

NOTHINGNESS IN WORDS
INTELLIGENCE: ITS MYSTERIOUS FORMLESSNESS AND ELUSIVE
IDENTITY

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(The following is a fragment decoded from an information-artefact read near Cygnus by an Earth monitor space-ship sensors. It records an exploring alien's scan of our dimensions. Reproduced here is a passage referring to Earth.)

... You had asked for the wonders of this four-dimensional universe...

Two of them occur in a remote corner of the spiral Andromeda galaxy, one named by its dominant "life"-form as EARTH – and the names given very familiarly to these wonders are LIFE and INTELLIGENCE.

As a provisional definition, LIFE describes a molecular construction or system sustaining a play of energy and metabolism, moving through distinct chronological stages of formation and development towards dissolution. What is puzzling about this is that the individual LIFE construct does not or cannot continue in this way for ever, but must create another exactly identical life form from itself before it dissolves – a process known as REPRODUCTION. Earth nurtures a wealth of life – 1,500,000 million different species, one-thirds plant and two-thirds animal, including microscopic marine creatures of the tropical islands and lagoons; bears, raccoons, elk and moose, nosing through the forests of North America; the creatures of the Arctic penguins, the walrus, seals, terns and killer whales; and the rhino, orang-utan, tiger, elephant, cheetah, and hippo of SE Asia and Africa.

The most significant species of life is called MAN, itself having a variety of types – Eskimo; Samoan; Maori; head hunter; cannibal; bush man and atomic scientist.

The most significant characteristic of man is his INTELLIGENCE.

And intelligence – what is intelligence?

August, 1955. A play opens in the Arts Theatre, London: a play about two tramps waiting under a tree in a bare, stark landscape for an imagined deliverer who never turns up. It is a translation of the French original, *En Attendant Godot*. It is a play without a beginning, middle or an end: without plot or defined, stable characters, with dialogues that frequently disappear into nonsense.

It comes to be known as “the play where nothing happens”. *Waiting for Godot* becomes an example of a new genre of drama – The Theatre of the Absurd – whose characters live, move and speak in a world where the meaning-systems of existence – or life – are collapsed or lost. It is a play born of, and leading towards the questions its author asks in another play –

*...who may...
 weigh absence in a scale?
 mete want with a span?
 the sum assess
 of the world's woes?
 nothingness in words enclose?*

July, 1945. Dr J. Robert Oppenheimer witnesses the test of mankind's first thermonuclear bomb at Alamogordo: as the device explodes with the force of 20,000 tons of TNT, a passage from the *Mahabharata* flashes into his mind:

*If the radiance of a thousand suns
 were to burst at once in the sky,
 that would be like the splendour
 of the Mighty One...
 I am become Death
 The destroyer of worlds.*

What is intelligence? What is thought?

It is a light in the eyes of lovers; the laughter of a child in the rain; the pensiveness of *The Thinker*; it is a word, a poem, a line drawn in the sand, the music of a flute at twilight. Everywhere across this planet, intelligence is visible in its effects, in its material expressions – which are most immediately apparent to us aliens in the arrangements of solids on a massive scale and variety. The skyline of Manhattan; the Japanese garden; mobile sculptures; railway lines; hydroelectric plants; suspension bridges; the Voyager spacecraft – are symbols, among innumerable others, of the motive force, intelligence, which caused them to be formed. It is the current that has defined the history of this primitive life form from its first groping understandings of fire to its exploration of the moon. And yet the most striking feature of this phenomenon is that *it does not exist*. It opens itself to no physical system of measurement or detection. Positron emission tomography or magnetic resonance imaging reveal only the *processes* of thinking, not thought itself. If the poet could be teleported in time and space and his brain monitored as he wrote, the scanners would reveal pulsing, luminous tracts of electrical and

chemical activity invisibly enclosing nothingness – the concept of love, which has no physical existence(in the sense that a star or an atom has) – in words – “When to the sessions of sweet silent thought/I summon up remembrance of things past.” So many electrochemical patterns for so many different sonnets, and at the end of it, no explanation at all of why and how these self-generated, self-sustaining currents should course through a model of organic matter, linking alien factors – emotion and word, into poetry – an organization of signs which, when scanned visually, or “read” – generate other patterns in other independent thought systems playing in their own random spans of time long after the poet was dust.

