

# *Artificial Intelligence No!*

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## MANIFESTO

Two and a bit years ago I wrote a book which I called *The Human Idiom*. I didn't get my book published, I didn't try very hard. I couldn't face writing another report, so I signed on at the social security office – the wisest decision I ever made, not that it was easy.

Now, I had a mind to write a book attacking the idea of Artificial Intelligence and cognitive psychology. I thought I'd call it *A Theory of Cognitive Error*. So I started reading around the subject, on and off, with a view to finding some new arguments, saying something that wouldn't cover the same ground as John Searle and could somehow trade on the fact that I wasn't a professional. Though I wrote several hundred thousand words, they were all disconnected. I never managed to sort them out, beforehand. And when I did finally sit down in the hope of making a convincing case, the following is what came out.

[Comments in square brackets are usually comments I added later when I read what I had written.]

I want to be able to say: Thought has been traduced, or Ideas have lost their substance, or The currency of thought has been devalued, or ... however you like your metaphors cooked. But these ideas (about ideas) have a strange ring to them. One can only think of them as figurative ways of talking about thought or ideas – and therefore forms of expression that need to be explicated or unpacked in the terms of a theory, say the theory of post-modernism.

I further want to be able to say: Ideas are things. And I want to be able to mean it literally. I mean *literally* literally – or should that be “literally, literally”?

By the end of this book, I hope I will be able to say: Ideas are things. [Go on. Say it.] And I hope I will also be able to say why I couldn't say it before. If all goes well, I will be able to give the idea that ideas have no substance these days, substance. I will be able to talk about ideas having authority, generally false. And I will be able to say these things literally, not figuratively. (I will also be able to give a perfectly sensible reason why I have for the moment to use the first person, irritating as it is in a document that purports to say something interesting and sensible about ideas.)

Isn't this just the kind of thing various French thinkers are saying – Lyotard, Baudrillard, and their legions of followers in England and America? Well, yes, actually. Marshall Beaumann (or some such name), for one, has written an unreadable book with the excellent title *All That is Solid Melts into Air*. Why can't I go along with them for the ride? Because I don't like the way they are saying it. Also, they are part of the problem.

If I can drop this tone of voice, I will try to explain what it is about current writing about thought I find indigestible. My problem is not just with the way these people say these things but to whom they are saying it. That last formulation has an unpleasantly French ring to my ears, but I mean it quite literally. The people who are consuming post-modernist theory or theory about modernity or post-modernity seem to me to have no proper capacity to consume it.

I am exceptionally bright by any yardstick you care to mention, including IQ. Yet there are many ideas that I find very hard to understand. Bright as I am, I couldn't conceive of understanding an article by a first rate Anglo-American analytic philosopher straight off, at one sitting. Even soi-disant professionals say how difficult philosophy is.

[This being the case, there is no way that the average consumers of packaged theory here and in America could be said to be doing anything meaningful, useful, profitable, and fruitful when their teachers feed them theory. It's a joke. At a northern university, a cultural theory person tells his first year art students about the romantic notion of interiority, the myth of the subject. (Actually he doesn't call it an idea, he calls it “romantic interiority”.) The students are most disconcerted, alarmed. They'd thought they'd been doing all right up 'til then.]

This sounds arrogant, and would be instantly dismissed by many people [the packaged theory manufacturers and their customers] as elitist. I don't mean it that way. I am not impugning the intelligence of the average media or cultural studies student [merely that of their teachers]. In fact, I have to come to think that the concept of intelligence is incoherent, has no substantive

meaning – I can no longer understand what it means.

[Smart people are not smart in any sense I can make sense of. And the point applies the other way round with apparently stupid children. What looks like stupidity is just that: the look of stupidity.]

I hope you don't think I am trying to palm off on you some kind of wishy-washy idea about human potential, as to say we're all equally gifted. It doesn't matter to me in the least that current practices in intelligence testing are invidious and unfair. I would like to be able to believe that some people have a specially fine thinking capacity (a magic organ for solving thought problems and producing knowledge) – because then I wouldn't have to produce evidence and arguments for my view, I could just produce a certificate of my intelligence.

Nor am I saying that people are not better at some things than others, or that we cannot talk about certain people being intelligent in certain ways. What I can no longer make head or tail of is the idea of intelligence as a capacity, a thinking capacity which varies in degree or quantity between individuals. This is the notion of a general intelligence factor, Spearman's 'g' factor, supposedly testable by an IQ test. My grounds for scepticism about this particular idea of intelligence are partly drawn from my own experience as a teacher and partly based on a set of considerations and arguments (forthcoming in these pages) I tried to frame when I was reading about the idea of Artificial Intelligence. The first formulation I came up with was that we are only as intelligent as our psychology allows us to be, by and large. That idea now seems less than adequate, and I would like to formulate some conception of intelligence as a skill, that which we learn, perhaps at a very early age. At all events, I am more than convinced there is no coherence in the concept of a general intelligence factor – which is to say that it does not exist. Even if someone were to present me with hard evidence for a genetic component underlying cognitive performance, I would still not be able to give a sensible account of such a capacity. And it is very difficult to square this notion of intelligence with the idea of mind and intelligence as software.

Would I be prepared to say ideas are biochemical things or things existing in the brain's electro-bio-chemical matter, patterns in the medium of the brain? I can't accept the idea of mind and thought as software (and I have, I believe, some very good arguments against such a position, which I will produce here sooner or later). But it is hard to deny that mind is related to grey matter – or as John Searle puts it minds are a causal phenomenon of brains. Would I go along with this, in some small part? No. Not even a little bit? No. Because if I did, then I would be detracting from the thinginess of ideas. It would be as if I was according them only a second class status in the world of entities, a derivative existence. [This issue has been debated endlessly in the analytic philosophical literature. But I can no longer read this stuff – because it's ... not resolvable?] One defensive move I can make – or could attempt to make later – is to make a distinction between the product of thought – ideas as they appear on paper, mainly, but also manifesting themselves in other respects – and thoughts where the latter are thoughts in one's head; or I could stress the difference between thinking as a mental activity and thinking as a kind of calculation.

Here's Gilles Deleuze on ideas (which he calls 'concepts'):

Everyone knows that philosophy deals with concepts. A system's a set of concepts. ... Philosophy's job has always been to create new concepts, with their own necessity. Because they are not just whatever generalities happen to be in fashion, either. They're singularities, rather, acting on the flow of every day thought: it's perfectly easy to think without concepts, but as soon as there are concepts, there's genuine philosophy.

I can't accept that idea: it has not enough substance for me. Not universals, not singularities, not particulars, not individuals ... but things. At first glance, Deleuze's idea seems to make sense; but the more I think about it, the less sensible it is. Can you really think without concepts? How can a thought be that which it is of? How can a concept be a concept? How can an idea be just an idea? How can I even put these absurd questions without worrying that I am making a gross conceptual error, an expression of my intellectual synaesthesia? [Don't worry about it, mate.]

Everything I write here, I wrote before two years ago in a 30000 word book which I wrote in a kind of frenzy. Every idea I am trying to substantiate here I expressed in my other book and expressed in a much more satisfactory manner than I can now. [Get on with it ...] This book I sent to a number of my friends, various literary types, and two professional philosophers. Everyone who read the book said nice things about it. A distinguished English writer wrote me an enthusiastic letter of encouragement. No one, however, made comment on any of the ideas I thought I was expressing or, at the very least, discussing; except, that is, one of the philosophers, a woman who had been a fellow student at university and whom I have known as a friend on and off for over 20 years. Her first response was enthusiastic: "You do realise, it's like a novel" she wrote in a letter, presumably imagining I would take it as a compliment. Later, she described me in another letter as acting like an intellectual Grandma Moses, an intellectual primitive. I was cut to the quick, mortified, and wrote back in angry, injured tones to protest. Was she accusing me of being a kind of intellectual queue-jumper, an arriviste, of not having gone through proper channels? Or was she merely dismissing my ideas as confused and muddled. She retracted what she had said, somewhat. But when I suggested we collaborate on a book on the idea of a psychoanalytic sensibility – in which as I put it, she would supply the philosophical gristle and I would do the leg-work, she bristled again, as it were pulling rank as a professional on an amateur.

Now I think about it, I can see I needn't have been so quick to retaliate. What could it mean to be an intellectual primitive? Primitivism in painting is not the same as bad art. Le Douanier Rousseau and Grandma Moses were indeed primitive in the sense of untrained or – since there have been many 'sophisticated' painters who were self-trained – in some other less easily specifiable sense having to do with the sort of the people they were, their educational level perhaps among other things. But primitivism in painting is also a distinct style – and, although I know little about it, I think it must be a style practised successfully by painters who were not in any other sense primitive. Who would be the equivalent of a primitive painter in literature? Jack Kerouac? e.e cummings? The Liverpool Poets? A technical writer? My point, of course, is that the philosopher didn't actually say my ideas were wrong or stupid or confused, as she could easily have done. And, although she clearly intended it to be a put-

down, she gave me a kind of escape clause by using the epithet 'primitive'.

But I am not at all comfortable with my rudimentary analysis of the idea of intellectual primitivism. Here is an excellent example of the difficulty I have with thinking, especially in areas where I have no expertise – a difficulty I can only resolve by conceiving of ideas as things. To make the matter clearer, I will try to set down the essential points of the topic (elements? components? distinctive whatnots? nodes? whatever?) as numbered points (elements? steps? etc?):

1. Primitivism or primitive painting is a distinct and easily recognisable style, perhaps best represented by the painting of Rousseau. Other indisputably primitive painters include L.S. Lowry and Grandma Moses.
2. Lowry, I think but may well be wrong about, did actually have an art school training.
3. Rousseau and Grandma Moses did not. Rousseau was, famously, uneducated and working class, a douanier.
4. Apart from the distinctive features of primitive painting as a style – features even I could begin to specify – there are no clearly delineable criteria for saying what sort of person a primitive painter is.
5. [Which point is only arbitrarily given a point to itself, since it is actually an expansion of #4.] Many other painters, good painters, have been more or less untrained: Gauguin, Cézanne, et al.; some of them, too, were poorly educated, and working class.
6. (And this is more of a comment on #5 than a point in its own right) It probably would be possible to specify the personal and psychological characteristics of the echt primitive painter. But what would that have to do with understanding the concept of primitivism in painting as a style?
7. I know a man with an art school training who used to manufacture primitives for sale on the Bayswater Road, London's premier showcase for bad art. He had a stock of figures: a cow, a tree, a moon, a person, fields, and so on, which he would select and combine for different paintings. I am not sure how far he thought of himself as primarily manufacturing paintings for sale, or to what extent he also thought his paintings were rightful art objects, or whether there is any contradiction here.
8. Many other painters, who by no stretch of the imagination could be described as primitive, have used aspects of primitive style or have referred to it pictorially in some manner: Gauguin and Picasso, notably.
9. On the other hand, the latter point is generally made in terms of the influence of genuinely primitive art, African art. Is there any simply specified connection between genuine primitive art and the style of primitive painting? Of course there is – and even I could have a stab at saying what it is.

I could go on, but the point should be clear: it is very hard to explicate the idea of primitivism in painting, at least I find it hard – and not just because I know little about the subject or because I am not adept at analytic philosophy. What seemed to be a clear idea, has dissolved. All that is solid melts into thin air.

What is all the fuss about? Why am I getting so het up? For this reason: my thought – as instantiated above – seems to me substandard, murky, the wrong kind of stuff. I know where I

could seek clarification on the idea of primitivism: from Richard Wollheim, Gombrich, and others. I have read Wollheim with some profit – and I am quite grateful to him. But I do not agree or accept all his views and I do not find the arguments for them always convincing. I can and do frame objections to them.

What I can never do, and could never do even if I were a professional philosopher and considerably more adept at philosophy than I am, is reach a final position, achieve the kind of clarity I want. And what would that clarity be? The clarity of mathematics? Of formal logic? Of a working computer program? The concreteness of concrete objects? Is my demand for clarity somehow inappropriate? Should I read Wittgenstein on Certainty? Wittgenstein on Hesitancy? And so on, and so on ...

My attempt at getting clear about primitivism in art illustrates another point which I think highly significant; a non-trivial point and not, so to speak, a piece of pop philosophy or intellectual primitivism. It is connected, I think, with the very great problem (I have) with the notion of an algorithm, a step by step procedure.

In order to make my thoughts on the topic clearer, I decided to number them. This presented a difficulty at the outset: where does one thought (or idea or consideration) stop and the next one begin; that is, a problem with organising one's thoughts or sorting them out. It is not an immense difficulty and if I were collaborating with someone else we would probably agree on the salient points of the discussion. The real problem arises when I number each point. Numbering points – or we could call them ideas on a common topic or related considerations – seems to give them an order they do not possess; it is hard not to think of the sequence of numbers as representing the sequence in an argument. In an algorithm, the sequence of steps represents the sequence in which they must be carried out. But my list is very different – and was not intended to stand as an argument, let alone as an algorithm. The reason I gave each consideration a number was both for the sake of clarity and also for reference purposes. What I could have done was to use bullet points – but then I wouldn't have been able to refer to the separate thoughts or considerations later (as I did in #6, by talking about #5).

The considerations in the previous paragraph could well be expressed more clearly. No doubt they also contain various conceptual confusions. None the less, this is a genuinely substantial (or substantive) problem. I believe it was considerations like these that led Wittgenstein to adopt the form he did in *Philosophical Investigations*. When you put down a train of thought on paper, you do so in a linear sequence; one paragraph after another. Each paragraph contains, as it were, a distinct thought. And the linear sequence of paragraphs inevitably suggests a relation between consecutive paragraphs. The presentation of thoughts does not just follow a linear sequence on the page: any one thought is necessarily understood by the reader to follow from the previous one as one point in an argument follows the previous one. Of course, that is exactly what one intends – to present ideas in a sensible and orderly sequence. But the difficulty is that the apparent or implicit logical sequence may be spurious. The physical sequence on the page makes a claim for itself which is not always justified.

One could put the difficulty this way: In some cases, merely presenting thoughts in a linear sequence as argument gives the argument a rigour it does not actually have, a spurious rigour.

What about philosophical primitivism? Who could we call a philosophical primitive? Wittgenstein?

In the earlier book, I wondered whether in putting forward the ideas I did – so incoherently and without any easily discernible structure, let alone a linear sequence – I was coming across as a kind of intellectual idiot savant. That idea too now seems somewhat double-edged. It seems to be a sort of joke. What could it mean to be an idiot savant in the realm of philosophic or general ideas?

The label I give to this set of ideas (which I can only express amateurishly, in a crude and primitive way) is The Question of Authority. How does Truth gain its Authority? Where does it get it from? There are many ways in which I can give this rather abstract and pompous-sounding formulation more substance. There are many illustrations that I can supply and will supply here.

First, an extract from Murray Gell-Mann's book, *The Quark and the Jaguar*. Murray Gell-Mann is a Nobel prize winner in Quantum Physics or particle physics. (He coined the term 'quark'.) He is a man of wide interests, some of which step outside the bounds of science. He is said to speak six languages. He has ideas about many topics outside his field: psychoanalysis, myth, information theory, evolution, language acquisition. I've seen him described in print as the cleverest man in the world. Yet his book is full of stupid things: whenever he steps outside the bounds of science, he falls on his face. I will give an example shortly.

