

The Human Mind

Robert Kuhn

THE HUMAN MIND — MORE THAN A COMPUTER

Man thinks. At least he thinks that he thinks. But he knows. And he knows that he knows. Man is indeed unique: no other physical being is creatively self-conscious, nor can any other ponder the transcendental questions of life, death and ultimate purpose.

Man is a fantastic creature; but his time is nearly up—he is bent on self-extermination. Naturally, man's ingenuity has concocted a macabre variety of hyper-efficient techniques; the job can be done quickly by nuclear, biological and chemical warfare, or more subtly through over-population, famine and pollution. But how can the awesome human mind be permanently banished from existence? Should a being who can perceive eternity be denied it.

It is now imperative to seriously revive those old — yet still unsolved — questions: what is man? where has man come from? where is he going? what is man's purpose? how should he live? No longer can we afford the lackadaisical luxury of relegating these vital issues to cocktail parties, freshman philosophy courses, and the proverbial "bull" sessions. No longer can we nonchalantly and condescendingly assume that these problems are insoluble. We have no choice but to consider them. Our very survival lies in credible answers to these fundamental questions. So, let's sincerely and candidly resolve to face the ultimate question — 'What is man?' — devoid of our preconceived attitudes, biases and opinions.

For the crux of the inquiry, we must resurrect the endlessly rehashed 'mind-body problem.' What is the relationship between man's mental activities and his physical brain? Traditionally, there have been two opposing schools of thought. First of all, *Materialism* postulates that matter is the only reality; 'mind' is viewed as an

epiphenomenon, simply the totality (Gestalt) of physiological brain function. The materialist believes that the term 'mind' itself is unnecessary and confusing, and was invented to superstitiously explain what man could not yet physically comprehend. The scientist, who by definition is concerned exclusively with the physical, epitomizes the materialist.

The second position subscribes to a belief in the *Immortality of the Soul*. Adherents to this long-cherished thesis conceptualize the human being as an immortal soul temporarily joined to a physical body. The soul is the real 'you', they say, the body being merely its vehicle of manifestation in the present physical world. After your body's death, your soul is free to continue on its immortal journey.

So the lines of combat are clearly drawn; the materialistic scientists, dressed in their laboratory smocks, are barricaded behind their esoteric theories on one side; the immortal soul religionists, clothed in their preaching frocks, are entrenched behind their philosophical reasonings on the opposite side. In the historic struggle between religion and science, the materialism-immortal soul controversy remains the classic confrontation. In our 'sophisticated' society of wishy-washy non-commitment, each side is usually courteous toward the other — at least in public. This uneasy truce is often expressed in popular articles: 'Can a Scientist Believe in God?' or 'A Theologian Looks at Modern Science'. Both Scientists and theologians mutually — and hypocritically — agree not to interfere with the other's 'sphere of influence'. And the public is duped: The irreconcilable conflict between science and religion is submerged. Is man wholly physical — or does he have a higher purpose? In our nightmarish age, this question is vital.

Now, at this same critical juncture in history, there has



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emerged a science which can unravel the mystery and direct us toward the sorely needed solution. Just as the early decades of this century produced a revolution in physics and the 1950's - 60's witnessed enormous strides in molecular biology, we are now entering the age of brain research. For the first time, we are delving into the basic processes by which we are able to investigate science, ponder religion, enjoy a symphony and fall in love. Brain research is now evolving into a multidisciplinary study where scientists from two dozen or so diverse fields - from physics to physiology, biochemistry to psychiatry - combine forces for a frontal attack upon the basic mechanisms of thought.

'The brain is a computer,' cries the materialist, pointing out parallel concepts in cybernetics and neurophysiology. Their point is well taken. Information in the brain is simply the presence or absence of an electrochemical discharge. This 'presence-absence' is precisely the same as the 'yes-no', 'flip-flop' of a computer. True enough, the brain is enormously more sophisticated in potential pathways and micro-circuitry. (There are upwards of 50,000 independent nerve cells in every cubic millimeter of cerebral cortex - 10 to 15 billion altogether; each nerve cell is able to receive simultaneous information from thousands of cells, integrating and then funneling this new information to many other cells; the permutations and combinations of circuitry and sequences is astronomical). Nonetheless, the brain is essentially a computer. Given enough time (a 'catch-all' scientific phrase), a computer could duplicate every brain function - though to accomplish this within the geographic confines of the cranial cavity must be beyond the technological imagination of even the most optimistic scientist.

