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McLUHAN ON ARTIFICIAL INTELLIGENCE (AI): AN ANNOTATED GUESSEMBLY OF HIS PROBES

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Here is the scaffolding for a yet-unwritten play. I hereby disavow copyright and invite any aspiring playwright to take it on.

The setting: a student flat in Cambridge, England, 1934. Someone has brought together for an evening the two most interesting minds he's discovered on campus: the Canadian English student, evangelist for modernist poetry, and all-round polymath Herbert Marshall McLuhan, and the campus's reigning math genius, Alan Turing. Born a year apart, these two would prove the boldest and most imaginative dreamers that the 20th century had yet produced.

Of course, neither of them, at that time, had a clue that the inventor of the great engine to drive the following century would be sitting down with the philosopher whose thought would plumb the deepest human meanings and consequences of that engine.

Here is where the playwright can have fun. In 1934 McLuhan was 23, Turing 22. With clever stagecraft and costuming, their older selves can appear and interact. How would the 60-year-old McLuhan react to the assertion of the 38-year-old Turing that not only can machines think, but one day their operations would immeasurably surpass the mind of anyone who ever lived? What is Turing's reaction to the voracious student of poetry who insists that the lunging forces of technology -- and all of the sciences -- are deeply embedded in the humanist stronghold? When McLuhan says, "Nothing is so human about us as our technology," does Turing counter with the unlimited thought potential of his Universal Turing Machine -- or does he clap?

It's a play I would love to see. Enough to write it? Maybe. Once I detect, in the embryo, a heartbeat. For now I'll confine myself to the "Guessembly" below, of McLuhan utterances about Turing's great brainchild, Artificial Intelligence. First, some background.

The McLuhan Marshalling Machine

In 1987, I spent a great many hours in a hard-seated wooden chair in the reading room of National Archives Canada, poring through the letters and the shorter and uncompleted writings of Marshall McLuhan. I had come looking for biographic data, and threads of his thought I could trace, but what I gathered, instead – and what proved of inestimable value -- were the gems: those flashpoints of startling and original insight that McLuhan insisted on describing, a demeaning whiff as probes. Those epigrammatic gems appear frequently in his published books. They can be found, just as frequently, in his 1,400 articles, speeches, interviews, and unfinished projects, and the more than 100,000 letters. Such glittering jewels as:

> Jazz is a survival gimmick for people harassed by cacophony.

All invention is a form of bodily fission, with the ensuing chain reactions in the body and in the environment.

The equivalent of psychoanalysis might be X-ray photography.

We are not the true parents of our children.

It is a pleasure to give advice, humiliating to need it, and normal to ignore it.

We put on our technology as evolutionary clothing.

The task yields to the task force.

Everywhere now is our own neighborhood.

Manslaughter and man's laughter are spelled the same.

New means create new goals.

My collection of the gems grew, organized by subject, filling a cabinet with four deep drawers of 3x5s. It kept growing. In 1991 Eric McLuhan introduced me to Mo Cohen, a vigorous McLuhan enthusiast who ran a publishing firm in California, Gingko Press. As part of a major publishing roll-out – including, finally! McLuhan's long-unpublished Nashe thesis!   -- Mo Cohen wished to publish an assembly of the gems titled *The Book of Probes*, its glowing jewels to be given an appropriately vivid graphical setting by celebrated book designer David Carson. Eric McLuhan and I scoured my collection to select the best of the best for Mo's book. We also confirmed attribution and tracked down any with faulty citations. In the process we unearthed, oh, maybe a thousand more. *The Book of Probes* came out in 2003, and was reprinted in 2006. Recently, by applying word searches to McLuhan's published writings in Google Books, I have gathered innumerable fresh passages and grown the collection to over 8,000 entries, organized into 320 subjects. I call this wonderful assembly of aphorisms, quips and stunning passages: The McLuhan Marshalling Machine.

One cool feature of the Marshalling Machine is that, enabled by word search, one can track an idea that McLuhan may have never spoken to specifically. What might he have thought about interstellar travel? Or the mind-whirling postulates of Quantum Physics? Or alternate dimensions? Or the Internet? Or virtual reality? Or video games? One can assemble his insights into a newly constructed mosaic around any idea whatsoever by gathering his aphorisms and passages into a fresh mosaic. I call it a Guessembly.

ANNOTATED GUESSEMBLY OF MCLUHAN QUOTES PERTINENT TO AI:

What follows is one man's annotated Guessembly of McLuhan's thoughts and intuitions as they bear on the subject of Artificial Intelligence.

WILL AI PROVE ULTIMATELY TO BE GOOD FOR US -- OR BAD FOR US?