My point is not to award myself points at the expense of a brilliant physicist. My question is, How is it possible that someone of such high intellectual calibre can make so many crass mistakes? And I instance Gell-Mann as representative, not an exception.

Here's the extract, a section titled *Alleged Phenomena That Challenge the Known Laws of Science*:

Although such phenomena are not ipso facto non-existent, a very high standard of skepticism must be applied to them. Nevertheless, if any of them ever turns out to be genuine, the scientific laws will have to be modified to accommodate it.

Consider the alleged phenomena (in which, by the way, I don't believe) of telepathy between two people who are very close personally and also closely related, say mother and child or identical twins. Almost everyone has heard anecdotes about such pairs of people, according to which, in moments of extreme stress for one them, the other becomes alarmed, even if they are very far apart. Most likely these reports are occasioned by a combination of coincidence, selective memory (forgetting false alarms, for example), distorted recollection of the circumstances (including exaggeration of simultaneity), and so on. ....

In any case, suppose for a moment that, contrary to my expectations, such a telepathic phenomenon turned out to be genuine, say for human identical twins. Fundamental scientific theory would have to be profoundly altered, but eventually,



no doubt, an explanation could be found. For example, theorists might end up postulating some kind of cord, of a nature not now understood, probably involving some important modifications of the laws of physics as presently formulated. Such a cord connecting the twins would carry a signal between them when one of them was in serious trouble. That way the effect could be largely independent of distance, as many of the anecdotes suggest. Let me emphasise again that I am quoting this example not because I believe in telepathy but only to illustrate how scientific theory might be modified to accommodate even very bizarre phenomena in the unlikely event that they turned out to be genuine.

I believe I can show that this is a wonderful piece of gobbledegook. I should say first though that I do not have a hidden agenda. I am agnostic about telepathy. If anything, I am sceptical – because I cannot form a coherent concept of telepathy. In fact, I am rather proud of a thought experiment I came up with for thinking about the phenomenon of telepathy. I have related my thought experiment to two professional philosophers. Both seemed to like it. So I am hopeful it will earn me a footnote in the literature.

Imagine telepathy was a real phenomenon. Imagine too that it took the fairly simple form by which many science fiction stories have conceived of it, that it was as certain science fiction writers depict it: as mind reading, as the ability to read other people's thoughts or to hear other people's thoughts. Suppose then you were telepathic and you believed you could hear other people's thoughts. How – and this is the nub of the thought experiment – would you know that the thought was another's and not your own? Thoughts do not come stamped with their owner's identity. They are not, as it were, labelled.

I am not even sure that the thoughts we have take the form implied by a concept of telepathy. But let's assume they do. Let's assume thoughts occur to us as something like propositions and that one could sensibly describe someone as having thoughts which can be translated into sentences. Some examples:

“I must have a drink.”

“I wish she would stop picking her nose.”

“The train leaves at 7.15. I have thirty minutes to spare.”

“My tooth is agonisingly painful. I must get to a dentist.”

“A load of rubbish!”

“Is 347127 a prime number?”

“Judy's birthday is on Sunday”

“Cogito ergo sum.”

“There is nothing outside the text.”

“The unconscious is, of course, structured like a language. No doubt about it.”

“It's perfectly easy to think without concepts.”

“ $21 \times 19$  is the same as  $20$  plus  $1$  times  $20$  minus  $1$ , which is in turn equal to  $20$  squared minus  $1$  squared. Therefore the product of  $21$  times  $19$  is  $399$ .”

“My mother's maiden name is Smith.”

Despite the contentious and, in places, facetious nature of some of these examples, I do have a

genuine difficulty in coming up with a good example of a thought. Cognitive psychologists invariably cite James Joyce's rendition of Molly Bloom's thoughts in the last pages of *Ulysses* – as an example of a particular type of thinking which they label 'free association' and contrast with other types of thinking such as inference or reasoning. This is an extremely questionable practice:

\* It treats literature as though it were empirical psychology, or perhaps documentary according to some simplistic notion of documentary. Joyce himself would have been aghast if you were to characterise *Ulysses*, or the method of *Ulysses*, or the distinctive literary quality of *Ulysses*, in terms of an idea of stream of consciousness. No more obtuse characterisation could be imagined.

\* In what way is the sequence of Molly Bloom's thoughts free associational? What is free association in so far as it is contrasted with reasoning? Is it the random emergence of thoughts? Why do Molly Bloom's thoughts furnish a better example of a certain type of thinking than Leopold Bloom's?

\* Why have recourse to literature to illustrate a conception of a certain type of thinking? The idea of literature as being the transcription of an imaginary character's thoughts – the transparent transcription, so to speak – is inexpressibly crude. Consider an equivalent misconception from the other direction. When I was 17, I switched from Physics to Latin (for my A levels). As a joke, I used to say I couldn't understand how the table could be said to be exerting an equal and opposite force on the jug as the jug on the table.

To expand the first bullet point, *Ulysses* presents a monumental working through of the styles and idioms of the English language. Although there is to be found in *Ulysses* a systematic embodiment of literary styles, idioms, registers, and usages from Chaucer onwards, it does not confine itself to literary language. Thus it includes an extraordinary passage of scientific and technical English. (But none of the styles Joyce employs are employed in parody.) This is the most striking and prominent aspect of *Ulysses*, besides which all other characterisations pale into insignificance.

Now what do the cognitive scientists imagine Joyce was doing with Molly Bloom's speech? What do they understand by the concept of style?

One of the flaws in my thought experiment as I have presented it is that we rarely have a single thought. It would be fairer to give examples of a chain of thoughts. I did in fact present several instances of a mini-chain. But the point still holds, even if I grant that our mind reader can hear or read a sequence of related thoughts. Would he be able to recognise them as not his own, as another's?

There are three further points to be made about my central point. They have to do with the ways in which a telepathist could (according to our conception) distinguish his thoughts from someone else's.

1. The content of the thoughts might be sharply at variance with the rest of his thoughts, those thoughts he knew were his own. If he didn't have a wife called Judy, it would be natural for him to suppose that the thought with the Judy component was not his. This seems like a very

plausible criterion – but I think if we were to examine it, we would find that some of its apparently solid features would become diaphanous. I have no intention of trying to pursue these thoughts here – and would not be capable of doing so. Such an investigation would rapidly take me into the highly technical areas of the analytic philosophy of mind and language. It would raise all sorts of questions about meaning and reference – What is it to think of Judy? – that analytic philosophers have struggled with remorselessly.

Another angle on the same criterion is to ask exactly what it is for a thought to be at variance with other thoughts. Let's call these types of thoughts Anomalous Thoughts. Do we not sometimes have Anomalous Thoughts?

2. The thought sequence picked up could well be familiar to the telepathist in that he may have the same kind of sequences himself. For example, he has probably suffered from tooth ache in the past. But perhaps he could distinguish another's familiar thoughts from his by their style, just as it is frequently possible to identify a particular individual's written style. He might say to himself, This is admittedly the kind of thought I have on occasion, but I do not usually think of it in quite this way. Once again, I cannot analyse what it is I think is contentious about the idea of a thought style – although there is no problem with identifying different conceptual styles in the writings of philosophers. The most I can do is point to an area of uncertainty. Thus, it seems to me that talk of thoughts having a style comes close to talk of them having a distinctive feel or flavour. And this in turn comes close to contradicting the premise of my thought experiment: that thoughts do not bear the stamp of their owner's identity.

3. The telepathist may be innumerate. How then would he pick up the idea of a prime number. How would he represent it to himself?

The above: by way of showing you that I do not have a hidden agenda – the argument I will present in order to back up my claim that Gell-Mann's argument is wonderful gobbledegook – this argument is not a front for various forms of crankiness on my part. (I should also say that I have no doubt that I have thoughts: the thought that I might not have thoughts has never crossed my mind. There is no question of it. It is inconceivable. But (a) I do not conceive of my thoughts in the same way as philosophers and cognitive psychologists do, or of their thoughts in the same way for that matter; (b) I cannot make any sense of formal statements about thought, or formal statements that imply a particular concept of thought, such as "Cogito ergo sum".)

Returning to the argument against Gell-Mann's argument, we can note in passing the difficulty of describing the type of phenomenon that would constitute evidence for the existence of telepathy. Gell-Mann's example is surely a borderline case: one person has a feeling of alarm that some harm has befallen someone they are close to; this is not tantamount to hearing someone's thoughts (which is the mainstream sense of the concept of telepathy). For the sake of argument, let's leave aside the question of what we would call the phenomenon and imagine a situation where the phenomenon becomes widespread. Postulate a time or place where it is common for people to experience this special sense of alarm over long distance. Gell-Mann's position is that this would challenge the laws of science. When I

read the section, I thought it was not only wrong, but wholly misstated, so to speak. I thought it was misconceived. Why?

1. What scientific laws would such a phenomenon challenge? None. Evidence for telepathy cannot challenge the laws of science, because science has nothing to say about telepathy. At best, it would challenge science to provide an explanation.
2. For a ball of feathers to fall faster in a vacuum than a ball of lead would challenge the laws of science. Machines that appear to generate more energy than they consume challenge the laws of science. Light travelling at greater than 186,000 miles per second would challenge the laws of science. Examples are hard to come by since in practice very few phenomena challenge the laws of science. It is more common for scientists to challenge my notion of the laws of science with speculations that show my notions are too restrictive; with ideas of the feasibility of time travel, for example.
3. Science does not legislate against what can and cannot exist – above a certain level of complexity. Telepathy, if it existed, would not be a primitive phenomenon, like the behaviour of molecules in a gas. Telepathy would be a function of a complex system – as Gerald Edelman puts it, the most complex system in the universe: the brain. Far from legislating against the conceivable properties of functions of complex systems, science (that is, certain soi-disant scientists) is more likely to tell us that there are practically no limits on what a complex system can achieve. A machine will one day, they say, be able to think. Telepathy is in fact implied by the idea of Artificial Intelligence. In other words, though science is claimed to legislate against the possibility of telepathy in human beings, it must believe in the phenomenon of telepathy for artificial intelligences. What form would telepathy take between two artificial intelligences? A cable connecting two computers in a network. Perhaps that's what Gell-Mann means by a cord.

If you look at the second part of Gell-Man's discussion, it becomes clear that he doesn't really mean what he is saying. (I'd say he secretly believes in telepathy.)

For example, theorists might end up postulating some kind of cord, of a nature not now understood, probably involving some important modifications of the laws of physics as presently formulated. Such a cord connecting the twins would carry a signal between them when one of them was in serious trouble. That way the effect could be largely independent of distance, as many of the anecdotes suggest.

What is this? It is like a farcical skit on the idea of scientific explanation, in a scene from a film involving a nutty professor.

“Let me see ... how would this work? Perhaps we could postulate a cord connecting the twins. Such a cord would carry a signal ...”

“A cord, Professor?”

“Yes, a cord. Do you have a dressing gown?”

“Sorry, Professor. Don't follow.”

“A dressing gown. Do you own such a thing?”

To repeat myself: My question is: How can an intelligent man, a brilliant scientist outstanding

in his field, make such a betise?

Instead of framing the question as I did before in terms of Truth and Authority, I could describe it as a question about cognitive error. How is cognitive error on this scale to be explained? Either way, the only way I can begin to frame an explanation is in terms of a notion of authority. There are two levels of cognitive error standing in need of explanation. And a stab at an explanation will involve two senses of 'authority'.

The first error is in the argument presented in the passage. It is not a good argument. It makes a wrong claim.

The second (or secondary) error is Gell-Mann's belief that he was saying something sensible or valid. I am tempted to characterise the error as one of mistakenly thinking the reader would swallow his argument. But presumably most people do swallow it. So, he made no error in thinking his argument could stand as correct and meaningful thought. So here's my quandary: Maybe I am wrong; I can't see where I have gone wrong but one doesn't want to put oneself forward as brighter (or as having a greater purchase on the truth) than a Nobel Prize winner – that would be an invitation to grandiosity. As I said before, the only way out of this quandary is via an idea of authority. (It would be absurd to redefine the second error as: The error of Gell Mann believing his argument would convince Alan Deane.)

How do I use my two special senses of authority to explain the two errors, assuming I am right in seeing cognitive error in Gell Mann's argument?

For the first error, I say: Science has taken to itself more authority than it rightfully deserves; it has appropriated authority beyond its remit. Gell Man has drawn on this spurious authority to make a false claim about science's remit. (My account soon becomes circular, but there is nothing I can do about it.)

For the second error, I invoke an idea of authority nearer to its standard usage. I say, Gell Mann is abusing his authority as a Nobel Prize winner. (If I or another amateur thinker were to put the same things down in print, we would be laughed to scorn. I would laugh myself to scorn.)

Contrary to what many amateur thinkers believe, we cannot think what we want. And I mean that literally.

Take the idea of psychoanalysis, for example<sup>34</sup>.

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### **Relativism**

The idea of relativism is bandied about all over the place. As with various other concepts, I can no longer make sense of it. Relativism it seems to me is not a concept you can think with,

not with contradiction.

No philosopher, of course, would call himself a relativist. None the less, that is what certain philosophers are. Richard Rorty with his neo-pragmatism or nominalism is a relativist. And the same basic objection to relativism applies to his philosophy as it does to the crudest and simplest expressions of relativism.

If the truth of ideas is relative, is the idea of relativism relative? Or in a formulation Hillary Putnam cites “If any point of view is as good as any other, then why isn’t *the point of view that relativism is false* as good as any other?” In Richard Rorty’s philosophy, every system of thought worthy of the name – deconstructionism, psychoanalysis, pragmatism, cognitive science, and the like – is just a way of talking about the world, just a system of concepts. We cannot adjudicate between them, we can only say they are more or less interesting. There is no immediate contradiction between putting forward this view and what the view entails itself; i.e. between calling yourself a pragmatist and pragmatism. But one would like to know what the point of it all is. And, specifically, why adopt the viewpoint of neo-pragmatism or nominalism? I know why he adopts it because I’ve read his book *Philosophy and the Mirror of Nature*. Nothing in that book makes his brand of nominalism convincing to me. I have not found an ungainsayably compelling argument or set of arguments leading me to accept – in so far as I deem myself capable of following a correct line of reasoning – the book’s conclusion. Judging by the book’s reception, few other people accept it either, in and out of the academic philosophical world. One could frame an objection like this:

You argue that no philosophy, no body of knowledge has a greater claim on our attention than any other. Fair enough. It is not formally inconsistent for you to believe that. But will you accept that you are hoist on your own petard? Will you accept that by your own logic, you cannot convince me by your own logic? As it is, your logic – the fine details of it – does not convince me. Why, in short, should I find your philosophy interesting or useful?

All of which is actually neither here nor there, since Rorty in his practice clearly does favour certain ways of thinking – in addition to his own brand of nominalism – over others. And he frequently uses his own point of view to discredit other points of views. All points of view are equally interesting, but some are more interesting than others.

