reading, writing, or just listening to music. But no: a lifetime of homework from primary school on. Beside him the JPO padded along in his soft shoes to the rhythm of the transistor at his ear. The opting-out temptation gripped him afresh. A crisis of faith. Often the claws around his throat and sometimes the cruel beak into his heart. As luck would have it the computer co-ordinated traffic lights allowed him to rest his burden three times on the way.

As Milton clattered his way through the wicket the JPO held his ticket at arm's length, propped between thumb and forefinger, at the eye level of the startled ticket collector.

"That's the way the cops show their identity cards" he confided.

2. ARRIVAL

Delivered by Suburban Rail he set off up the hill to home, master of his own fate once more. No - he hadn't forgotten a briefcase and he was thankful that the rain had stopped. A pair of visiting evangelists overtook him, and he had reason to be thankful again. They would clear the way ahead of dogs, so he'd be spared the terror of black dogs looming unannounced out of the twilight. But tonight was quiet, without the barking communication that assembles the packs. He would always remember the wet winter night he arrived at the front gate walking backwards, waving his umbrella in broad sweeps at four sets of bared fangs.

Tonight another car in the driveway - with interstate plates. Had it just come or was it going? Or was it staying?

"I tried to call you at the office but the line was busy."

"Yes, I had it switched to the computer terminal."

"I told them they could stay a few days."

"Right."

"Why the two briefcases?"

"Say, one's got holes in the bottom."

"That's for cooling - there's a fan inside."

"What next, a force-cooled briefcase."

"Oh no! Not that terminal again. This is the night we watch Ascent of Person."

"They're waiting on an interstate call, so I hope you don't need the phone line."

"No, I'll get up early and do it."

"Okay, dinner in ten minutes."

Just a few days ago he had heard someone on the radio reciting a poem about the Person from Porlock who disturbed Coleridge in writing down his inspiration of Kubla Khan. The generalisation was that many people welcome such a Person as an excuse for under-achieving. Reason for not meeting deadline - People from Porlock.

3. DINNER TABLE

"Must be exciting working at a laboratory, knowledge for knowledge's sake and all that. But I suppose it's been cut back along with other non-essential things. Although come to think of it you're not a government department anymore so you wouldn't count as public sector."

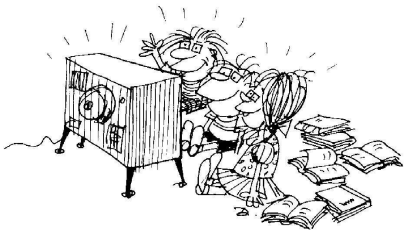
"Well certainly there hasn't been the expansion visualized a few years ago when a major fear was the brain drain - now we're doing all in our power to improve the drainage. In fact our area has to get rid of four by the end of the year, on Government orders. Naturally we have plans to offset the loss of manpower by increasing efficiency and we do this by sending people either to management courses or over-seas laboratories. Then we strictly control the projects within an overall strategic framework, in line with latest corporate policy, paying due attention to customer needs while observing the appropriate staff and expenditure ceilings."

"You've certainly changed. You sound more like a captain of industry than an engineer."

"I was partly joking."

"Oh."

"The trouble is daddy's become disgruntled because of the multidisciplinary approach to innovation these days. But our Social Science teacher from America says it's long overdue. She says it's no use making gadgets that people don't want especially when the environment gets messed up doing it. And we need a sense of human perspective rather than just scientific or engineering knowledge. Scientists who think of people rather than machines or efficiency. That's why we have to watch programmes like "Civilization" and "Ascent of Person." And at daddy's lab they have social scientists now to make sure the technocrats don't get out of hand."



"Like the Party members in the First Circle; one in each lab to keep everything in line with current ideology. They think of people all right; how to manipulate them."

"That's a false analogy. They are more like a social conscience. Representatives of the people, skilled in identifying the real needs of real people among the narrow-minded technocrats. It stops them building roads through parks and golf courses or tearing up the social fabric of inner suburbs for a freeway. But you're too set in your ways to work with people from other disciplines. We have to wait for a new generation."

"Multidisciplinary teams design soap packets, blue beads and lemon power. And what of the social scientists who work for the tobacco companies or sweet manufacturers? How to get the most out of the ad and least out of the health warning. We have such a fellow at our place. Did he reform when he came across? Do you trust him as your conscience, or manipulator? Don't forget the May '68 Paris riots. Cohn-Bendit wrote how disillusionment with the ideological nature of social psychology courses was a strong factor in his motivation. Teaching students how to squeeze people into jobs and keep them happy, or enriched."

"But the social sciences are in their infancy, without the refined tools of the older sciences. Even the conceptual framework is not yet fully established and our teacher says it's most important that application of the principles is consistent with the leading edge of social science thought."

"I'm sorry but I find the practitioners are rather negative, sniping at the scientific Weltanschauung with hand calculators of eight figure accuracy in the processing of their subjective questionnaires. But most of all where is the predictive power of their science; there's altogether too much hindsight."