"Knowledge of the creative process in art, science, and cognition shows us either to the earthly paradise or to complete madness. It is to be either the top of Mount Purgatory or the abyss."["Catholic Humanism and Modern Letters" (1954), p 55; republished in *The Medium and the Light*, 1999, p 160.]

"Computer technology can – and doubtless will – program entire environments to fulfill the social needs and sensory preferences of communities and nations. The content of that programming, however, depends on the nature of future societies – but that is in our own hands." [*Playboy* Interview (1969), in *Essential McLuhan* (1995)*, p 264]

"But with electricity and automation, the technology of fragmented processes suddenly fused with the human dialogue and the need for over-all consideration of human unity." [*Understanding Media* (1964), MIT-Routledge edition, p. 358]

"Me? Personally? I'm neither pessimist nor optimist… I'm an apocalyptic! Our only hope is apocalypse." [Edward Wakin interview (1977), republished as "Our Only Hope Is Apocalypse," in *The Medium and the Light* (1999), p 59]

AI AS EXTENSION OF OUR BRAINS

"[T]echnology is part of our bodies." [*Understanding Media* (1964), MIT-Routledge edition, p 68]

"[A]ll invention is a form of bodily fission, with the ensuing chain reactions in the body and in the environment." Letter to Melvin Kranzberg, July 10, 1973 [Library Archives Canada; not included in *Letters*]

"Because all media, from the phonetic alphabet to the computer, are extensions of man that cause deep and lasting changes in him and transform his environment. Such an extension is an intensification, an amplification of an organ, sense or function, and whenever it takes place, the central nervous system appears to institute a self-protective numbing of the affected area, insulating and anesthetizing it from conscious awareness of what's happening to it. It's a process rather like that which occurs to the body under shock or stress conditions, or to the mind in line with the Freudian concept of repression. I call this peculiar form of self-hypnosis Narcissus narcosis, a syndrome whereby man remains as unaware of the psychic and social effects of his new technology as a fish of the water it swims in. As a result, precisely at the point where a new media-induced environment becomes all pervasive and transmogrifies our sensory balance, it also becomes invisible." [*Playboy* interview (1969), reprinted in *Essential McLuhan* (1995), p 237]

"It is a principal aspect of the electric age that it establishes a global network that has much of the character of our central nervous system." [*Understanding Media (1964),* MIT-Routledge edition, p 348]

"Now man is beginning to wear his brain outside his skull and his nerves outside his skin; new technology breeds new man."
[*Playboy* interview (1969), in *Essential McLuhan* (1995), p 264-265]

AI AND THE INTERNET

"With the computer [we] all move out of the age of number and statistics into the age of the curve and the simultaneous awareness of structures. With satellite broadcasting a few months off, we move, scientist and humanist alike, into the world of instant and inexpensive access to anything and anybody on the globe." ["The Humanities in the Electronic Age" (1961), reprinted in *McLuhan Unbound* (2017), p 17]

"When the globe becomes a single electronic computer, with all its languages and cultures recorded on a single tribal drum, the fixed point of view of print culture becomes irrelevant and impossible, no matter how precious." [Letter to David Reisman, February 18, 1960, in *Letters of Marshall McLuhan* (1987), p 261]

"The computer is the first component of that hybrid of video-related technologies which will move us toward a world consciousness. It steps up the velocity of logical sequential calculations to the speed of light, reducing numbers to body count by touch. When pushed to its limits, the product of the computer reverses into simultaneous pattern recognition (acoustic space), eroding or bypassing mechanical processes in all sequential operations. It brings back the Pythagorean occult embodied in the idea that "numbers are all"; and at the same time it dissolves hierarchy in favor of decentralization. Any business corporation requiring the use of computers for communication and record-keeping will have no other alternative but to decentralize." ["Global Robotism: The Dissatisfactions", in *The Global Village* with Bruce Powers (1989), p 103]

THE ALGORITHM, OR, IN McLUHAN'S THOUGHT, PROGRAMMING OF THE ENVIRONMENT

"As information becomes our environment, it becomes mandatory to program the environment itself as a work of art." [*Through the Vanishing Point* with Harley Parker (1968), p 252]

"The total programming of the human environment by information is more and more within reach… The world environment can be programmed as a single shared experience. Increasingly, as information levels rise and improve, we share the experience of this planet as a single thing with everybody." ["Information Hunt Looms Big" (1967), *College and University Journal,* Vol 6, No. 2, Spring, p 6]