I suppose at bottom he thinks the most interesting body of knowledge is some form of science. Perhaps he could recast his criteria in terms of utility, whereby some forms of knowledge are more useful than others. But I would still be puzzled as to how you can explicate utility without a notion of truth. At bottom my objection could be expressed as: If it is not true in some manner, then it is not interesting. Interest is Truth, Truth is Interest. I am not interested in (and I do not believe anyone else is) that which is not true. Nor am I interested in a second-class version of truth, according to which true statements and true explanations are true only according to a point of view. If my stubborn insistence in some minimal notion of truth should lead me to conclude that nothing is true, obviously I would have to accept it. But that position – the view that nothing is true in my (fairly flexible) sense of the word – is not in itself at all interesting. Therefore, I conclude, it is not true. QED.

Deleuze makes a good crack about Rorty, “This is the Western democratic, popular conception of philosophy as providing pleasant or aggressive dinner conversation at Mr Rorty’s”. After reading this sally, I thought of writing a play called *Dinner at the Rortys*, then rejected the idea on the grounds that the characters would have nothing to say to each other.

What does interest me is my inability to refute convincingly an idea that seems inconsistent. If Rorty’s pragmatism is, as I think, meaningless, how has it come to occupy a place on so many bookshelves?

Another aspect of the idea of authority – as it applies to the practice of philosophy – is betrayed quite amusingly in Richard Rorty’s writings. At various points, he is at pains to claim Donald Davidson’s philosophy for his own camp: Davidson, Rorty likes to maintain, is really a sort of Rortyan pragmatist. Donald Davidson has explicitly denied in print that he is the sort of philosopher some other philosophers say he is. With his article *On the Very Idea of a Conceptual Scheme*, he has also produced the most effective (to my mind) rebuttal of sophisticated relativism. Why is Richard Rorty so anxious to earn the imprimatur of Davidson’s thought? The reason is, I suggest, that Donald Davidson has indisputably more clout in the world of analytic philosophy than Richard Rorty. He has greater authority. Since I think of thought as having materiality, it is easy for me to believe that the finer quality of Davidson’s thought can be seen on every page of his writings.

The best answer to someone who says all aesthetic judgements are relative is E.H. Gombrich’s riposte. We can talk about a great goalkeeper: why can’t we talk about a great artist? To insist that some works of art are better than others does not of course imply that we should be able to rank works of art or artists in a league table.

I know several highly intelligent people who have channelled most of their intellectual abilities into an appreciation of sport. When they cut loose on the topic – as one of them did to me in a restaurant when I asked him what was special about the Australian spin bowler Shane Warne – their analysis can display a very high level of intellectual virtuosity, more impressive than that shown by the best sports writers. Philosophers and aestheticians of sport – in all walks of life – are not uncommon. One sometimes meets people with an encyclopaedic knowledge of sporting statistics. These do not make for good company. The first-rate sporting thinkers combine knowledge with analytical power: they can back up their judgements with facts and argument.

Now it is fair to talk of an aesthetics of sport because the sports thinkers often employ aesthetic concepts, including the concept of beauty. We can call these concepts aesthetic to the extent that the qualities they describe defy exhaustive analysis. One of the most common aesthetic ideas is that of timing. Great sportsmen – usually seen as ‘naturals’ – make certain moves and plays look easy; it is as if they have more time than others. Examples are John McEnroe and several top footballers. They are more pleasurable to watch than sportsmen who conform to the other model, perhaps best represented by Connors and Borg. Yet, in reality, they do not have more time. They do not move more quickly and do not react more quickly

than most. One can also talk about particular strokes or swings or kicking movements in aesthetic terms. The way the English snooker player Jimmy White wields his cue – his cueing action – has always struck me as touched with unique flair (the word is inadequate), and I am not alone in this judgement. I can try to describe his action – as though his arm, the cue, and the ball were all of a piece, were somehow naturally connected – but I can't successfully analyse its appeal. And, though everyone agrees on his snooker genius, it hasn't won him the world title.

If we can talk of evaluative judgements in sport without undercutting those judgements as relative, how much more reasonable is it to allow substantial evaluations in art? Here's what John Carey, a professor of English Literature at Cambridge University, has to say:

The real usefulness of value judgements, I believe, can emerge only when we have acknowledged that they are subjective. That usefulness lies not in anything they can tell us about works of literature (for they can tell us nothing), but in what they can tell us about the people making the judgements, including ourselves. Debate about differing estimates of the value of a text should prompt us to an explanation of the individual motives and assumptions, the determining configurations of personality, imagination and background of the debaters. Through this we might come to a clearer knowledge of ourselves, and of the psychological factors which underlie our preferences in art and literature, and perhaps in similarly disputatious and irrational areas such as morals and politics. True, such a programme would subordinate study of literature to study of people. But then, it is for the sake of people that literature exists.

The reader will not be surprised to hear that I cannot make head or tail of this passage. However I try to interpret John Carey's point, it remains confused at best, meaningless at worst. Is he keeping company with the cognitive psychologists? Is he saying that literature is in effect a branch of psychology, that literature does psychology's field work. This would seem to imply that literature can be evaluated – on the basis of its content alone. I believe I could talk at length about certain works of Franz Kafka in evaluative terms. My talk would not be about my reactions or my psychological states. The qualities and features of his work that I would adduce in support of my evaluations would be qualities possessed by the work. If a work of art pleases me – and the fact that I find this word most unsatisfactory is a measure of how complex and, as it were, autonomous the aesthetic response is – it is to the extent that it has various qualities that are outside of myself and my states of mind. I am interested in a work of art because of its interest; it only has an effect on me secondarily. If the value of a work of art is reducible to its effect on me, then it has no value for me – and, once again, I am unable to see how it could have a value for anyone else.

One might talk about various literary effects, or even the effect of beauty in certain cases; the word 'effect' is a little misleading in so far as it suggests the weight of analysis should be on the side of the reader's experience. Unless the work of literature had a value before or over and above its effects, we would never get as far as mentioning those effects.

Compare Carey's way of thinking about his area of expertise with the way we assign qualities



to people we know. “I like X very much. She is friendly, amusing, and warm.” No, no, cries John Carey, your evaluation is subjective; she does not possess these qualities in herself. Actually I am sure he wouldn’t say anything so silly, but his line of thinking posits a contradiction between a subjective evaluation and the possibility of the evaluated qualities existing in a person. Everybody knows that their judgements of people frequently turn out to be wrong. Still, they are not wrong all the time.

Likewise, it would be foolish to deny that there are subjective (in the inferior sense of the word) elements in many aesthetic judgements. Does this mean there are no external constraints on what we can rate highly in art?

A more pointed comparison is with the idea of beauty in a person. It is tediously obvious that standards of personal beauty have changed over the centuries and change all the time. Does it follow therefore that given the right (or wrong) historical circumstances others could come to see people we consider ugly as beautiful? Could we imagine a society where a bad writer such as Jeffrey Archer sat at the centre of the literary canon, and Shakespeare was generally dismissed by people like me as a bad writer?

[Bunkum, poppycock, hokum, fiddlesticks, and twaddle. In that order? In that order.]

There are two reasons why I think it does not follow [Point of order. Two reasons why you think it or why it doesn’t follow?] First, there are some deficiencies that would seem always to disqualify a person from being deemed beautiful; for example, if they lacked a full compliment of features, were disfigured in some way. We might well find that in itself attractive – as certain women are attracted to dwarfs – but we could scarcely describe these qualities as beautiful except in a derivative or secondary way. Well, we might say a deformed person was beautiful but it would always be with the recognition that others wouldn’t agree. “I find you beautiful, whatever they say.”

Second, I can describe someone as beautiful without finding them in the least attractive. And I can find someone who is in objective terms (within very wide constraints) ugly, very attractive. Lots of people must have had the experience of meeting someone for the first time and thinking their looks were unprepossessing. It then happens sometimes that after spending time with the person you develop a great liking or admiration for the person. By that point, all one’s impressions of the way the person looked have dropped away and one now sees them as having a very pleasant face, as if the personality had invested the face with its own attractiveness. And it makes perfect sense then to say the person is physically attractive. Even then though, we wouldn’t feel bound to say the person was beautiful.

What this last argument shows is that there is a very concrete sense in which making evaluations is not subjective. John Carey could still protest however: “The standards you apply are relative to your society” – and that would be true. But for it to hold water, he would have to show that there are no constraints whatsoever on what can stand as beautiful. If he did manage to convince me, it wouldn’t by any means follow that I shouldn’t continue to use those standards, say to discriminate between types of beauty, in our society.

I do not pretend I have produced a knock-down argument. And though I have presented my case as clearly as I can, and in the mode of analytic philosophy – or at least in clumsy deference to that mode – I am not really confident of my argument. It seems to me lacking in the kind of clarity I like my philosophy to have when I consume the philosophical thought of other people. In fact, I think I can see at least one point in my argument where I have taken a wrong turn; where I may have laid claim to a distinction that doesn't hold, or may have implied – by the form of my presentation – that the step from one point to another is valid.

Once again, my underlying (or overall) point is not to argue for or against John Carey's version of relativism. It is simply to illustrate the concept of authority as I am using it. I believe I have shown that John Carey's statement is irretrievably confused and empty. Now I can attempt to explain his error. I say: He has misused his authority as a distinguished professor of English – and he has misused it by misapplying a line of thought from another field, one which he has a very poor grasp of.

[I seen him on TV, he's a scrawny old buzzard. Anyway, if we follow this old bird Carey's lead we can't talk about beauty being skin deep, in the eye of the beholder, or not the beholder, and I can't say meaningfully that I don't find these beauties in the slightest bit beautiful, Isabelle Adjani excepted.]

Beyond that, I would like to say [and I do say]: It beggars belief that a professor of literature should discuss his own field in these terms: they amount to a denial of art, a reduction of it to something else.

John Carey surely believes Dickens is a better writer than Jeffrey Archer. But, given that he thinks evaluative terms are subjective, how could he support his belief? He couldn't by rights do it by pointing to aesthetic qualities in the text. Or if he did, he would have to unpack them in terms of their utility.

[All these evens, givens, surelys, I-thinks, I-believes, I-suggests, I-would-like-to-says, probablys, at-leasts, may, may-haves, justs, simplys, mights, buts, ifs, in-facts, not-reallys, would-bes, ors, thoughts, since, points, my-point-ises, amounts-tos, rather, somewhats, one-can-and-one-can't-says, one-could-says, anyways, were-it-not-thats, weres, were-it-not-for-the-fact-thats, would-haves, would-nots, not-thats, justs, as-it-weres, In-my-books, as-far-as-I-am-concerned, be-that-as-it-mays, needless-to-says, seems-to-mes, nots, or-nots, do-not-pretends, ones, 'T's, so-to-speaks, suchs, as-ifs, anyways, however, none-the-lesse, rather, by-rights, et cetera are: Amulets the amateur thinker must deploy against authority. They are the verbal gestures a dog makes to appease you. If I was a dog they'd take me out and shoot me.]

Many people have remarked on the incantatory nature of certain passages in Dickens. At times, these become irritating as when he slips into blank verse. In other places, they are tremendously effective. Even to talk of them as 'incantatory' is to point to a property of the text – because we cannot explicate the idea of a text being incantatory in terms of its effect on ourselves. On the other hand, we cannot analyse this quality wholly in terms of the style of the text; say, in terms of the arrangement of words and the choice of words. One of the

reasons why a stylistic analysis will always be incomplete is that the concept of style itself cannot be divorced from what the text is saying.

I will quote William Hazlitt in support of my case. The quotation is from his essay *On Familiar Style*, where he defends himself against the charge that his style is vulgar or slipshod. In my book, Hazlitt is one of the finest prose writers in English in the last 200 years. The passage I quote is doubly effective both for the truth of what he says and for the way he says it. It instantiates its own truth. Hazlitt's style does indeed lend itself to being disparaged as vulgar; it is not tritely decorative and does not conform to a crude idea of fine style. At a superficial reading, you might mistake its naturalness for a lack of literary skill. But as Roland Blythe has it: "Hazlitt is the word juggler who never misses; his almost casual use of ornament, epigram, and fancy is hypnotic."

The quote: "A thought, a distinction is the rock on which all this brittle cargo of verbiage splits at once."

Does it often take you this way? No, not commonly. It must be the effect of a heavy lunch.

This Orwellian talk about double talk misses the point. If you could put your finger on it, it wouldn't work and if you can put your finger on it, how does it work? How does it get away with it? How does it get by?

Here are five sentences, given an airing in public places:

1. Please don't ask for credit as a refusal often offends.
2. I would like to be a queen of people's hearts, in people's hearts, but I don't see myself being Queen of this country.
3. 100% non-British beefburgers. Your health is our priority.
4. If there is ever more than one customer ahead of you, we will try to open another checkout.

Commentary follows.

### **Sentence #1**

The first sentence, which for some years now has appeared as a sign in pubs and can also be seen in certain shops, is a wonderful example of the way a piece of mealy-mouthed hypocrisy can pass itself off as something else. What makes the sentence a particularly fine instance – of a species of sentence that is becoming more common – is its trickiness. When you see it for the first time, you experience a sense of queasiness. If you bother to articulate your objection to the sentence, it will probably amount to something like: But you don't give a toss whether I will be offended or not – that's not why you are refusing me credit. These days, though, repeated exposure has lent the sentence a spurious reasonableness. It is difficult to convince others (who have not felt queasy) of the sentence's hypocrisy. The more you look at it, the more reasonable it seems. It is certainly true that a refusal sometimes offends, especially if one has been drinking in the pub for the last eight years. And isn't there a kind of honesty on the part of the publican in making his position clear at the outset, thereby saving the customer potential embarrassment?

A year ago, I mentioned this sign to three people, two women and a man. Both women insisted the sentence was humorous, by which they meant the landlord was invariably aware of its dodgy or double-edged quality. My move then was to refer to the other sentence which appeared shortly after the first and which undoubtedly is funny: "Please don't ask for credit, because a punch in the mouth often offends." Surely the second sentence, I said, draws its humour from the hypocrisy of the first. But I wasn't able to convince them. The man I spoke to agreed at once that there is something untoward about the sentence. He gave me an example of another sentence of the same type which can be seen in the windows of Bed and Breakfast hostelries and boarding houses: "Travellers by appointment only". He had discussed this several times with his friends – without reaching a firm conclusion as to what it meant. Although I cannot prove it, there is no doubt in my mind that the latter sentence is equally mealy-mouthed and means no more than "Stay away, travellers" or "No travellers", while posing as something else (a courtesy or expression of regret or concern).

Hypocrisy is merely a particular form of dishonesty, though the hypocrite need not be consciously dishonest. [Fill in the gap: Hypocrisy is the tribute \_\_\_\_\_ pays to dishonesty.]

Is it possible that the credit refusal, far from being dishonest, is in fact refreshingly honest, disarmingly candid? Perhaps the landlord is saying: Of course I am not worried lest I offend you – or, at least, my concern or lack of it has nothing to do with my decision to refuse credit – I am simply pointing out the unpleasant consequences of a credit request, how bad it would make you feel. Once again, this reading gives the sentence, at first glance, a sort of evanescent logic. It seems to make sense, for a while. But if this is really what is meant, the sentence comes to seem more of threat than a courteous warning. And such a reading gives the word “please” an unpleasantly ironic tinge. Imagine someone saying, between clenched teeth, “Please don’t touch my car, I spent the entire weekend polishing it”. If the speaker was large and looked capable of violence, you would probably feel more alarmed than if he had said, “You can look but you better not touch.”