Animal brain is indeed a computer. But is human mind entirely the same as animal brain? 'Yes' fires the materialist. 'No' retorts the religionist. Before we take sides, let's all recall our pledge to resist every emotionally-inculcated conviction. Let's submit this fundamental issue to the unbiased arbitration of brain research.

But where do we locate unbiased brain researchers? Not on earth - that's certain. Therefore, we must fabricate some esoteric investigators from the n^{th} dimension or the q^{th} galaxy - arriving on earth through what science fiction writers have explained as a 'space-time-warp'. As we might expect (anthropomorphizing a bit), their physiologists and psychologists prefer to work independently.

It was obvious to the physiologists that the brain was the most fascinating organ. Since mammals had complex brains, they were investigated by the chief physiologists (leaving other vertebrates for graduate students and invertebrates for undergraduates). Representative brains were weighed and the descending order was: whale, elephant, man, gorilla, chimpanzee, monkey, and rat (seven must be a universal number). Comparative anatomical studies revealed a uniformity of distinct brain structures; each structure was present in every brain, though their relative sizes varied. There were *no* qualitative differences among the mammalian brains.

At this point in the investigation, a preliminary report was received from a physiologist spy planted in the psy-

chology department (he was masquerading as a technician). Apparently, the creature 'man' was showing surprising capabilities. But man didn't have the largest brain! Returning to their labs, the physiologists soon realised that only the *cerebral cortex* was responsible for conscious intelligence. (The cerebral cortex is the thin, ave. 4 mm., outermost layer of the brain, convoluted in order to compact a large surface area into a small volume). Further investigations revealed two general categories of cortex: 'specific cortex' subserving direct sensation (visual, auditory, somesthetic) and movements; and 'unspecific-cortex' (or 'association-cortex') which has no direct connection with the external environment. Unspecific cortex is composed of two areas: 'posterior-unspecific-cortex', involved in sensory associations and problem solving; and 'frontal-unspecific-cortex', from which thinking in the sphere of time, social awareness and the 'will' originate. Unspecific cortex then, is the key to *human* thought. Man had large unspecific cortical areas - especially the frontal regions. Consequently, man should have been somewhat more advanced than mere brain size suggested.

The complete spy-report flabbergasted the physiologists. Man was incontrovertibly foremost on earth! But the physiologists knew that man's cerebral cortex, even his frontal unspecific region, was not as large as the whale's. So maybe the *relative* proportion of unspecific cortex was critical. Perhaps too much specific cortex 'clutters up' the brain, not allowing the unspecific areas the 'freedom' of abstract, cognitive and symbolic thought. If this were true, the *ratio* (percentage) of unspecific cortex to total cortex was crucial. The physiologists' conclusions were finalized: man's brain was the most advanced: chimpanzee (large *ratio* of unspecific cortex) and whale and elephant (large *amounts* of unspecific cortex) were a *very close* second. With respect to individual and collective behaviour, the physiologists smugly expected the same relative positions. They were visibly shaken by the psychologists' conclusions. It seemed impossible.

The psychologists had immediately recognized that man was unique. (The chief psychologists studied man, relegating all other animals to graduate students, who in turn assigned their work to undergraduates. Graduate students are the same throughout the universe). Man was vastly different - producing automobiles and astronauts, bridges and brushes, symphonies and soliloquies, catastrophes and calamities. Man communicated symbolically; he inquired about himself; he delved into his origin; he wrote his history; built upon his predecessors; and passed on information. None of these characteristics were remotely shown by chimpanzee, whale or any other animal.

The physiologists stood stupefied. They could not account for the cavernous gulf between man and animal. The brains were not *that* different, anatomically, biochemically, or electrically! There was no physical explanation. The scientists were frightened. There was only one alternative: a unique *NON-physical* component must exist which transforms human brain into human mind.

We thank our mythical friends for their help. Considering the cosmological significance of their conclusion, we

should clearly understand the logical sequence of prerequisite propositions.