"As we approach the stage of programming the environment itself, it becomes natural to interrupt and suspend the "mindless ferocity" of Nature by anticipating causes with consequences. It is a revolution well under way, and it is parallel to a similar revolution in education. A great shift from instruction to discovery is beginning in education. It is the shift from matching to making, from blueprint to heuristic probe." ["The Emperor's Old Clothes" (1966), published in *The Man-Made Object*, ed., Gyorgy Kepes,

reprinted in *McLuhan Unbound* (2017), p 8]

"The computer can be used to direct a network of global thermostats to pattern life in ways that will optimize human awareness. Already, it's technologically feasible to employ the computer to program societies in beneficial ways."
[*Playboy* Interview 1969, reprinted in *Essential McLuhan* (1995), p 263]

WHEN AI REPLACES JOBS: "LEARNING A LIVING"

"Learning a living"
Subtitle of chapter 33, "Automation," in Understanding Media (1964)

"The future of work consists of earning a living in the automation age. This is a familiar pattern in electric technology in general. It ends the old dichotomies between cultures and technology, between art and commerce, and between work and leisure. Whereas in the mechanical age of fragmentation leisure had been the absence of work, or mere idleness, the reverse is true in the electric age. As the age of information demands the simultaneous use of all our faculties, we discover that we are most at leisure when we are most intensely involved, very much as with the artists in all ages." [*Understanding Media* (1964), MIT-Routledge edition, pp 346-347]

"Someday, all of us will spend our lives in our own school, the world. And education -- in the sense of learning to love, to grow, to change -- can become not the woeful preparation for some job that makes us less than we could be but the very essence, the joyful whole of existence itself." ["The Future of Education," with George Leonard, in *Look* magazine, final page in 1969; republished in the anthology, *Radical School Reform*.]

"The computer will create large amounts of leisure time for the employed. It will also create for the unemployed on extended welfare time to participate in electronic politics."
["Global Robotism: The Dissatisfactions" in *The Global Village* with Bruce Powers, 1989, p 92]

"The electronic age is literally one of illumination. Just as light is at once energy and information, so electric automation unites production, consumption, and learning in an inextricable process. For this reason, teachers are already the largest employee group in the U.S. economy and may well become *the* only group." [*Understanding Media* (1964), MIT-Routledge edition, p 350]

ALIGNING AI WITH HUMAN GOALS AND INTENTIONS

"If we maintain lively dialogue with, and among, the technologies, we can enlist them on the side of traditional values instead of watching those values disappear while we play the helpless bystanders."
[Letter to the Editor of *Life*,1966, in *Letters of Marshall McLuhan* (1987), p 334]

WHAT IF AI BECOMES CONSCIOUS?

"[T]he next immediate step technologically is the extension of consciousness." [Letter to John I. Snyder Jr., August 4, 1963", in *Letters of Marshall McLuhan* (1987), p 290]

"[W]ith the computer there has risen the possibility of extending consciousness itself as a technological environment."
["Innovation Is Obsolete", in *Evergreen Review,* Vol. 15, No. 90, June, 1971, p 48]

"Any process that approaches instant interrelation of a total field tends to raise itself to the level of conscious awareness, so that computers seem to 'think'. In fact, they are highly specialized at present, and quite lacking in the full process of interrelation that makes for consciousness." [*Understanding Media* (1964), MIT-Routledge edition, p 351]

"Survival now would seem to depend upon the extension of consciousness itself as an environment. This extension of consciousness has already begun with the computer and has been anticipated in our obsession with ESP and occult awareness."
[*Take Today* with Barrington Nevitt (1972), p 1]

"But a conscious computer would still be one that was an extension of our consciousness, as a telescope is an extension of our eyes, or as a ventriloquist's dummy is an extension of the ventriloquist."
[*Understanding Media* (1964), MIT-Routledge edition, p 351]

AI IN EDUCATION (MEDIA & AI LITERACY)

[We must] develop an awareness about print and the newest technologies of communication so that we can orchestrate them, minimize their mutual frustrations, and get the best out of each in the educational process. ["Alone in the Global Village," Peterborough Examiner, March 22, 1967]

A worldwide network of computers will make all of mankind's factual knowledge available to students everywhere in a matter of minutes or seconds. Then, the human brain will not have to serve as a repository of specific facts, and the uses of memory will shift. In the new education, breaking timeworn, rigid chains of memory may have greater priority than forging new links. New materials may be learned just as were the great myths of past cultures – as fully integrated systems that resonate on several levels and share the qualities of poetry and song. ["Learning in the Global Village" with George Leonard (1969), in *Radical School Reform. Visions: The School in Society*, p 111]