Any attempt at rebutting the charge of hypocrisy soon begins to look like special pleading. It is easier to say sentences of this type are inescapably dishonest, they have built-in hypocrisy. The interesting question is why or how people are taken in by them. Doubtless the landlords and shopkeepers who display the credit refusal sign intend it as a polite warning and are unaware of the built-in hypocrisy. The beginnings of an answer would be that the sentence trades on its similarity to other more reasonable sentences.

## **Sentence #2**

This sentence was uttered by Princess Diana, Our Lady of Bulimia, in her appeal to the nation on TV. The response in the press to her talk, from TV critics and letter writers, was polarised – with more people finding it convincing than others. Among those who didn’t like it, there was I thought a feeling of puzzlement, as if someone had tried to jam their reception. None of the journalists I read picked out the sentence for opprobrium. Yet it is the strangest sentence in her talk.

As my sister said, “Diana shyly admitted to being a saint.” And that’s the crux of it. The sentence implies that she thinks herself worthy of being queen of our hearts. But how could she? Sure, she could have treated it as merely a phrase her scriptwriter found for her (in Milton, I think someone said). It still has its meaning though, which everyone understands, even if not aware of it. A journalist described the talk as “special pleading”, a good joke given Diana’s impression of a doe and the purpose of the talk. The journalist also said:

“What we were watching was a performance. Whether the Princess knows it is a performance is another matter.”

If she’d known it was a performance she couldn’t have made it: since she is not an actress (except, as Mailer says, every day of her life). But is not hard to understand how Diana could have uttered the sentence with no sense of contradiction. She probably meant it and didn’t mean it. She availed herself of its authority. Where does it get its authority from, that’s what I’d like to know.

The more interesting point is how it worked to get people to accept it. In the arguments I had, those who swallowed the sentence or ignored it were most reluctant to accept it as dodgy. My

interpretation: a lot of people don't like to accept what they sense underneath, that authority is not what it used to be; they resent your attempts to discredit it.

**Sentence #3**

This type of statement has been put out by many restaurants and fast food chains, usually less crudely. The odd thing about it is not the manifestly false claim, but what it is doing there – what do the marketeers think we think? Clearly it is not a matter of taking the public for dupes. Something is jamming the airwaves.

**Sentence #4**

The source: a large sign hanging from the ceiling in Tesco's supermarket. A) Any time in the day when I've been in the supermarket, there is at least one checkout queue giving the statement the lie. B) Supermarket managers are not cynical.

Bad faith, I called it, when I mentioned it to a friend. No, he protested, what they mean is that wherever possible they will take someone who is working on the shelves and put them on the checkout. Bullshit, I said. There is a strict division of labour; shelf-stockers don't do checkouts. Next, he accused me of naivety. But he then pointed out himself that outright false claims are not the stock in trade of advertising these days. They were characteristic of Victorian and Edwardian advertising: Brand X restores virility, Y cures baldness. Advertisers know that old approach won't wash questi journi, people won't buy it.

My guess is it could in the same category as #3. Possibly it gets by on the presumption of caring, the cant of concern.

[The next nn pages are turgid material. I had to write them to throw off the authority of the ideas I want to demolish. Page xx takes a more interesting turn. I found a professional analytic philosopher with egg on his face – to put it mildly.]

I am convinced that programming is not what we think it is. By this, I am not gesturing to an inexpressible idea of software as something indefinable or mystical. Partly I mean this: It is (literally) inconceivable that thought could be like software or could actually be software, as cognitive scientists and Artificial Intelligence workers believe. Programming is not a craft, it is not a technology, it is not exactly engineering.

Programming, I argue, is something new, something rather more interesting than is implied by the idea of Artificial Intelligence. I have intractable difficulty with the idea of an algorithm and I am an experienced programmer. I cannot square the algorithmic conception of programming with my own experience of programming and with what I have observed in other programmers.

As a matter of fact, programmers rarely pay attention to algorithms. They use algorithms as a matter of course, but few programmers would – if you pressed them – concede that the task of writing a program reduces to finding or devising algorithms. Of course, if you characterise programming as primarily algorithmic, then it is necessarily true that writing a program is algorithmic no matter how the programmer conceives of the activity. On the other hand, it is no accident that the computer scientist Donald Knuth – by general consensus one of the most important figures in the field of computer science – titled his magisterial three volume work *The Art of Computer Programming*.

Every introduction to the philosophy of artificial intelligence contains an explanation of the idea of a Turing Machine and the extension of that idea, the Universal Turing Machine – as does almost every other work in the AI debate, for or against. Proponents of AI usually devote at least a chapter to Turing's thesis (for that is what it is). Antagonists typically give it shorter shrift, a page or two.

But when I work through these popular explications of the thesis – and satisfy myself that I have grasped the concept – I am always left with a feeling of inconsequentiality. So what, I say. Turing's thesis doesn't do the work it is meant to do. It contributes nothing to the debate. It doesn't establish the feasibility or conceivability of artificial intelligence, and was in truth never conceived as doing so.

What does it do? It provides a formal definition of the concept of an algorithm. It establishes the intuitive conception of an algorithm on a sound basis. With Turing's thesis, mathematicians and computer scientists can say precisely what they mean by an algorithm. And they can also say one or two things about the nature of algorithms, about the extent of their application – their scope and their limitations.

The intuitive or informal concept of an algorithm is of a step by step procedure that solves a problem as it were mechanically. Algorithms have been used for thousands of years. They did not require a grounding in logic to be useful. One of the earliest examples of an algorithmic

procedure is Euclid's for finding the highest common factor of two numbers. Turing's formal definition for the idea of an algorithm made no difference to the soundness of Euclid's procedure. It did not make its effectiveness more effective. Nor did Turing's thesis establish or pave the way for the development of computers. Turing made significant contributions to the development of computers, but these were in other ways. Computers did not need to wait for the arrival of Alan Turing and Alonzo Church (via his lambda calculus) with their thesis before they could get under way.

What are the consequences of Turing's thesis?

1. That the programming language in which an algorithm can be expressed is arbitrary; there is no algorithm which cannot be expressed in any particular language. Alternatively, there is no language that can uniquely express an algorithm. Philosophers (notably Daniel Dennett) sometimes say that algorithms are substrate neutral – you do not need a digital computer to execute an algorithm. Computer scientists, however, talk about algorithms as language neutral. One of the most important consequences of Turing's thesis to concern computer scientists is that it proves that no one programming language is more powerful than any other.

[What am I saying? Every programmer knows some languages are more effective than others. Try writing a stock control system in BASIC (without a database engine). But this is the way the Church/Turing thesis is expressed in computer science texts. Here is how David Harel, author of an excellent book called *Algorithmics: The Spirit of Computing*, puts it: "The CT thesis implies that the most powerful super-computer, with the most sophisticated array of programming languages, interpreters, compilers, assemblers, and what have you, is no more powerful than a home computer with its simplistic programming language!"]

2. It provided a solution to the halting problem framed by Hilbert.

Given that algorithms are language neutral, one wonders why proponents of AI do not explicate the idea of an algorithm in terms of an existing programming language. The programming language BASIC, for example, is a Universal Turing Machine – any algorithm that can be expressed, now or in the future, can be expressed in BASIC. Let's put it this way: The AI camp thinks they can rewrite you in BASIC.

Turing's Thesis has a strange dual aspect: it provides us with a formal idea of a machine, an abstract machine. And at the same time it founds the idea of software. The machine is a conception of rules, transition states, and an infinite tape with binary symbols.

They keep talking about it as if it were a real machine. But they use it as a magic machine.

Tim Crane, an English analytic philosopher, *The Mechanical Mind*, page 88:

An algorithm is a *method* for finding the *value* of a function.



Next, on page 91:

The fact that algorithms can be represented by flow charts indicates the generality of the concept of an algorithm.

It does nothing of the sort. As if a flow chart were in some way a more natural or intuitive means of presenting an algorithm and were not a very distinct scheme of representation with its own symbols. There is a subtle sleight of hand here which I can bring out like this:

1. In their working lives, very few programmers draw up flow charts.
2. The reason why they don't is that for any task above the menial it is quite difficult to exhibit the structure of an algorithm with a flow chart. A flow chart could be described as a schematic diagram of an algorithm, one which works at a higher level of abstraction than the algorithm itself. In all but a few cases, it is generally easier simply to code the algorithm – usually by basing it on other instances of the same algorithmic routines or on similar kinds of routines.

To make a claim for the generality of the concept of an algorithm is to say it can be applied to a wide range of tasks. But this already begs the question. If you define an algorithm simply as a step by step procedure in which “at each step, there is a definite unambiguous thing to do” it does initially seem to be the case that we can give an algorithmic procedure for very many tasks. But in practice it is extremely difficult – not to give a step by step procedure but to make each step unambiguous. It is also difficult to decide how to break a task down into steps. The questions that arise are: what steps, how many steps, where one step starts and another finishes, and so forth. The example Tim Crane gives is by no means as straightforward as he imagines. That it happens to be the sort of example that almost every introductory book on computing gives – or used to some years ago – makes me suspicious at the outset. Why is it that when someone wants to illustrate the idea of an algorithm without using a programming language, they always choose making a pot of tea or boiling an egg? (I think we should be told.) Surely, given the generality of the concept of an algorithm, there must be many everyday tasks or activities that can be treated algorithmically.

My scepticism draws from two sources: the experience of programming (plus my observation of other programmers) and the experience of writing software manuals. Providing instructions in the form of numbered step by step procedures is the main resource of the manual writer. It is scarcely a straightforward thing to do and the resulting written list never provides an unambiguous procedure for the user. The first problem is to define the task for which you wish to create a step by step list of instructions. That is a job in itself: in computer software, there is only a partial match between menu options and task options.

No manual writers, incidentally, conceive of themselves as providing algorithms for the use of software. And very few neophyte users find it easy to master a program by following step by step procedures. More experienced users do because they are already familiar with these and similar procedures from other programs.

Etc..

Let's look at Tim Crane's example of an algorithm for boiling an egg:

- (1) Turn on the stove.
- (2) Fill the pan with water.
- (3) Place the pan on the stove.
- (4) When the water boils, add one egg, and set the timer.
- (5) When the timer rings, turn off the gas.
- (6) Remove the egg from the water.
- (7) Result: one boiled egg.

It is easy to see that this particular break-down into steps is not fixed or necessary. One can immediately suggest several alternative formulations of the same algorithm. Broadly speaking, there are two ways to modify the algorithm: by increasing or decreasing the level of 'granularity' (the amount of detail), and by redefining the steps. And it is equally obvious that the way you express or formulate the algorithm very much depends on the amount of knowledge the user has. Someone who had never been in a kitchen and had never used a stove before would not be able to boil an egg from these instructions. And, assuming the user (the person who will implement the algorithm or use it) is familiar with kitchens and stoves, it is not unusual to find people who have not boiled eggs before. In which case, you need to tell him or her how long to boil the egg.

Is this a practical example or isn't it? If the algorithm is to have a purpose, you must assume that the user has never boiled an egg before. If the user already knows how to boil an egg, the algorithm can be simplified by reducing it to one step:

1. Boil an egg (or, Go boil an egg).

This algorithm, which is presumably given to illustrate the generality of algorithms, and their ease of application, is not in fact usable. Strictly speaking, Step 7 is not part of the algorithm: it is not an instruction. The other notable difference between a practical algorithm and the egg-boiling algorithm is that the decision procedure is not made manifest, as it always is in a computer algorithm. When Tim Crane gives a flow chart for the algorithm, he includes a box with two paths running out of it. The box stands for:

"Has the timer rung? If so, proceed to step 5. Otherwise, do nothing, wait. Enter a loop."

Every useful algorithm involves a choice of steps.

And so on ...

The higher the generality of the concept of an algorithm the further away it is from the computing concept, and the less application it has. Algorithm in this sense means no more, no less than a regular procedure which is divided into stages or can be described as a sequence of actions.

Here's an algorithm for writing a book:

1. Think of a subject.
2. Buy an exercise book or open a new document on your wordprocessor.
3. Put pen to paper.
4. At each session with your exercise book or the computer write something related to the topic.
5. Is the total number of words  $\geq 80000$ ? If so, stop. Put book in drawer, and forget about it. Otherwise repeat step 4.

The fact is, the concept of an algorithm is practically empty outside a particular instruction set.

It is noticeable how far Tim Crane's informal illustration of an algorithm has departed from the definition he gave earlier where an algorithm is a method for finding the value of a function. Where is the function here and what the value? Is the function egg-boiling and the value a boiled egg? That could seem a reasonable, if vacuous, description in the language of mathematical functions. But the algorithm only makes sense within a specific human context. One can also imagine situations in which the algorithm (this expression of it) could be given a different interpretation altogether, and thus a different function. It could be an algorithm jotted down as notes from a director for the use of an actor. Its function then would be ... something else.

The Mechanical Mind, page 98:

Now the exciting discovery is this: there is a Turing machine which can mimic the behaviour of others Turing machines. Since any Turing machine can be numerically coded, it can be fed in as the input to another Turing machine, so long as that machine has a way of reading its tape. Turing proved from this that to perform all the operations that Turing machines can perform, we don't need a separate machine for each operation. We only need *one* machine that is capable of mimicking every other machine. This machine is called a *Universal Turing Machine*. And it is the idea of a Universal Turing Machine which lies behind modern, general purpose, digital computers. In fact, it is not an exaggeration to say that the idea of a Universal Turing Machine has probably affected the character of all our lives. (So much for the idea that research in logic and mathematics is always irrelevant to everyday life.)

Twaddle. It would be hard to find a more confused and muddled argument. First, the idea of a Universal Turing Machine does not lie behind modern, general purpose, digital computers. One can agree that "it is not an exaggeration": it is a falsehood. It would be as sensible to say that Newton's mechanics lay behind the development of the clock. The development of the technology did not depend on Turing's idea. And if there had been some connection between the publication of Turing's paper and the development of computer technology, it wouldn't have been a necessary connection. Did the idea of a Universal Turing Machine serve itself as a kind of algorithm whose result was computers (an algorithm for the function of technology production)? There are many examples of scientific and mathematical discoveries that have

led to new technology. Turing's idea was not one of them. And it is tough going when you try to see how it could have been.

It is a sure sign that something is fishy with a line of argument when having arrived – by specious means – at a conclusion, the author draws an irrelevant corollary from the conclusion. Who in their right minds would want to dispute the idea that research in logic and mathematics is relevant to everyday life?

What is the purpose of these repeated invocations of the Turing Machine? What insidious sleight of hand is being performed here? In a familiar and wearisome move, AI authors typically expand on the idea of a Turing Machine so as to make some consequences more palatable. We, the readers, are presumed to find certain features disturbing and hard to swallow. “One thing that might have been worrying you, however, is not the definition of the Turing machine, but the idea that such a machine can perform *any* algorithm whatsoever.” My dear fellow, I can assure you such a concern never crossed my mind.