1. Man does not have the most massive brain, nor the largest cerebral cortex, nor even the greatest unspecific cortical areas. Therefore, brain size cannot be the sole explanation for 'mind' – or else whale, elephant, and dolphin would dominate the world.
2. Mammalian brains are qualitatively identical; there are no unique sections in man's brain, every structure is easily found in other brains.
3. Proportionally, man has the largest unspecific cortex. This critical percentage (unspecific cortex/total cortex x 100) is about 60 per cent in man, 40 per cent in chimp, and less than 10 per cent in rat. About the same relative positions among man, chimp and rat also hold with respect to the micro-anatomical organisation of cerebral cortex nerve cells and the intricate wave-form patterns of cerebral cortex electrical activity. The trend is clear: human and chimp brains are similar, rat brain far behind.
4. Consequently, on the basis of all physical data, chimp should be vastly 'superior' to rat, to a far greater degree than man is superior to chimp. The chimp/rat 'species-IO' ratio should be significantly above the man/chimp ratio. We would therefore expect the product of brain function – the psychological and sociological accomplishments of the individuals composing the species and the species itself – to be somewhat similar for man and chimp, while much different for chimp and rat.
5. However, precisely the opposite is true. Chimps and rats behave very similarly. Both can learn complex problems involving long sequences of moves; both have similar group activities, maturational processes, etc. True enough, chimp behaviour is more intricate and less stereotyped. Nonetheless, chimps and rats differ only quantitatively – not qualitatively.
6. But who could honestly say that man differs only quantitatively from chimp? Who but man possesses the awareness of ecstasy, the ecstasy of love, the love of beauty, the beauty of accomplishment, the accomplishment of inspiration, the inspiration of creativity, the creativity of humour, and the humour of himself? Man stands apart – a distinct creation.
7. We can now formulate our conclusion.
 - (a) Man's brain is similar to animal brain, merely continuing the gradual increase in complexity evidenced by all mammals from shrew to chimpanzee.
 - (b) All brain research – anatomy, biochemistry, electro-physiology – proclaims that the difference between the human brain and chimp-whale-dolphin brain is *far less* than the difference between chimp-whale-dolphin brain and rat brain.
 - (c) Rats and chimps-whales-dolphins have qualitatively the same instinctive behaviour patterns.
 - (d) The psychological and sociological machinations of the human mind are unequivocally dissociated

ted from animal behaviour.

- (e) The human brain cannot account for the yawning chasm between these utterly unique characteristics of humans and the repetitive instincts of animals.
- (f) *Therefore, a non-physical addition must unite with the human brain, converting it into the human mind.*

Don't lose points 7e and 7f amidst the verbosity! The human brain *cannot* explain the human mind – there must be a non-physical ingredient, beyond our microscopes, test tubes, electrodes and computers. To the truly open-minded individual, it is fruitless to physically rationalize the uniqueness of mind. There must be a non-physical essence – a 'spirit' – in man.

The die-hard materialist will not easily allow his quaint little world to crumble. He has two arguments left. First, an analogy in which unspecific cerebral cortex is likened to U235, and specific cortex to lead. When there is sufficient U235 *and* the lead percentage is small enough, a 'critical-mass' is reached and an enormous explosion ensues. In other words, both the *amount* and *ratio* of U235 must surpass a given level to commence atomic fission. Drawing his analogy, the materialist reasons that only in man is there both a sufficient *amount* of unspecific cortex (like whale but not chimp) coupled with a large enough unspecific cortical *ratio* (like chimp but not whale). Therefore, only in man is this 'critical-mass' attained, with the resultant psychological explosion of creative self-consciousness. Clearly, circular reasoning motivated this hypothesis: how can the psychological disparity between man and animal be justified without shattering the cherished tenets of materialism? The arguer is running scared. This is his only physical solution left.

Among apes, cranial capacity varies from 4 to 39 cu. in. – a 9-fold variation. The weights of unspecific cortex will drastically increase but there is only the barest increase in psychological attainment. Likewise, among human beings cranial capacity will range from 61 to 113 cu. in. – with no consistent relationship to human attributes. Cetacean (porpoises, dolphins, whales) brains add the *coup de grâce*. They vary from the 1 pound porpoise brain to the 19 pound sperm whale brain – accompanied by not the slightest increase in mental output.

The Cetacean brain in itself is effectual testimony to the existence of a non-physical component in the human mind. Neurophysiologists must struggle just to ascertain why the huge (up to 6 times the weight of the human brain), highly complex Cetacean brains are not actually physically *superior* to the human brain. Kruger (in *Whales, Dolphins and Porpoises*, edited by Norris, 1963) shows that Cetacean cerebral cortex is not only much larger than human cortex and strikingly similar in appearance, but more significantly, it also has (remarkably) about the same *ratio* of unspecific cerebral cortex. In a candidly desperate search to justify human dominance, Kruger hits upon the orderly arrangement of human cerebro-cortical nerve cells in distinct layers or

'laminars' — in contrast to the corresponding Cetacean cortical cells. Now this is our point. Since Kruger must (forthright and brilliantly) employ *circular reasoning* in a frantic attempt to keep human brain *just barely superior* to Cetacean brain, it then becomes an absurdity to *physically* rationalize the unbridgeable gulf between human mental output and Cetacean stereotyped instinct!