"No more wine - then push the chairs back and talk. Sorry, watch the Ascent of Person. What's the use of being home if you're working?"

(Oh - could you not watch one hour with me.)

As he started to undress for bed he became tangled in his sweater. He was still wearing his security name-tag which had been pinned through to his shirt.

4. EARLY IN THE MORNING

Up from the bed he arose and with a mighty heave rolled back the TV set so as to gain access to the vital video connection. There were several connections to be arranged. Unplug the phone - replug with the special interconnecting block. Switch the set over to video input - connect the briefcase to a power outlet. Finally there seemed to be leads going to all corners of the room.

He had thought of setting everything up on a permanent basis using the old TV set, but the display wasn't really bright enough. Also he didn't fancy either getting a serviceman or maintaining it himself. In any case the visitors were in that room now. So there he sat in his web of wires, the briefcase the spider.

Line 4 - Good Morning - On at 0715 10 16 78.

He could never get used to the American numbering.

Password .....

Hmmm, which one? Mine? The Section? For which computer system?

He typed in *RISEN - MIS*
Management Information System - New or Old

He typed *NEW*
Illegal response

He typed *I*
System SIMER - New or Old

That's right - Suitable information for Management Expert Review
Perhaps he should have gone into the EDIT mode of the Host.

He tried to remember how to use the ",E" command. That's right, and if it asks "old what" don't forget to say "M" first. If only he had taken that two week course in computer pedantry. So he decided to make a new file which he would transfer at the lab. Should he make it a File or a Record? He started typing in earnest
"Psychologist - 0.5 manyears."

Suddenly the computer flashed:-

FATAL ERROR IN HOST PROGRAM

System not available before 0800.

Oh well, at least he hadn't lost much. He'd heard of people losing hours of typing effort with such faults. So he left the briefcase whirring to itself and the electronic cursor flashing on the TV set, and went out for the newspaper. He was reading it in the kitchen when his wife came in.

"I told the children they could watch Sesame Street. The small TV is in the end room with the visitors and they're still asleep. So would you mind terribly disconnecting those wires."

"No, I'll do it now."

Breakfast was a leisurely affair complete with music. How right Asimov had been when he wrote of the video cassette of the future that needed no power, ran at any speed, had random access, truly portable, and so cheap as to be disposable. Just like this newspaper.

Time to pack up, so back to the living room. Oh no! The acoustic coupling cavity of the Bacon unit seemed to be brimful with milk and cereal. The toddlers explained that it was hungry and had been saying "Meow" - so they had fed it their breakfast. He must have left it connected to the phone line and the children had heard some signalling tones. It probably did sound like hunger. The mixture was near impossible to scoop out and was seeping through the mounting and past the transducers. A gurgling noise was followed by a spray from the internal fan, wetting his shirt and trousers. Instinctively he pulled out the power plug by the lead, then finished wiping the unit and replaced the lid.

He changed his clothes and set off for the station with one briefcase.

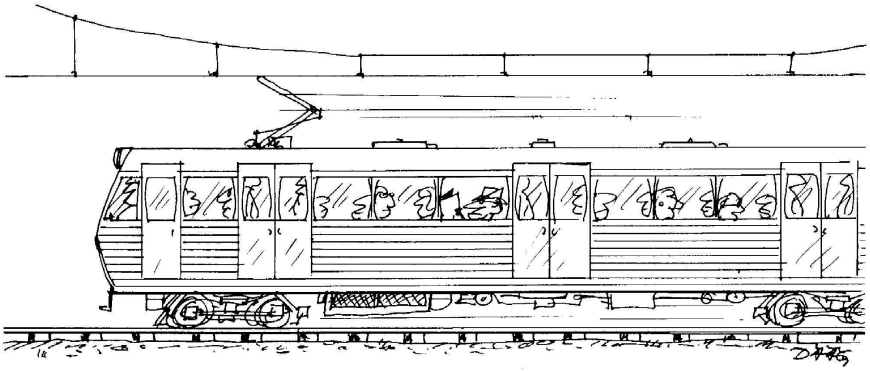
5. DEPARTURE

He couldn't quite understand why he didn't take the Bacon terminal back to work that morning. Although it was raining he could have arranged a lift to the station with the two cases and umbrella.

On the train he sat with a feeling he had forgotten something and not just the other case. Opposite he saw a TV guide in the morning paper. That was it. A TV conference had been scheduled for this morning using the display of his Multimedia Office Terminal. It probably won't work without the Bacon logic attachment, at least not for sub-title identification. No time to return home even if he wanted to.

He rummaged through his briefcase, unopened from the evening before. All he could find of interest was a paperback on management. No. He settled down to watch the rain-drops on the window - how the angle changed with the speed. Finally the train pulled into the Central station after a short pause in the nearby marshalling yards where it caught its breath.

Walking up the steps from the train he was drawn to the row of telephone booths. "Hello? Milton here, I won't be in today."



Cartoons by Daag.

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