The reason why I am thus insouciant is as follows:

My computer with its operating software and my Pascal compiler is a Universal Turing Machine and a much more accessible or user friendly one than any physical implementation of the basic Turing Machine (since the Universal Turing Machine is a mathematical abstraction we can't talk of a physical implementation, not having an infinite tape ... but let that pass). As a computer, its function is to perform algorithms – in the sense of computations. That is what the computer is for, by definition. It has no other function, fundamentally. No surprise to learn that it can perform any algorithm (or computation). I bought it for that very purpose. In practice, I know there are some algorithms it cannot perform because it is not fast enough or does not have enough storage space. I would be very surprised to learn that there were certain algorithms of a different class (i.e. other than those not practically feasible) which my computer could not perform. The long and the short of it is, far from being worried, I take it for granted.

The logic of Tim Crane's argument at this point looks obscure. But one knows what anxiety he is really trying to assuage; namely, the anxiety that someone might be trying to tell us we are not what we are – an anxiety that arises naturally from the difficulty in imagining how an algorithm could be written to perform human cognitive functions. In fact, nothing in the elaborate expansion of Turing's thesis has any bearing on the issue. It doesn't show that thinking, boiling an egg, or using words are algorithmic.

The next step in his argument is just as mystifying. Computers, Tim has taught us, are digital. We are probably worrying about how they handle words, English in particular. A philosophy lecturer asked me this question some years ago before the personal computer explosion. I found the question puzzling. I couldn't understand what she didn't understand and after I had explained how computers use a code for alphanumeric characters (the ASCII code) I felt I hadn't answered her question satisfactorily. Now I think I see what was puzzling her.

She was thinking of words not just as marks on paper or sound patterns but as units of

meaning. Computers do manipulate words – but only at the material level as visual patterns on screen, not as symbols. A wordprocessor shuffles words around as graphical symbols. It does not manipulate words as symbols with a syntax and a semantics. A wordprocessor doesn't treat words as words in any sense of the word 'word' as a meaningful symbol and it is indifferent to the order in which the words appear – it does not process words syntactically. There is no other way in which computers handle words.

The confusion between the ways in which we use words and the way computers do is very common; as is a related confusion about the different ways in which words can be stored in a computer. Thus people are often surprised when they install a fax card to find that they cannot straight away load a fax into their wordprocessor as text. When words are transmitted over the telephone line in a fax they exist as digital representations of patterns of dots (pixels). To convert a fax into a document you need a character recognition program. To date there is no software that can be guaranteed to translate text in its visual or graphical representation into ASCII code sequences with 100% accuracy. And if there were such a program, the sense in which it could be said to translate from one form to the other is very different from the normal sense of the word 'translate'.

The only symbols that computers act on are digits. Imagine Chomsky's Universal Grammar could be formalised, all of it. What would this mean? Roughly, that a set of rules could be written down for generating all well formed sentences. By applying these rules we could look at any sentence and say whether it was grammatically sound or not. I don't know whether anybody thinks this is feasible. I have only a hazy idea of Chomsky's generative grammar and I wouldn't be too put out if someone told me I had misconstrued the theory. A more elaborate account or application of the theory would involve ideas of meaning; someone might say there were some sentences that could only be evaluated as grammatically sound on the basis of their meanings. And this further requirement is even harder to imagine being instantiated algorithmically than my simple formulation.

If there were such rules we could perhaps conceive of them being translated into algorithms, step by step procedures, for manipulating words. The words, however, would be stored digitally – as a sequence of ASCII code numbers. And the algorithms themselves would ultimately be expressed in digital symbols – as a series of machine code instructions. This is the only way we can explicate the idea of computers handling words. There is no sense in which the basic instructions could be expressed or coded at the same level as the syntactic rules.

The set of considerations I have just presented seems to me a convincing demonstration that computers cannot intelligibly be said to handle words. But so powerful and beguiling is the idea of artificial intelligence I immediately have doubts as to whether one couldn't further explicate the idea of computers handling words in such a way as to make it more digestible. I am no longer sure, that is, what the argument above demonstrates.

But I am reassured that I am on the right track by the next paragraph in Tim Crane's exposition. He explains how text can be coded as numbers. From there, he draws the following conclusion:

So we could then convert any algorithm written in English (or any other language) into binary code. And this could then be written on a Turing machine's tape, and serve as input to the Universal Turing Machine.

That's interesting. You translate the letters in an English sentence into the binary expression of their ASCII codes and you get an algorithm. There's a lot of people who will be pleased to hear that.

Thinkabix... Treatabix... Eatabix... Weetabix!

Cogito... ergo... Artificial Intelligence!

The Universal Turing Machine has the same role as a jetty in a cargo cult.

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It is a sort of intellectual Zen, with a lot of stuff that is uniquely Western: the idiom business, the subsumption not of thought to spirit, the holding of thought of its own ground, now made substance and yoked with affect. So to have the knowledge of oneness without the mystic buzz attendant – and the zen-like perception that they are the same.

[This sounds like X at his worst.]

If I cringe at an enactment of suffering on TV, what I call tortuousness – not tears, not the individual display of misery, but a situation, tortuous situation – I am not responding to another's suffering (they are fictional characters), not at all, as if through some special power of empathy, a capacity to resonate. No, I am simply dancing to the tune of the idiom of suffering, well not dancing exactly. But there is no need for me to feel my individuality is thereby diminished, for me to talk of automatism. Better to think of oneself as an eddy. Us all being the same stuff. And what about matter? What about it? It is not matter, anyway. It's particles and forces and spaces and the particles are not really like particles either. It's very far from being solid.

Is there something new in my thing? (I said to myself yesterday: There is nothing new under the sun, it just takes a new form.) Yes, I think so, a new form of it, a new expression: and that is the incorporation of art and thought, proper thought only being expressible with the tools of art. Style and content being indissoluble, the best art the best form of cognition. Likewise the idea of idiom, by which I mean no more than a distinctive pattern with its own logic, its own necessities.

All of which sounds to my ear like a load of bogus rubbish. But it doesn't matter whether I think that or not. I must say it is quite consoling, a weight off my mind. And I don't even know whether I want to bother carrying on with this writing, not if it doesn't take me in its

grip, by the scruff of the neck.

What is the essence of the idea of an idea? Not, I think, that it is an abstraction. But that it is a reflection – Plato’s thing – a poor copy. It could only be that by being unreal, an abstraction. The abomination, resentment, niggardliness of Plato and all platonists, Gott rot their souls, and thank you Nietzsche and all the others. The real only attainable by good works, by toeing the line, by thinking right thoughts, by feeling the right feelings, not for them so not for you. Bow out Alan Deane to thunderous applause, slink away Iris Murdoch.

And by my way of looking at things we can come to grant the image – a proper image – its potency, which it draws from reality (contra Lacan). An image is not a picture of reality – it is an aspect of reality, a more real aspect than a mere aspect. Since there is no reality except aspects, since there is no underneath, no noumena, the image is real or it partakes to a less or greater extent of reality – and nothing else comes close to it. So all those false images are not images at all. They are indeed Platonic ideas shamefacedly or sneakily presenting themselves as other than are. That’s where the image gets its power from. You can only think like this if accept ideas for what they are – all part of the same stuff.

Not only ideas are things but everything is thing. Not everything is what it is, and not another thing. But everything is not what it is, everything is an aspect. But you can’t use the word “aspect” without implying it is an aspect of something, without making it a shadow. Thus, I am led to say, as many others have before me, everything is a manifestation of the stuff of thinginess, but ideas have primacy. It is not much good giving ideas primacy if they are not things, if they are abstractions – because then they wouldn’t be real, or they would be attainable only by toeing the line. In the quarrel between philosophy and poetry, philosophy won by foul means because it couldn’t bear to acknowledge its emptiness. It couldn’t stand the sight of poetry because it saw itself reflected palely in poetry and thought it would never be able to recover itself as anything but a reflection – not forgetting that an image is not a reflection.

And now they hate art so much they want to eviscerate it. Or they try to do it themselves, and make asses of themselves. Worse, what they do defiles and demeans all that is good. Do they think they can appropriate what they cannot use and pass it off as the real thing, as though to deny there was ever anything they couldn’t use?

No mystery why these schizoid types keep chasing Platonism and yet end up with the most insubstantial form of mysticism. Platonism is a cheap reflection, an ersatz form, of mysticism.

The difference, I believe, between my form and earlier forms is that I can make it stick, make it concrete. Well, possibly I could if I struggled mightily. But I am beginning to feel I can’t be bothered. Carnt bod, as Gray says. I’ve done my book – and I don’t think I can ever do better. My book did its job for me. If it can do the same job for someone else all well and good.

The nice thing about my version – unlike Zen – is that you don’t have to bother, you can have your cake and eat it. Admittedly, I did bother a great deal. But now I don’t need to – and I can enjoy the things I enjoyed before, up to a point.

It is a measure of the power of the false idea of ideas – as reflections – that when I frame my new idea of ideas (that is, a recognition of ideas), I start thinking about how to apply it to the world – not to myself, because I have for a long time proceeded as though my thoughts and ideas were things; moreover, things that can be more or less true to themselves, can only be represented figuratively, and which have very distinct flavours and qualities. Derrida's idea being the rancid core or recipe from which his followers have manufactured a homogenised version to churn off the conveyer belt, transmuting the essence of rancidity into the essence of blandness.

But this is the ultimate self-confirming system, someone will say. Of course it is.

This is ironic – my first complaint was that I couldn't understand these philosophic ideas, they were not concrete enough. To understand something is to accept it as true, I said to myself. Now I say all ideas are concrete – it is in their nature. The more concrete the idea, the truer it is. False ideas are those that implicitly present themselves as that which they are not: as abstractions. So the philosophic ideas I balked at, I can now understand or pursue by being confident that they are all at bottom false.

The difference between my view (my not-view) and other versions is that mine doesn't leave everything as it is – well the others didn't either. I would like to say it requires the acceptor to deny the reality of all of what passes for idea and what is sanctioned by it: philosophy, politics, theory (not science so long as it keeps in its place). But that's what the other not-views do too, deny the reality of all that. So, once again, there's nothing new under the sun, nor the moon either or neither. Except perhaps the idiom idea. Whereby, in its western version a long period of struggling with thought would be the equivalent of the Zen practices and disciplines taking the adept to a position of enlightenment – and the moment of enlightenment is frequently accompanied by a kind of bowel movement, an evacuation of all knowledge accumulated, an emptying. The purpose of the long discipline – in its study and learning part – being to negate itself at the end. And it is always the characteristic of the Zen student on his way to enlightenment that he is dogged by incomprehension, he feels permanent frustration; the course of study, meditation, training is always marked by paradox.

That of course is the most interesting thing about Zen stories – the way in which everything turns out to be the opposite and yet the same, how the door has always been open behind you: the idea of a sudden and total shift in perspective, amounting to a new true not-view. Not best illustrated, to my mind, by the sound of one hand clapping – which wears its paradox too cutely, too obviously.

So the image of Zen which has always been less tarred than the image of other forms of Buddhism is in a way a distortion: Zen could not present itself as it is.

You can't see a politician or a philosopher as what he is – absurd, a pack of cards – just by saying he is, or concluding he is. You can only say it when you have come to see how he presents himself as that which he is not; how he claims the authority he does not have; when you can see authority as a living mask; when you can recognise its power over you, when you



can respond to its power, be oppressed by its power, be crushed by its power, and then deny it, see through it. Thus you must be able to recognise how difficult it really is to say this man is an absurdity and mean it. Politicians are not in the main liars – they have appropriated the gestures and marks of truth. But this is not something like a con-trick: they use the idiom of truth, and it wouldn't be at all effective if it was easy to see through: there is nothing to see through; there is no malign motive. And it is the same with philosophers; they are not deceiving themselves – because they do not really think they've got anything; they use the idiom of truth without really possessing it. One has to be able to watch a politician and see what he is doing, give it its due, and then see it for what it is, an idiom.

[I wish I knew where this voice is from. It's very familiar, might be a straight transcription.]

Just as an accomplished liar or a psychopath is effective by appearing to be the opposite, a non-liar. But anyway we can't understand the idea of a liar in terms of the old view of truth. And isn't the best liar one who believes himself? A liar is just someone who adopts the idiom of truth, the old idiom that is. Psychopaths, in short, are convincing, and not solely by acting, as it were. They are charming. So the question to ask yourself is: How can a person appear charming when he is not?

More to the point, you can say a politician is a liar, is all wrong, and mean it – but will you say the same thing about a politician on your own side? It's no good just being able to say it about a politician whose policies you believe are not yours, you must say it and mean it about all politicians. Not of course that politicians should be toppled, someone has got to do some of it. It is just that they should be a little less arrogant, I mean a lot less. Perhaps we shouldn't have to see so much of them, they should keep a very low profile.

From where do politicians draw their false authority? From the idea that ideas are abstractions, are reflections, have no substance (as most of what passes for thought today does indeed have no substance). Who underwrites the idea that ideas are abstractions? In whose interest is it to insist that ideas are abstractions? Who, at bottom, has got most to lose by acknowledging that what he claims from logic is not paid for? Who maintains his authority by falsely claiming the authority of Reason? Who presents the face of Reason? Who legislates on Reason? Who authorises the ideas of politicians (who manifestly have no true ideas)? Answer: the philosopher in one form or another, the thinker, the theorist.

But doesn't that mean we can't speak out against tyranny? Why? We can't speak out anyway. We can't speak. But if you can see through a politician's authority, he won't be able to tyrannise you.

Put a bandanna around a young man's head and call him a freedom fighter. But if he and other young men want to work off their excessive hormonal energy let them do without me. Let them lock antlers elsewhere. Good luck to them.

Put a man in a suit behind a microphone, let him step down to the tarmac from an aeroplane, and call him a world leader. Fine. Now when another man in a suit who is as plain as plain can be a butcher steps down to the tarmac, why can't you say what he is? Because they are all

cut from the same cloth. No, that would be unfair. Because they are all playing by the same rules – and to say out loud what everyone knows would give the game away.

Do you want to watch television all your life? Is that your idea of fun? Good luck to you.

Men have lived and died, I think, but not for love.

How could there be a false image unless there was such a thing as a true image? Answer: There couldn't. But how could there be a true image if an image is at best merely a true reflection? Conclusion: images are things. QED.

What gives an image its truth? Its beauty. Beauty is Truth and Truth is Beauty. But how could truth be beauty if ideas are reflections? Only can truth be beauty when ideas are things. Do it the Alan Deane way, you won't regret it.

Where can we find beauty today? We can't. Where might you find an image of beauty? Here and there in old books – Kafka, divinely – and everywhere else. How does Kafka manage to bring an effect of beauty – or Cézanne, for that matter – seeing as how he is thought to be talking about something else entirely? Through his idiom, his style, his indissoluble unity of form and content. Try Walter Benjamin for a path to Kafka (and Proust).

No, no, no, a thousand times no.

No mystery now either about how it is that one has to become the person in some manner to speak in their voice, and who or who not you can do. He do the police in different voices. A Southern Belle, a crazed messiah, a tabloid journalist, a philosopher with a hammer ... well I've made pretty good fist of some of these on occasion, not to be repeated; and I'd like to think that the ones I can't do: analytic philosopher, novelist, poet, literary theorist, political activist, party wag, diligent careerist, teacher, et al. are not entirely doable, because debased.