Surely, this data does not rigorously disprove the materialist's 'critical-mass' hypothesis; but the hypothesis itself, by definition and design, is logically impossible to rigorously deny. Straining for a physical explanation, materialistic circular reasoning has carefully devised a hypothesis propounding that only man has *both* the precise amount and exact ratio of unspecific cortex. We may ask, 'What experimental evidence could conceivably prove the materialist wrong?' None! His *ideology* is his prefabricated, impenetrable defence. Materialists have evolved a 'disproof-proof,' internally-consistent system of assumptions — resembling paranoid obsessions — which can nullify all dissent generated by empirical evidence or logical analysis.

As a last resort, the materialist may retrogress and claim that man's psychological and sociological productions are not qualitatively distinct from the animal kingdom. 'All these qualities,' he would say, 'customarily considered "uniquely human", are merely the highest expression on the present continuum, and are in fact represented in other animals.' But is this true?

What about humour, beauty, ecstasy, will, love? Humour has no equivalent in animals. Darwin assumed that the smile evolved from the animal snarl, obviously ignoring the dissimilar meanings. To laugh at incongruities, we must be detached from the situation. Animals react to unexpected events but can never become detached enough to reflect upon them as incongruous, and therefore cannot appreciate humour.

Beauty is known only to man; it is admired for its own sake, not for any use it may have, or appetite it might satisfy. But the animal considers only the potential satiation of basic drives and needs — beauty in an object adds nothing to the appeal. For man, beauty supersedes mere sensory stimulation; it is an abstract integration, personally blending with the individual psyche.

Is the *ecstasy* experienced from listening to a Mahler symphony just the sophisticated refinement of animal drive reduction? Hardly! Ecstasy fulfills the entire being, transcending simple specific satisfactions.

Free will demands the absence of programmed instincts. Animals operate by means of pre-set, albeit complex, pathways. Without embroiling ourselves in the 'determinism-problem', we recognize that human beings have the capability to *consciously* make *any* decision in a given situation — even irrational ones.

Human beings have the potential (though rarely attained) of expressing *love* — a selfless, outgoing concern for others. Animals are surely attracted to *things*, but this is merely a self-centred association with intrinsic drives such as food, sex or attention — not love.

Can there be any doubt? The human mind infinitely outclasses animal brain. But why? If the human brain exhibited even a *possible* physiological explanation — a

structure or capacity not seen in animal brain — wouldn't materialistic scientists have immediately publicized the data in order to support their contention that human beings are 100 per cent physical? They have not done so because the human brain cannot account for the human mind! Evolutionary theorists point to the similarity among human and ape brains to corroborate their views. It is ironic that, in reality, they have stumbled on to the most significant scientific observation in history, irrefutably attesting to the non-physical component which converts the output of the human brain into mind. Without this non-physical factor, man could be nothing more than a super-ape, more intelligent than the chimp to the *same* degree that the chimp is more intelligent than a less complex mammal. Think about it!

Because materialism is wrong, does that ipso facto cause immortal souls to exist? That's faulty logic. The world has set 'materialism' and 'immortal souls' as the only alternatives to answer the question — 'What is man?' So men have dutifully chosen one or the other. But could the whole rancid system — *both* choices — be wrong? Could materialism and the immortal soul doctrine be 'bedfellows' in a diabolically deceptive plot — expressly designed to keep man bickering and apart from the truth?

Where did 'immortal souls' come from? Much to the chagrin of contemporary Christianity, quite the opposite is propounded by the Bible. In Genesis, man *became* (was not inherently, a living soul: Ezekiel wrote that 'the soul that sinneth, it shall die'. Paul agreed, 'the wages of sin is death'. But, theologians will no doubt retort, 'death' means a conscious eternal *life* (whether in a literal place or a state of mind). Apparently they have not read — or chose to overrule — the Psalmist, who said of man, 'He returns to the earth, in that very day *his thoughts perish*,' and Solomon, who wrote that, '...the dead know not anything'. Solomon makes the truth embarrassingly obvious. 'For man's fate is a beast's fate, one fate befalls them both; as the one dies so the other dies, the same breath is in them all'.