SEIZING THE OPPORTUNITIES CREATED BY AI

"New means create new goals." [*Take Today* with Barrington Nevitt, 1972. p 194]

"The electric tape succeeds the assembly line." [*Understanding Media* (1964), MIT-Routledge edition, p 36]

"The real job of the computer in the future is not going to have anything to do with retrieval. It's going to have to do with pure discovery, because we use our memories for many purposes, mostly unconscious. When you can recall things at a very high speed, they take on a new mythic and structural meaning that is quite alien to ordinary perception. So the computer… has, in spite of itself… revealed the knowledge of the mythic pattern, structures and profiles, all of which are quite excitedly loaded with discovery." ["Diebold Discussion Forum" with McLuhan and Mike Wallace (1966), published version, pp 8-9]

"We can now, by computer, deal with complex social needs with the same architectural certainty that we previously attempted in private housing. Industry as a whole has become the unit of reckoning, and so with society, politics, and education as wholes." [*Understanding Media* (1964), MIT-Routledge edition, p 358]

Every industry has had to "rethink through" (the awkwardness of this phrase betrays the painfulness of the process), function by function, its place in the economy. But automation forces not only industry and town planners, but government and even education, to come into some relation to social facts." [*Understanding Media* (1964), MIT-Routledge edition, p 353]

"We have now become aware of the possibility of arranging the entire human environment as a work of art, as a teaching machine designed to maximize perception and to make every-day learning a process of discovery." [*The Medium Is the Massage* with Jerome Agel and Quentin Fiore (1967), p 68]

"We must maximize rather than minimize the various features of our new media. It's easy now to see that they are not mere vehicles for already achieved experience and insight. We have moved far beyond mechanization. Let us not lose ourselves by supposing that we have merely to contend with new forms of mechanization. Radio and TV aren't new ways of handling manuscript and book culture. The motor-car wasn't a substitute for the horse. It did what the horse could never do." [*Counterblast* (1969), p 133]

AI AS DATA GATHERING AND SURVEILLANCE

"The more the data banks record about each one of us, the less we exist." [*From Cliché to Archetype* with Wilfred Watson (1970), p 13]

"We have reached a similar point of data gathering when each stick of chewing gum we reach for is acutely noted by some computer that translates our least gesture into a new probability curve or some parameter of social science." [*Understanding Media* (1964), MIT-Routledge edition, pp 51-52]

"With data banks we are taped, typed and scrubbed." [Card from the *Dewline Newsletter* deck of cards (1969): 9 of Clubs]

"The really great privilege of the elites of the future will be to erase the computer information about them and assume their private identities again." [Advertisement for the *Dewline Newsletter,* 1969]

"Instead of tending towards a vast Alexandrian library the world has become a computer, an electronic brain, exactly as in an infantile piece of science fiction. And as our senses have gone outside us, Big Brother goes inside. So, unless aware of this dynamic, we shall at once move into a phase of panic terrors, exactly befitting a small world of tribal drums, total interdependence, and superimposed co-existence". [*The Gutenberg Galaxy* (1962), p 32]

McLUHAN'S ADVICE ON LIVING WITH AI: #1 DO NOT STRAP AI TO THE REAR VIEW MIRROR

"[T]he computer is being set to do all the old jobs, nothing new. It is like buggy-whip holders in the first motor car." ["Information Hunt Looms Big" (1967), p 6]

"[We are stuck in]…an age-old habit of using new means for old purposes instead of discovering what are the new goals contained in the new means." [*From Cliché to Archetype* with Wilfred Watson (1970), p 202]

McLUHAN'S ADVICE ON LIVING WITH AI. #2 BE CREATIVE AND PLAYFUL WITH SMART MACHINES

"In an unspecialized world of computers and all-enveloping communications, sensitive intuition and openness will win more prizes, if you will, than unfeeling simplistic logic."
"The Future of Sex" (1967), in *On the Nature of Media* (2016), p 136

"The future masters of technology will have to be lighthearted and intelligent. The machine readily masters the grim and the dumb."
Counterblast (1969), p 55

McLUHAN'S ADVICE ON LIVING WITH AI #3 RESPECT WHAT'S UNIQUE & INDIGENOUS TO AI'S INTELLIGENCE

"There is no longer any tendency to speak of electricity as 'contained' in anything. Painters have long known that objects are not contained in space, but that they generate their own spaces. It was the dawning awareness of this in the mathematical world a century ago that enabled Lewis Carroll, the Oxford mathematician, to contrive Alice in Wonderland, in which times and spaces are neither uniform nor continuous, as they had seemed to be since the arrival of Renaissance perspective." [*Understanding Media, in MIT version, p 346]*