You're an animal. You're a complete animal – I like to say to a cat.

Cognitive Science – really is the Ghost in the Machine. Gilbert Ryle shows how thought as we conceive of it – or as they conceive of it – doesn't exist. Then along come the cognitive psychologists and revive the ghost.

Thought made palpable. When F got in a state – no other word is available – over Emmanuel, when she was engaged it seemed in the most intense ratiocination imaginable – that I think was one of the strangest things I ever saw – she was wholly caught up in a kind of calculation, a sorting out – but to say that, to describe it just in terms of inner mental concentration driven by an obsession is woefully inadequate to the process. For it doesn't convey the impression one received of intense energies, as if she was vibrating with a very high current. I can't find the words to capture the strangeness of it ... what words would they be? I thought of likening it to the buzz and hum of an electrical high voltage transformer – or those small buildings you

see with coils and stuff at the corner of streets, a locked metal door with a warning sign, the one next to the narrow house up the road from here – but then realised that that wouldn't take me any further. What does one feel about such things? There are enormous currents going through – as the sign tells you; one has an almost physical idea of electricity, partly drawn from electric shocks received as a child, there may too be an audible buzz and a vibration transmitted through the air (but in fact through the pavement), and one thinks one feels the field coming off it. Does one actually feel it? Though there is an effect – people living under National Grid pylons supposedly suffer from various otherwise inexplicable ailments and states – does one actually sense it?

[Diary entry June 1993:

Whenever I stopped talking, she returned to her thoughts, and was so utterly in their grip that it seemed she no longer took in any perception from outside; her eyes narrowed slightly and stared, unseeing, into the middle distance. Her face had a faint frown of concentration; she caught her lower lip in her teeth and worried it, or she placed her knuckle or finger tip between her lips like a child. Everything in her expression suggested that she was intent on solving a problem, on thinking it out. The word I used to describe this look of hers was 'inward': her face was now inward.

I stared at her in fascination. For within the general scope of inwardness, her face was also taking on other aspects for me; I saw her afresh in several different guises. Perhaps because of the way she played with her lips, she seemed at times to be very young, a girl just past puberty, wrestling with her first adult passion. At other times, she gave me the impression of being terribly alone. Or her grey-blue eyes which were normally wide open and candid ("drowned in that lash-wide stare") darkened mysteriously and the hollow from her eyebrows (which were surprisingly thick and dark) to below her eyes seemed to be in shadow; now she looked fierce and gypsy-like. Most of all, I found myself being moved by a sense of a state of mind which I described to her as "peculiarly feminine".

"I've never seen you like this before. There is a new look on your face. It is, dare I say it, something peculiarly feminine."

She didn't reply. What I was referring to was her complete absorption in the image of her lover. A man might well be as passionate but I couldn't imagine a man being as ceaselessly consumed by passion. Her absorption was quite as powerful as a mother's in her baby and equally as protective. I felt she would spring at me with great savagery if I were to do anything to threaten her affair with Emmanuel. "I want him by my side at all times", she had said earlier.

In this instance, though, I was wrong. It was suspicion, not passion, that consumed her. When I asked her what she was thinking about, she refused to tell me.

"Don't ask. No, I don't want to talk about it." Then without prompting, she said:

"He could be a con-man, like the character in that film we saw."

"Maybe he is." I replied. "How can I pass judgement if you don't tell me what he says and does? I have insufficient data."

“I have got the data ... I’m processing it ... I’m pulling out leaflets from dusty old folders at the back of my mind.” She smiled.

Now I thought I understood. Every fond word he’d uttered that weekend and every affectionate gesture was being subjected to rigorous testing. By examining the signs, she was trying to gauge his sincerity. But because he was from another country, with a culture very different from hers, the task was immensely complex. I realised belatedly that this was the task she’d been engaged in for the past four weeks. On the postcard he’d sent, he had addressed her as ‘darling’. We had agreed the word was strongly intimate: neither of us could remember ever having used it ourselves. Yet in French, which was his mother tongue, ‘darling’ was ‘cherie’, a common and unexceptional endearment with far less weight to it. And what about his declaration of love? Do men in the Ivory Coast have the same concept of romantic love as we do? Perhaps he’d been told that the sentence ‘I love you’ worked wonderfully well with European women. His position as African eldest son was also a consideration. At their last meeting, he had impressed on her the importance of being the first born. Within a short time, he must marry and have his wife bear children. But at the weekend, by saying he accepted her as she was, he had in effect contradicted himself.

All these and other variables were to be taken into account. She was furiously busy with a kind of calculation. (What else is a computer doing when it processes data? At bottom, even a wordprocessor does nothing more than add, subtract, and compare numbers – in a word, calculate.) The values in her calculations were Emmanuel’s words and deeds; and the results were an index of his true or false feeling for her.

I asked her:

“Do you think of your mind as a powerful instrument, sifting the facts, weighing the odds, assessing the evidence, and so on ... to find the truth?”

“Yes.”

“You’re calculating?”

“Yes.”

She returned to her calculations. A little later she said:

“The funny thing is ...”

“Yes, tell me.”

“No, I will tell you another time.”

“Please, please. You can’t tantalise me like this.”

“The funny thing is that the idea that my suspicions are founded is a relief.”]

The simile seemed unsatisfactory because it would have been tantamount to offering a metaphor for a metaphor – when the impression I got was of ... thought made palpable under intense pressure, thought as a kind of magic fluid, highly viscous, congealing at high pressure, existing perhaps normally in a more diaphanous airy state, now becoming more solid as indeed ... as indeed nothing: none of the images I can find are more than half way suggestive.

These ideas – which of course apply to me over the last two weeks, peaking yesterday and the

day before – are disturbing. Why when I thought my new book was finally taking shape – and I cannot help but see it as a secretion or less demeaningly the product of a process like secretion (no metaphors are adequate: one can't even talk of them as being close: a metaphor cannot work well as a metaphor when applied to mind: when applied to an object it neither succeeds nor fails) why did I then start thinking about my old book, and take steps to give it another chance?

All these developments, these urges and impulses, have a meaning, naturally they do – and I think the meaning or rather logic of it was this: if I carry on in the same line of thinking, I will end up at a position so estranged from everyone else, it will be impossible for me to carry on without doubting my sanity. How could these things be true, I will say to myself, when nobody else sees them? I will surely go mad or something like mad. Receiving an endorsement for my earlier book – now itself seen once more to be highly charged with meaning in the light of my highly charged cerebration – will reassure me I am not utterly bonkers.

This is not the trivial point about individuals and ideas in society: as could be couched in terms of ideology or Searle's Background, Foucault's discursive formations, Bourdieu's habitus. At least, not entirely, to the extent that my ideas are about ideas.

There is also a science fiction flavour to some of these thoughts – which discredits them as far I am concerned, makes them less palatable; one suspects one's motives for such ideas, which I would normally dismiss as disguised fantasies (not phantasies). But there again, nothing I say about the thoughts and the processes and the reflections on reflections seems in any way descriptively satisfactory.

I can't remember the exact phrase William Gibson introduced for his electronically mediated consensual cyberspace – though it may be just that. Anyway, this is very clearly a figure for ideas – not altogether satisfactory a figure, though better than none. And it is odd that we should need a figure projected onto electronic data; for in the consensual whatever-it-is databanks, or corporate databases, are represented physically as blocks or presences, whose physical size is proportionate to the importance or size of the data, while people remain people who thanks to the electronics can move within this universe, a universe only partially bound by the laws of physics.

“Consensual” of course is the wrong word for what is really just a shared virtual reality in the conventional sense of that silly term; i.e. if a whole lot of people were connected up to some very powerful VR system in which databases on some global physical network were represented as buildings, blocks, etc. – that would be the same as William Gibson's cyberspace. The only difference in his version is that he grants the space a kind of extra reality, a dimension of autonomousness: people jack into it at the computers – via electrodes or something similar.

“Consensual” though is a very appropriate word for ideas – albeit that this way of thinking could soon topple towards the Philip K Dick acid-induced metaphysics.

In fact, the whole thing is very strange. When you read Gibson and take in his conception of cyberspace, you tend to grant it a special reality – over and above its real electronic possibility or feasibility (as I've sketched above) – and he most definitely writes about it as such. The idea being one of something emerging, a sort of epiphenomenal universe, emerging from the electronic network.

Of course in reality nothing of the kind could happen – witness the extraordinary banality of the Internet and the mysterious fuss made about it, which can probably only be explained in terms of the fantasy of an emergent space. Consensual means in some way a shared hallucinatory mental space. The real point of the Internet is that it is an enormous market, the best and biggest market ever, and you don't really need any marketing skills to get up on it and start pushing your wares.

This is it: Since we do already have a shared mental space, occupied by ideas (conceived of in some very different way whereby perhaps thought and affect are merely aspects of ideas), it is rather peculiar that Gibson should project it onto an electronic network – whence the electronic network is then projected in turn back onto our actual mental space.

Where does the sharing come into it? – that's the question – how is it consensual? If you unpack the idea, make it technologically feasible in imagination, via the technology of VR, there doesn't seem to be any consensuality left. Instead of one person wandering around in a single VR, you have several people wandering around in the same VR – where's the consensuality in that? The idea slips in through the idea of jacking into the system – via electrodes or whatever – but the fact that you don't have to wear a headset doesn't really make it any different. The jacking in is a device that is intended to give the VR a greater reality, enabling it to work in many – or all – sense modalities in addition to vision and the kinaesthetic sense. Yet the entire drift of Gibson's cyberspace is to suggest there is more to it. Electronic spirits or ghosts appear, sometimes connected with his Artificial Intelligences; entities reside there, in addition to the databases; and the databases are in a way anthropomorphised, not that exactly but given animistic properties.

It was a stroke of genius of Lacan's to see that the machine is Man's most radical symbolic activity. Page 74, Seminar II:

The machine isn't what a vain people think it is. It isn't purely and simply the opposite of the living, the simulacrum of the living. That it was constructed so as to embody something which is called time [taking the clock as the prototype for the machine or most representative of the machine's role] and is the mystery of mysteries, should put us on the right track. What is in play in the machine? That at the same time someone called Pascal busied himself constructing a machine, still very modest, making additions, shows us that the machine is tied to radically human functions. It isn't a simple artefact, as could be said of chairs, tables and of other more or less symbolic objects, among which we live without realising that they make for our own portrait. Machines are something else. They go much further in the direction of what we are in reality, further even than the people who build them suspect.

...

The machine embodies the most radical symbolic activity of man, and it was necessary so that questions could be raised – you may not notice it in the middle of all this – at the level at which we are raising them here.

...

...

Energy, I had you observe last time, is a notion which can only emerge once there are machines.

His sentence about machines going farther in the direction of what we are in reality could be very easily misunderstood – and he seems to have misunderstood it himself, with his idea that the people who build the machines have some sizeable portion of an idea of what we are in reality, or suspect something of the sort. A piece of Lacanian nonsense, mixed in as usual with brilliant insight. Well, the two are intertwined: both the nonsense and the sense come from Lacan's borrowing of structuralist ideas, a borrowing which then turns them into something else.

If I had my Elizabeth Roudinesco book with me, I'd copy down Lévi-Strauss's comment about Lacan being a shaman, something like "I've seen a lot of shamans in my time, but this guy is something else ..."

That's the whole story, right there.

He meant it and he didn't mean it, because the idea that Lacan was a real shaman – and that, amazingly, is exactly what he was – was not an idea Lévi-Strauss could logically (by the logic of these things) sustain; it would have been like thinking  $2 + 2 = 5$ .

This is the extraordinary interest in Lacan – quite the most fascinating figure in French intellectual life for years, well not that exactly because his significance is unique. Lacan was a shaman – and the amazing thing, the unbelievable truth, is that he could be a shaman, that there could be a shaman whose materials were science, philosophical theory, and literature. Thus, Lacan as it were demonstrated the nature of rationalist knowledge, not by his theory but by his behaviour, his trajectory, his behaviour within French intellectual life, in the community of French thought. What his behaviour shows is that rationalist knowledge is not knowledge and that magic is not magic: we can say something like both are different sides of the same coin, but not that science is magic – for what is magic?

What did Lacan do? Before we can answer that, we must say what Lacan was, what his fields of expertise were, what he knew. They were quite exceptionally wide: he was trained in medicine and psychiatry (he therefore had a very good grounding in the biological sciences with some chemistry thrown in); he was thoroughly familiar with literature and practised it in a minor way, contributing small pieces to surrealist literary magazines; he was expert in philosophy (that is the only word, for he wasn't a professional philosopher [Foucault was contemptuous of Lacan's philosophical intelligence]), he attended Kojève's lectures with avidity, held his own in debate with philosophers, read deeply in philosophy (in the service of garnering ideas, finding ideas he could use to build his system).

Lacan acquired expertise in all these fields and in the process showed what expertise was (not charlatanry); he was well versed in mathematics – all his life he did mathematical problems as a kind of hobby and corresponded with mathematicians (cf. his discussion of cybernetic ideas in the early 50s, almost as soon as Norbert Wiener published his book); he studied Chinese; he made himself expert in the history of science; and of course he was a psychoanalyst – here we can't talk of expertise – not just a practising psychoanalyst but a theoretician, a founder, whose ideas (in so far as any of his ideas can be confined to one field – in so far as his psychoanalytic ideas can be called strictly psychoanalytic) built on the closest imaginable study and reinterpretation of Freud (can we even talk of interpretation here?); and no doubt there were other areas of expertise.

In none of these fields except his field, his new field, was Lacan outstanding – but that itself is amazing, that we should even raise the question of whether a psychoanalyst could be outstanding in another field as well. The point is that Lacan's thinking drew on an expertise and a knowledge in the Sciences and the Arts that very few people manage to achieve in any one of these fields. Not only that but Lacan knew personally leading thinkers, leading practitioners, in the fields of his interest; he was friends with Roman Jakobson (linguistics was another of his expertises), with Lévi-Strauss, with George Bataille (he married Bataille's wife), with Phillippe Sollers, with philosophers, with mathematicians, and many others – some of these he met and knew after he started his seminars, after he'd constructed his system (which was necessarily fluid and evolving); but many he'd known from the time when he was still relatively obscure.

He took from all these fields and spun or weaved a theory and a way of practising – a very special kind of theory, one which could never really be pinned down, or formalised, by its very nature, because one of its central tenets was that the mind is as it were fluid and endlessly chimerical, is not even mind. And he mixed in with the theory all sorts of elements from other, non-scientific fields, all sorts of idioms if you like. Thus the oracular idiom and more commonly the prophetic idiom (“a vain people”), as well as the facetious idiom (“someone called Pascal”). His prose which he never wrote but was transcribed is designed to reveal truth and hide it at the same time, always to suggest it and at the same time to suggest it can never be stated explicitly.