Intelligence, this radiant nothingness, is thus *quasi-physical*: it must depend for existence on the coursing of minute electrical and chemical currents through brain tissue enclosed in a casing of calcium, involving also peripheral biochemical infrastructure and nervous system. The first beginnings of intelligence only occur at a very advanced stage of the human organism’s *physical* development, when the foetus, collapsing aeons of evolution (from cell to mammal) in nine months, is delivered complete into the physical world. Intelligence depends therefore not merely on organic molecules organized, but organic molecules organized into a system complex enough to support it; it depends for its unbroken continuity across millions of years in a series of LIFE-Pulses – individual units of life succeeding each other through sexual reproduction, a somewhat involved process of evading dissolution. What is more intriguing is the self-translation of intelligence into a secondary satellite of life – INFORMATION – the one bio-physical item which the DNA spiral cannot transmit. The colour of a child’s hair or eyes, height, predisposition to disease, unfold according to parent DNA codes; but the child must learn the laws of thermodynamics from his physics teacher – in other words he is not a mathematician because his father or mother were mathematicians. And information – concepts, ideas, words, while vitally necessary for the advancement of intelligence, lives also in fear of time. *The Republic* exists in writing, preserved in language as a fossil in amber: but between Plato’s concepts and their preservation in writing, I sense the nothingness which thought and writing have filled with form. But for this dependence on life, and subjection to time, the existence and potential of intelligence would theoretically be infinite, were it only autonomous.

To escape its limits, intelligence has developed a process by which it can perpetuate itself. I have already referred to it – it is called WRITING. This mode of thought-preservation is perhaps man’s most significant invention. It is – I can call it a modification – of what is called LANGUAGE. Most of the higher forms of vertebrates can communicate with one another, each specie locked into its own frequency of communication. Dolphins tweet, whistle and converse underwater; bats orient themselves speak in ultrasonic beeps; the twittering of late larks in Oxford evenings move poets to do perhaps the only thing they know, writing poetry ; birds not only use a variety of calls but also employ a wide repertoire of physical gestures of courtship or aggression; and wouldn’t it be funny, now, if cats were to say “bow-wow!” and dogs said “miaow!”? Linguistically, all forms of life are fiercely chauvinistic: they are seldom on speaking terms with each other.

Mankind’s language is discernibly vastly more complex and developed than that of any other species, with a multitude of communication-systems ranging from Latin Old English to Esperanto. But on Earth, all language – whether those of humans or hymenopterae – is ephemeral.

Bees dance before the hive in distinct patterns and configurations to convey the distance and location of flowers. But an hour (a span of time beginning with a second, and leading into eternity) later, no record exists for a late-coming bee of this information: the dance-language has literally vanished into thin air. No record exists, similarly, of the speech of primitive, prehistoric, preliterate man.

Intelligence's quantum leap towards self-perpetuation was its development of writing – the correlation of sound frequencies with a system of visual symbols.

Writing provided language with the nectar of immortality: KNOWLEDGE, in its larger sense, which mankind cannot transmit through sperm, ovum, chromosome or gene, was at last encapsulated and made imperishable, long outlasting the life pulse which was its original source and foundation. Like a human corpse serene in liquid nitrogen, awaiting the birth of death-reversal techniques, concepts – the theorems of Pythagoras and Euclid : the laws of Hammurabi: the idea of zero – come at last to be frozen and locked solid in a language-system to blossom once more, fresh and living, when decoded ages after by the circuits of an enquiring mind. And the theories of geniuses struggling through a lifetime of logic and reasoning are transplanted in schools (from *schole*, the Greek word for leisure) into brains whose life-capsules are yet to arrive at complete physical maturity.