Now feeling a trifle cramped, some are sure to protest that we are dealing with a problem of translation. Not so. Both the Hebrew and Greek words translated 'soul' — *nephesh* and *psuche* — literally means 'breath' and refer to both animals and humans. The expression 'immortal soul' *never* appears in the Bible. True enough, a 'resurrection from the dead' is frequently mentioned — but necessitates *dead* individuals, with no room for 'immortal souls' flitting around someplace. Since 'immortal souls' didn't come from the Bible, where did our Judeo-Christian religions find them? The *Jewish Encyclopedia* freely admits that: 'The belief that the soul continues its existence after the dissolution of the body...is speculation...nowhere expressly taught in Holy Scripture...The belief in the immortality of the soul came to the Jews from contact with Greek thought and chiefly through the Philosophy of Plato, its principal exponent, who was led to it through Orphic and Eleusinian mysteries in which Babylonian and Egyptian views were strangely blended.' Plato is also the self-confessed authoritative source for the 'Christian-fathers' (e.g. Origen, Tertullian) who, two centuries after the death of Jesus, first introduced

'immortal souls' into a rapidly paganized Christianity.

Now, must we jump to the opposite extreme? Does the dualistic nonsense of 'immortal souls' preclude the existence of *anything* non-physical? Surely, we don't believe in 'guilt by association'. History abounds with occurrences and prophecies which defy all physical law: the plagues on Egypt, Ezekiel's in-advance description of the specific manner of Tyre's destruction, Daniel's astoundingly intricate delineation of the successive histories of the Babylonian, Persian, Macedonian and Roman empires. In addition, thousands of people have witnessed occult phenomena – telepathy, clairvoyance, psychokinesis, manifestations, etc. Are they *all* kooks, fakes and charlatans? It seems implausible. What about the rigorously scientific studies of Dr. J.B. Rhine and colleagues in extrasensory perception (ESP)? After showing ESP's independence of space and time, Dr. Rhine states: 'There simply is no explanation based on physical principle that will do...no hypothesis which could explain ESP phenomena as a whole on a physical basis has been offered...and) the most devoted physicalist finds himself in the sloughs of insuperable intellectual difficulty. "We are not "pushing" any of these individual examples – only *one* need be valid for our point to be made: the existence of non-physical reality.

We have seen that the human brain must have a non-physical adjunct to transform it into 'mind'. This is obviously not the fabled immortal soul. So then what is it? How does it work? What happens to it when a man dies? These are vital questions. To avoid needless speculation, we'll label this non-physical mind component '*the spirit-in-man*' – using the word 'spirit' in a non-restrictive sense, meaning something different from the physical, without any other connotation implied. The spirit-in-man then, is that essence which imparts human-mind-power to physical brain tissue. It is the means by which man can exercise his promised 'dominion' over all creatures. The spirit-in-man is not a soul; it has absolutely no consciousness apart from brain. Paul asks, 'What human being can understand the thoughts of a man except (by means of) *the spirit of man which is in him.*' This simply states that self-consciousness – the awareness of thoughts, not just thoughts themselves – is generated by the spirit-in-man. Solomon – whose writings decimate the immortal soul fabrication – shows that 'then (at death) shall the dust (human being) return to the earth as it was, and the spirit shall return unto God who gave it.'

The spirit-in-man is neither the man nor a soul. It can be likened to a blank recording tape, the tape recorder being the human brain. Neither one works without the other. The tape imparts the power of auditory reproduction *to* the tape recorder, while at the same time, the tape itself is recording and storing the magnetic stamp-impress from the tape recorder. Likewise, the spirit-in-man imparts the power of creative intellect and self-conscious personality *to* the brain, while at the same time, the spirit-in-man itself is recording and storing the stamp-impress *from* the brain – out thoughts, acts and character. At death the 'tape' is complete; it is then 'filed' until needed again for reactivation.

Some final questions: What and where is the 'inter-

face' between the spirit-in-man and the brain – how does the non-physical interact with the physical? Furthermore, could there be another order of non-physical power – higher and more perfect than the spirit-in-man? And if so, could it be possible that the spirit-in-man was designed to be impregnated and augmented by this higher 'spiritual' power? To those truly converted individuals, Paul writes, '...the Spirit of God joins with our spirit...' These are the fundamental issues of the universe. But all man does is wonder.

Sorry! Wondering is not enough! Man is presently wondering his way to extinction. If what we see of man – the physical man – is indeed all of man, we're as good as dead. But brain research points to a different conclusion – twist-ending to the story of man. We will survive, but in a way and from a source least suspected. All will then realise our majestic spiritual purpose which transcends the most fertile imaginations.

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