If you write down the main elements of Lacan's theory and then try to examine them as a consistent system, they come to seem insubstantial; any objection you raise to them strikes you as crude, as though it must be based on a misunderstanding. Take the mirror stage: this, by the logic of the theory, must be initiated by an actual event: the child's recognition of himself in a physical mirror. We can't say there was any old event that took on the symbolic function of the mirror because the capacity for symbolic formations is entrained by the mirror experience. Just as it doesn't make sense to substitute nanny with the scissors for daddy in the Oedipus Complex.

There is more, much more in this line, one could say about Lacan's theory and practice – for example, his theory of mathemes, Borromean knots; his theory and practice of the practice and training of psychoanalysts; his games (which I don't mean in a pejorative sense) or



experiments with setting up, running, and dismantling a school of analysis, a school in both senses (an institution and a body of thought and practice). And so on.

Now, none of these can, literally, be dismissed as quackery or charlatanry. In all of Lacan's thought and behaviour there are profound truths mixed with intellectual mumbo-jumbo. It couldn't have been otherwise, for if he was to work his magic, his materials had to be sound. The only word you can use to talk about what Lacan did is 'brilliance'. Yet, there is no single area of his theory that is in any way brilliant. Much of it when translated into down to earth terms seems banal or, quite simply, unsustainable. Shoshanna Feldman. But this mystery in itself raises the question of what it is for a theory to be sustainable. As does Wittgenstein's entire oeuvre.

Almost everything one says about Lacan can be applied to Wittgenstein (on a more limited scale). Nobody could, and nobody would want to, deny Wittgenstein was a philosophical genius. I wouldn't and I don't. The best rendition of Wittgenstein – nothing else comes close to it – is to be found in F.R. Leavis's *Memories of Wittgenstein*. Here's an extract (you should read it all, it's a hoot):

I was walking once with Wittgenstein when I was moved, by something he said, to remark, with a suggestion of innocent inquiry in my tone: "You don't think much of most other philosophers, Wittgenstein?" – "No. Those I have my use for you could divide into two classes. Suppose I was directing someone of the first to Emmanuel," – it was then my college – "I should say: 'You see that steeple over there? Emmanuel is three hundred and fifty yards to west-south-west of it.' That man, the first class, would get there. Hm! very rare – in fact I've never met him. To the second I should say: 'You go a hundred yards straight ahead, turn half-left and go forty' ... and so on. That man would ultimately get there. Very rare too; in fact I don't know that I've met him." Thereupon I asked, referring to the well-known young Cambridge genius (who was to die while still young): "What about Frank Ramsey?" – "Ramsey? *He* can see the next step if you point it out."

Reminds me of Kaspar Hauser's dialogue with the philosophers in Herzog's wonderful film, *Enigma of a Frog*. Are you a tree frog? Come to think of it, Wittgenstein could have looked a bit like Bruno S. if he'd put on more weight. "The mature frog." Twenty-five or so years ago, an audience from the capital's cultural elite gathered in the National Film Theatre to hear Jean Luc Goddard speak. A message from Jean Luc arrived. He wasn't coming. They should go outside and collect a person from the street, a tramp, listen to him instead. The audience broke into applause. From the back of the auditorium, a voice rang out: Sod the frogs!

Wittgenstein's musings are like koans. If you think through them, you can come to see that what you thought was there was not, yet – if you'll forgive yet another arch paradox – is not nothing either.

For example, to have the concept of number is partly just to be able to use number, but also – for it is impossible to use number concepts without having some further notion of how to use them – you need as it were an image of number; i.e. a model of a kind. Now the model need

by no means be a valid model, or an accurate model; indeed sometimes it might get in the way of successful use of the concept, as in my concept of numbers as quantities – which makes it difficult for me to grasp how much is left after subtraction – one less or one more, inclusive or not?

Re the above, I use mathematics sometimes when I muck around with computer graphics. So I have quite a good knowledge of mathematics up to about A level standard. But I have always had difficulty subtracting dates to find out how many days there are between two days. Do you add one or subtract it? This is like a sort of gap. Somehow, I can't do the obvious thing which would be to work out a rule for the process without dismantling my entire idea of number.

Within my implicit model of number (which is only roughly an idea of number as a sort of quantity),  $18 \times 22$  should by rights be the same as  $20 \times 20$ . Hence my liking for and interest in the algebraic formula  $x^2 - 1$ . [ $= (x - 1)(x + 1)$ ] which does in fact allow one to do certain mental arithmetical calculations on the basis of a notion of quantity; e.g.:

$$21 * 19 = (20 + 1)(20 - 1) = 20^2 - 1 = 400 - 1 = 399$$

Actually, this contradicts the notion of quantity – but enables me as it were to carry on using quantity by making a small adjustment, an adjustment of 1.

At other times, my notion of numbers as quantities in some way is useful to me and reasonable in the light of other mathematical facts – the fact that to find a factor of putative prime number you need go no further than the square root of a number. The fascination prime numbers have for me springs no doubt from my implicit model – whereby I see prime numbers as unbreakable quantities, indivisible in a special way. But everyone, amateur and professional alike, finds prime numbers fascinating. They are so stubborn and uncooperative. Why can't they behave and follow the rules?

I have the same problem with certain words-concepts in philosophy. When I hear the word “epistemology” or “epistemic”, my mind skips a beat. I can't process it. Though I can read and understand articles on the theory of knowledge – which is not really what it is – perfectly well.

Another fact that seems related to these considerations is teaching children fractions. People always use the example of a bar of chocolate. In practice, dividing up a bar of chocolate never illuminates the idea of fraction for children. Why should it? On the one hand, a set of obscure symbols on paper with their peculiar rules – why turn a fraction upside down and multiply when dividing one fraction by another? – on the other a physical object.

Although I use mathematics – plugging values into formulae – I don't think of my mathematical thinking as being on a continuum with that of proper mathematicians (with my type of thinking fairly near the bottom). I imagine there is a special sort of mathematical thinking which must be very different from mine. And when I have met proper mathematicians, the speed and elegance of their mathematical thought confirms my implicit

idea of a special type of mathematical thinking.

The best programmer I've ever met, the most naturally gifted, was a very good mathematician. He gave up mathematics in the middle of a PHD on group theory to get a job as a programmer, his first job. In his fields of expertise, he has natural intellectual authority by virtue of his exceptional thinking. In the office where I met him, he was the youngest person there in a group which included a Cambridge graduate with a first in maths and computer science, a Russian ex-statistician, and several other experienced working programmers. Within a month or so, he was trying to get us to alter our sloppy programming habits. "Jumping out of a WHILE WEND loop ... No!" he'd cry in mock horror, crossing his arms before him in the sign made to ward off the devil.

I wanted him to help me with my computer graphics idea (a new graphics language, among other things) – I thought he was the only person who could bring it to fruition. But he is too level-headed and down-to-earth to throw in his lot with ... whatever (a crank?). "I am a Yorkshireman", he said jokingly. "I say what I mean, I mean what I say." He didn't dismiss the idea altogether, and told my lady friend he wasn't adamant, there could be something in it.

In the vain hope of catching him, I held out the promise of a breakthrough as a kind of bait. Haven't you ever dreamed of discovering a new mathematical theorem? I discovered a new coefficient when I was 17, Robert said. Rob's coefficient. What was that? A number which when divided by PI gives e and when divided by e gives PI. What is it? PI times e.

This tickled me immensely, partly because it was the first mathematical joke I've heard, partly because it worked – I asked him what the coefficient was.

Here is how I got to know him. He was at the terminal next to me. He had a gift-shop book of Keats by the keyboard. He was wearing a Freddy Mercury t-shirt. Programmers rarely read, let alone poetry.

"Do you like this stuff?", I asked him.

"Oh yes. It's absolutely gorgeous."

"Do you remember what you read?"

"You can't help memorising it – it's so musical – though I have a bit of trouble with the Greek names."

He writes poetry, and thinks of himself more as an apprentice writer than a programmer. So mathematicians, engineers, and scientists don't have to be narrow. I like the idea of this kind of person and intelligence enormously. I like to think it is a particular kind of Englishness, now being stamped out. He is interested in numerology and is studying the Cabbala. Whatever he says, he is very definite about without being overly dogmatic. Like many mathematicians, he knows a lot about classical music. At the time I met him, I was thinking of listening to more classical music, of broadening my little knowledge of it. I bought a CD player and a few CDs.

- I like Fauré's Requiem, I said. Should I get Bach's Requiem?

- Bach didn't write a requiem. Mozart did. Very dark, very dark. Listen to that.

In other respects he is a typical science person. At university, he and his friends did things like playing Beethoven's Fifth Symphony on kazoos. And when we tried to tell him that John Ashbery is the best living poet (of the tiny handful of proper living poets), he wouldn't have any of it. He didn't accord us any authority by virtue of our seniority, a matter in my case of 19 years.

The most moving thing I've ever read by a scientist is what Newton said late in his life:

I do not know what I may appear to the world; but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or prettier shell than ordinary, while the great ocean of truth lay all undiscovered before me.

This programmer and Keats-lover wrote a demonstration program for a manual I was meant to be writing. [It provided a data dictionary for a PC RDBMS that didn't have a data dictionary facility.] I had to document it, describe it in the manual. Even very good programmers have trouble giving their programs good structure – no one uses flow charts. Understanding someone else's program is hard. This one was amazingly well structured. The language he used was not an object-oriented one. I worked through the program, from top to bottom, from major procedures to minor procedures to sub-sub routines. I was amazed. None of the important procedures seemed to be doing anything – they delegated their tasks to lower level procedures. All the work seemed to be done by a couple of dirty little subroutines at the bottom. I said to myself, I don't know what this means but it surely says something about structure – but in saying that I wouldn't want to be giving hostages to the AI brigade. The point applies solely to programming.

Why can't we dismiss Lacan's thought and behaviour as charlatanry, as a kind of intellectual quackery? For this reason: Lacan dominated a major part of French intellectual life for the best part of twenty years. Not every French intellectual was a Lacanian, far from it. But none of them, even those who may have been privately sceptical, spoke out against it. How could they have? It wasn't nonsense. By what means could they have attacked Lacanianism? By the methods of the natural sciences? By positivism? By the methods and standards of Anglo-American philosophy? (Lacan and his prize students, that is prize students he poached from the Grand Ecoles, where every student is a prize student, were reading and studying Frege in the late Sixties – Frege the philosophical hero of one of the main strands in Anglo-American philosophy.) How can you take issue with someone who says it's all done with mirrors?

In fact, we cannot even say Lacan was a shaman. For if Lacan was a shaman, then every major thinker has been a shaman. Or, rather, shamen (the real shamen, in primitive societies) are not shamen.

Reflecting on these strange phenomena has the effect of making our ideas of truth, rationality, knowledge, superstition, falsity, magic seem suddenly insubstantial; not empty, properly speaking, but less solid, less clearly defined.

What does magic mean? Consider the story of Rasputin, the mad monk.

Did Lacan know what he was doing? He did and he didn't. He couldn't have done it properly if he'd been fully aware of it.

## WELL, YES, ACTUALLY

To whom it may concern: Listen up.  
About a year and a half ago a young man was in my office.  
This young man,  
whose name was Michael,  
was the friend of another young man I already knew, Frederick by name.  
Well, the upshot of it was, Michael,  
who had pulled himself up by his bootstraps, wanted  
to know the secret of things already not so secret,  
like: Water, does it seem swollen, or how much does it weigh  
when all the water molecules have been withdrawn,  
and to whom does one address oneself after the correct answers have  
been passed around?

I told him, as best I could,  
indeed, as I have told others in the past, that such soft  
mechanisms, such software, can't be regulated, and if it could,  
no one would want any answers. Well, he just sits there,  
dumb. Then, as the call of the crow renews itself  
across valleys and pastures, in the island at night,  
the answer speaks in him too. Only it can't, he realises right away,  
ever be repeated. Or someone would pull nettles in exasperation,  
slapping them all over the place, and then what devil-may-care  
attitudes it pleases you to ration out will be flat as paper,  
flatter than shadows peeled off of pavement. But I digress.

In this town, near this tree, a school rose proud and tall  
once, and from a distance many were seen going in and out of it  
as the bell sounded the hour from its red, hacienda-like tower.  
And sure, mutts wandered in and out too,  
and radish sellers. Well, one  
man, a rustler to all appearances, wasn't happy  
with the school and all its appurtenances: desks, faucets,  
blackboard erasers and such. He thought it was a pity  
that some come to learn and enjoy, while others plait  
their tresses idly, in cool shadow, and read no book  
and add no sum, the while the milk sours  
happily, in the shade. And children from out of town would come  
and look down at the others, and they too would fall to quarrelling  
until the teacher summons all, and says,  
"Blessed children, my children. I would have it no other way  
but this." And the man thinks, if that's what they teach you in school  
maybe I should go back to school. For I'm a loner, I warrant,  
and loners never learn, though they may know the one thing  
nobody else knows, or, by the same token, needs.

And a shadow fell across the fields  
of radishes: This was the real, the genuine article,  
and all other speculation had been slightly but sadly displaced.

And they thought about it. The teacher thinks about it to this day,  
wondering where she went wrong,  
why the prisms no longer irradiate electric colors  
and the Bunsen burners cause no retorts to fume  
and gurgle over, over the long desks that were. These are the apples of my crying,  
she says, the ones they never brought me, and I,  
I am too distressed to dream.

Well, don't you think Michael and Frederick heard about it  
and were the first to offer their condolences? But first  
they swept all the chalk bits into a neat pile  
and dedicated it to the stranger, and to the teacher they offered  
the product of Pomona's blissful yearnings,  
who dances alone all day by the sea, inebriated,  
yet loves us as only a modern spirit can.  
And they propped the door open with a wedge-shaped piece of wood, so that it  
stayed open all the time.

John Ashbery

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The unbearable lightness of thought. I have no problem with being. Cogito ergo sum. Why is this the greatest con trick in the history of thought? Why? Because he wouldn't have said it if he didn't exist.

Gilles Deleuze is the way I like my philosophy done, light and frothy. Gilles Deleuze thought there was a tripartite division of human intellectual activity between philosophy, science, and art. Philosophy's job is the creation of concepts, science deals with functions, and art creates amalgams of sensation and affect, percepts in his term. Yet he also called for a new philosophy, from non-philosophers. What a strange idea. As though art were thoughtless. His own collaboration with a non-philosopher, Felix Guattari (Gato Barbieri we call him), wasn't very fruitful. So who did he have in mind? The man in the street? I've met the man in the street, said Sid Vicious. He's a cunt. (And a vicious cunt frequently.) Why did he collaborate with Guattari? I think to ground himself, as an anchor, Deleuze's virtuosity being so inordinate he would otherwise have spun and spiralled into space. You could give Deleuze any idea and he would run with it. Expressionism in philosophy (Deleuze's book on Spinoza). Another strange idea. As if expressionism wasn't the property of art.

Gilles Deleuze had two good ideas: the idea of conceptual personae (*he* has a sunny disposition); and the extended notion of marketing as a new ersatz fourth form of intellectual

activity: the manufacture of non-thought, opinion, doxa, as practised by journalists and theorists. Do these two ideas confirm his idea that philosophy has a rightful place as the creation of concepts? Not a bit of it: they are non-philosophical concepts.