History provides a continuum of event – or idea – recording which humans take for granted. What would happen if writing-frequencies could not be uncoded? Ancient Egypt vanished with its language and all its secrets under the desert sands. Thousands of years later the pyramids were excavated. The humans of the nineteenth century gazed in wonder on the products of an ancestral intelligence, unable to gain access to the information in their hieroglyphs. Until the discovery of the Rosetta stone, which provided correlatives between the extinct script of the Egyptians and the ancient script of Greece. Through ciphers carved on a fragment of black basalt, knowledge vaulted across forty centuries, indifferent to the mortality of the original race that had brought it into being.

Writing ensures the continuity of concepts and knowledge; but for which the fall of every culture or civilization, the disappearance of every ancient tongue, would see the annihilation of that culture's scientific, philosophical and aesthetic heritage. The connection between Einstein and the Theory of Relativity, and between this and the 21st - century experimental efforts to validate an Unified Field Theory, exemplify the ways in which intelligence can associate recorded facts and concepts to arrive at meanings or conclusions which did not exist prior to such linked chains of association – an UNDERSTANDING of the cosmos, or innovations in such understanding – which intelligence could not sense if it relied on purely physical means in order to estimate the circumference of the earth; the behavior and weight of atoms; the composition of the stars.

The second radical advance, made millennia after the development of writing, was the development of supplementary processes to complement intelligence. In Earth Time Category – AD, Unit – 1900 – 2000, (Earth has a very crude time system) intelligence became INTOID. Literally, intelligence expanded into machines, freeing itself of the physical constraints of volume and speed of information processing, analysis and storage. A network of massive electronic “brains”, operating on the basis of a binary system of computation sprang up, storing

information from dissertation data on Drayton to calculation of the speed and trajectory of surface to surface missiles. In the form of supercomputers, intelligence flexed a vast extension of its powers, finding hugely efficient beasts of burden to pull the caravans of calculation while intelligence itself rode lightly onward, reasoning, theorizing, thinking.

Thus, a form of META-INTELLIGENCE arose, intelligence adapting the processes and products it had devised to reach deeper into itself and outside, using many of the natural fields and particles it has discovered and studied from magnetism to positrons. This is preparatory to a further radical advance. Intelligence moves now to duplicate or reproduce itself in a non-biological mode, superseding the natural processes by which it is formed and which dictate the terms of its finiteness. By converting and relocating itself from a “field” in patterns of biochemically interacting molecules to similar operations in plastic, silicon and metal, intelligence would become ARTIFICIAL, overcoming its biological and temporal limitations.

Intelligence is the one random factor in a reasonably harmonic physical universe, at least the Newtonian one with which it is at home for most practical purposes. The genesis of this particular universe, its matter-energy transactional norms, had made no provision in the axes of their existence-actuality – their origin, structure, function or end – for the sudden, self-generated merging of life and cognition. Intelligence resides but tenuously in life – where life (cells) and non-life (the atoms constituting organic molecules) battle each other in a constant, invisible agony of opposition and tension, synthesis and harmony. And yet intelligence seeks now to impose the certainties it desires on the inherent randomness of its life. If it can perfect techniques of reproduction through cloning, it will bypass the biological origins of its own bearer life pulse. In the shape of genetic screening, euthanasia, artificial conception techniques and genetic screening, engineering and modification, it amends, now, the natural censorship laws of its inherited universe.

In a sense, if atoms are the matrix of the physical universe, intelligence is its soul, its looking-glass. The sun cannot see its own splendor: the stars, visible from countless lifeless worlds, are

Worshipped on earth alone. The universe functions, unaware of itself. Intelligence alone, sweeping outward in great, invisible rings of knowledge, knows its inexorable immensity. Intelligence resonates in biochemical molecules of life, constituted of atoms; and what are atoms, but the constituents of the physical universe?

Intelligence is mature enough, now, to realize it is lonely. Of late, conversing with itself, it falls into silence, and turns its face towards the stars, in search of other songs which similarly celebrate the music of the cosmos... it calls this seeking SETI – the Search for Extraterrestrial Intelligence.

This is the wonder of a single planet – a sovereign entity, a biophysical phenomenon in its own right – titanic, formless, lyric, hurdling time, chaos and dissolution....

(Here the fragment ends, the alien artefact vanishing into a time-space warp which the monitor spaceship had no way of entering.)