Have you ever noticed how analytic philosophers of language spatter their pieces with simple logical symbolism? What is the function of these functions? They don't say anything that the philosopher hasn't already said in a single sentence. In fact they merely translate the sentence into logical symbols. I think they are like amulets, meant to ward off obscurity, or magic formulae, intended to catch a piece of rigour, some non-existent logical hardness.

Here's Professor Wollheim in his piece *Correspondence, Projective Properties, and Expression in the Arts*. He wants to establish the psychic mechanism of projection as the core of expressiveness in art. He says he is going to develop his thesis solely for the visual arts. He starts by giving two examples (page 144, *The Mind and Its Depths*):

So for the examples:

Autumn rain has been falling throughout the early afternoon. It stops abruptly, and the sun breaks through. Drops of water sparkle on the leaves and on the grey slates, and they drip down on to the pavement, which glistens with a hard sheen. There is a smell of wall-flowers and sodden lawns. The sky is blue, but streaked with black, suggesting distant rain. This is a melancholy scene.

The narrow road rises and falls. Along the verge on either side there are apple-trees in blossom. The fields as they slope away from the road are a brilliant green, dotted with the blue, yellow, and white of wild flowers. A few miles away the mountains rise up sharply from the rolling landscape. They are grey-tipped with blue, cut by the silver lines of mountain torrents. Patches of snow persist on the rock face. The air is fresh, and there is sound of cowbells. At the foot of the mountains, beyond the rich orchards, there are large half-timbered farmhouses forming villages. It is a happy countryside.

What each of these passages has to tell us can be recorded in one or other of two ways. We can, in Carnap's description, use the material mode of speech or the formal mode of speech. Using the material mode of speech we would say that sunlight after rain is melancholy, that the Bavarian landscape is happy. Using the formal mode of speech, we would say that the sunlit scene is called 'melancholy', or that the predicate 'happy' is applied to the landscape. We can say how certain things are, or we can say how they are described.

What the fuck is going on? Does he think he is fooling anybody? He wants to illustrate a thesis about expressive properties in painting, and does so by using the expressive properties of language, improperly, with embarrassing clumsiness (jerking himself off on the page in the process). Glistens with a hard sheen, my arse!

Now Julia Kristeva is at it:



What good are psychoanalysts at a time of distress oblivious to itself? I imagine a huge city with houses and glass and steel, reaching the sky, reflecting both the sky, itself and you. People cultivate their image, hurried and made up in the extreme, covered in gold, pearls, pure leather. In the streets, on every corner, the filth piles up and drugs accompany the slumber or rage of the outcasts ...

This city could be New York. It resembles any big city of tomorrow, ours...

What does one do there? One thing only: buying and selling commodities or images (it all amounts to the same thing), for these are flat symbols without depth ... Those who can or who try to preserve a life which neutralises the luxury as well as the horror will have to contrive an “interior”, a secret garden, a homely hearth or simply and more ambitiously: a psychological life.

(From Psychoanalysis in Times of Distress)

This sort of stuff should if it were lucky raise a titter in a Creative Writing class, more likely an embarrassed silence.

Hemingway said: “All modern American literature comes from one book by Mark Twain called *Huckleberry Finn* ... There was nothing before. There has been nothing as good since.” True, too, prose-wise. Eliot’s comment about Mark Twain purifying the dialect of the tribe was less accurate. When you read the first paragraph of the book, its voice grabs you and even though you may forget what the book was about, and probably wouldn’t want to read it again, that voice stays with you forever. All that’s gone. And, in my view, partly thanks to the theorists and philosophers of post-modernity, though no doubt the new evolutionists and cognitive scientists (along with their travelling companions, philosophical lickspittles) have their share of responsibility.

121. One might think: if philosophy speaks of the use of the word “philosophy” there must be a second-order philosophy. But it is not so: it is rather, like the case of orthography, which deals with the word “orthography” among others without then being second-order.

(Wittgenstein, *Philosophical Investigations*.)

Speak about having your cake and eating it. What Wittgenstein was doing was scarcely the same as mentioning the word “orthography”, while what he should have been doing was second-order philosophy. And if he wasn’t pretending to do second-order philosophy – which he wasn’t doing – what was he pretending to do?

Here’s Margaret Boden, professor of philosophy and psychology at Sussex University, in her book *The Creative Mind*, which should have been subtitled *Special Pleading*. She wants to make a case for the idea that computers could be creative. In order to do this – as logically she has to do by the logic of the myth of Artificial Intelligence – she has to iron out all differences between scientific and artistic creativity, in the process throwing out art with the bathwater:

Sometimes the structural aspects of a mental map are consciously accessible. Chemists explicitly seek to analyse theoretically related compounds. Bach's forty-eight preludes and fugues were a systematic exploration (and definition) of the possibilities and internal structure of the well-tempered scale. The pointillistes deliberately decided which colours they would use. And Charles Dickens knowingly exploited English grammar in describing Ebenezer Scrooge as 'a squeezing, wrenching, scraping, clutching, covetous old sinner'.

(Strictly, this literary conceit does not fit the strong definition of creativity given in Chapter 3. Dickens was exploring grammar, but not transforming it. However, although sevenfold strings of adjectives could have occurred before, many readers had not realised the possibility. Dickens showed there are more things in grammatical space than were normally dreamed of in their philosophy.)

Is she out of her tiny mind? Dicken's work reduces to an exploration of grammatical space? I am speechless ...

Here's John Maynard Smith, distinguished evolutionary biologist, in a review of Daniel Dennett's book *Darwin's Dangerous Idea* (New York Review of Books). The cognitive minds are furious because their mentor Chomsky won't accept the idea of language having an evolutionary explanation. Naughty Chomsky won't take his evolutionary medicine. But they can't disavow him fully because he has given them their lead, they think.

Chomsky comes in for a reprimand for incorrect thinking, not before obeisance is made to him.

What is needed for the harbouring and transmission of memes? Essentially, it is language. The past thirty years has seen a debate on the nature of language. For Skinner, the ability to learn a language was just an aspect of our general learning ability. For Chomsky and his students, it is a special faculty, both in the sense of being peculiar to humans and of being peculiar to language. Dennett accepts, and I agree, that this argument has been won by Chomsky: there is indeed a special "language organ" that enables children to learn to talk. I see Chomsky, and I think Dennett would agree, as one of the half-dozen commanding intellects of this century.

I therefore find Chomsky's views on evolution completely baffling. If the ability to learn a language is innate, it is genetically programmed, and must have evolved. But Chomsky refuses to think about how this might have happened. For example, in 1988 he wrote, "In the case of such systems as language or wings, it is not easy even to imagine a course of selection that might have given rise to them." This is typical of his remarks on evolution. There is in fact, no difficulty in imagining how wings might have evolved. Language is difficult because it leaves no fossils: it has evolved just once (unlike wings, which have evolved at least four times); and there is an enormous gap between the best that apes, whales, or parrots can do and what almost all humans can do.

Happily, some Chomskian linguist, notably Steven Pinker, are taking up the challenge. It is not hard to think of functional intermediates between ape language

and human language, but it is hard to decide what were the actual intermediates. Perhaps more interestingly, new kinds of organs – and the language organ is certainly new – do not usually arise from nothing, but as modifications of preexisting organs with different functions. Teeth are modified scales, legs are modified fins, and, after complex transformations, ears are modified parts of the lateral line organs of fish. What was the language organ doing before it acquired its present functions?

Chomsky replied some issues later in the Letters Page, remarkably tolerantly I thought – anything for a bit of peace and quite. His last two paragraphs:

Smith cites only the last phrase quoted, misreading it as placing language and wings outside the scope of evolutionary theory – “baffling” no doubt, and exactly the opposite of what the passage unambiguously states, which he then repeats, noting that the apparent difficulty of imagining a course of evolution might be overcome by recognising that organs “usually arise ... as modifications of preexisting organs with different functions,” as in the illustration I gave to make just that point. He then advises “Chomsky’s students, if not the great man himself” that “linguistics cannot ignore biology”; or to put it more strongly, that the “language organ” can be studied in the manner of other biological systems. It’s nice to have the acquiescence of another distinguished evolutionary biologist, though one might think of a different way to express it.

The frantic efforts to “defend Darwin’s dangerous idea” from evil forces that regard it as neither “dangerous” nor even particularly controversial, at this level of discussion, hardly merits comment. Perhaps it is possible to disentangle issues worth discussion. Only under quite different ground rules, however.

John Maynard Smith replies, gracelessness incarnate:

... If I have misinterpreted his earlier writing on this topic, I am sorry, although in self-defence I must add that the remark does not readily bear the interpretation he now places on it. However the important thing now is that the way is open for linguists and geneticists to work together on the origin of linguistic competency, both in evolution and in individual development.

Chomsky’s “though one might think of a different way of to express it” is nicely put. But these people are deaf to all irony, deaf to everything. The triumphalist note in Maynard Smith’s last sentence is chilling.

Since, as I believe, there is a logic in these things, it follows that they can never sufficiently deny literature, cannot extirpate it to their complete satisfaction. Literature therefore must be repeatedly reviled, and ever more crudely. Here’s Marvin Minsky, sometimes described as the greatest computer scientist alive (he’s not), invariably described by lesser cognitive scientists (in the way of these things) as the smartest man they’ve met:

Of course, I also read a great deal of technical literature. But aside from science fiction, I find it tedious to read any ordinary writing at all. It all seems so conventional and repetitive. To me, the science fiction writers are our culture's most important original thinkers, while the mainstream writers seem 'stuck' to me, rewriting the same plots and subjects, reworking ideas that appeared long ago in Sophocles and Aristophanes, recounting the same observations about the human conflicts, attachments, infatuations, and betrayals. Mainstream literature replays again and again all the same old stuff, whereas the science-fiction writers try to imagine what would happen if our technologies and societies – and our minds themselves – were differently composed.

Most maddening of all to the cognitive minds, Chomsky once allowed in print that literature might have more to say about people than cognitive psychology. This comes in for special sneering in Daniel Dennett's book.

There is nothing new under the sun. Just as you can find models in Proust – Madame Verdurin, Professor Brichot, Norpois – for many of the types, now taking a different form, who keep *A La Recherche du Temps Perdu* on their bedside table. Though, as far as I am concerned, Proust's minor figures are greatly to be preferred to their contemporary instances.

Daniel Dennett thinks he hasn't got a self, he's got a Centre of Narrative Gravity. That could explain the overpowering stench of conceit, smugness, and self-regard coming off the pages of his books – he is writing the narrative himself. Could be he should change his editor.

Philosophers. Don't you just hate them! What word springs to mind when you see a philosopher on tv – I wouldn't go on tv if you paid me – or in the street? Pompous. They are so fucking pompous. Not arrogant. You need a bit of gumption to be arrogant.

### **Letter from the Man in the Street**

Found in the Guardian newspaper...

[the Bosnia letter]

Either a moron or suffering a thought disorder. Certainly likes the sound of his own voice. Get this man to a hospital. Is there a philosopher in the house?

**IQ.** You can measure intelligence only as a capacity for getting at the truth. I mean that quite literally. What would IQ tests be if the testers didn't know whether the numerical series admitted one or multiple continuations? How could a capacity for getting at the truth sit on a normal distribution curve?

### **The Saddest Story Ever Told -**

in a footnote found in Daniel Dennett's *Consciousness Explained*. It seems this Dutch cognitive scientist has a penchant for making puns.

[]

One's heart sinks. Would you invite this man to your house? Ask yourself: Who'd be more fun? X or Alan Deane?

O O O O Those Cognitive Minds – They're so elegant, so intelligent. Mais, c'est énorme! Give it to me, big boy. Come on baby light my fire.

This literary agent says to me, she says, She likes my book, loves the first bit, didn't like the diaries ... But she is deaf. She goes: You are not a diarist. I go: I was mucking around, you silly bint.

### **One of the Great Stupid Ideas of Our Time:**

Richard Dawkins' idea of memes. Even Dawkins had the sense to draw in his horns, as Daniel Dennett put it reproachfully (Dennett thinks the "humanists" got to him). The inanity doesn't appear in his later books. Someone must have had a word with him.

### **THE TURING TEST**

This is the idea of a Golem, a talking tree, Karel Capek's Robot, a Zombie that is not a zombie. Cognitive Minds and their followers are uncomfortable with the Test nowadays. They think it may be tarred with behaviourist thinking. That's not surprising, since they are surely Behaviourists in a different guise; or old Party bosses, bidding for power again, come back under the banner of western liberal democracy.

The idea was put forward by Turing in an article and accepted (*mirabile dictu*) in the philosophical journal *Mind*. It has no connection with his famous thesis. He said that if a computer could fool a human being into thinking it was a person, presumed to be remotely connected at another terminal, we should consider the computer intelligent. He wished. I wonder how he would have programmed a computer to commit suicide.

Here are the opening paragraphs of the article:

We can't choose the way we write, not at least if we want to write in any way authentically. The reason why not – and here's another idea made almost too stale to use – is that most of the available idioms (or styles) have been used up and traduced. That is why I write like this: not exactly slipshod, ragged, or clumsy, but neither fish nor fowl nor good red herring. It is not very satisfactory but it does avoid sounding like anything else, most of the time. If I manage to write in another way, as I imagine I do sometimes, it is neither the real thing nor parody.

Another consideration is that writing is the expression of thinking. Good writing is good thought. The way Chomsky writes shows that his thought is good material, good honest stuff.

You can see this is so – the straight-jacket of style – when people do their first review or article for a quality paper as a freelance. We all have an idea of what is required, where as I would say the authority of the idiom somehow bears down on us, but it is incredibly difficult to bend our natural writing style to another's. I've seen very intelligent people, brilliantly educated, spend days straining and sweating blood over their first review – and you can't explain that entirely in terms of their anxiety at appearing in print.

It is quite funny how people when they start writing as freelances love to use the word 'copy', always looking for an opportunity to drop it into the conversation. In the offices I've worked in, I've never heard a professional journalist use the word 'copy' though perhaps they do in some places. But I don't think the urge to use the word 'copy' expresses a desire to feel oneself a professional. Rather, it is a relief to use it, because then you can think of the stuff you've produced as just stuff, and needn't worry about it. I don't think I ever wrote anything that appeared in print without feeling sick when I finished it. Journalists in the same office rarely make comment on what each other produce; journalism, after all, isn't literature. But on the very rare occasions when people did toss me a scrap of praise for my stuff, I was surprised. I could see what they had liked, but couldn't relate it to the feeling I'd had in writing it.

The other thing that always occurs to people or worries them when they start writing for a publication is whether they can use the word 'I'. I can't be bothered to explain why I think this is so, but mention it to disabuse you of the idea that I use it out of egomania.

By getting in a state temporarily in writing my book, the first three chapters of the book, I did manage in some part to write differently. And as I repeatedly said, it was a very odd experience, not something I'd necessarily want to repeat, though I have from time to time repeated it in a more controlled way. I still feel a sense of shame whenever I do it, but I tentatively think I am doing it more or less properly. By far the most useful by-product of the experience was that it boosted my enjoyment and understanding of literature manifold.

None of this stuff about my psychology would be of any interest if were it not that I think it says something about writing that applies to everyone. I can't stand the idea of someone hinting at a mystery which they never deliver. I can't abide that tone of voice in my writing. None the less, I cannot put it any more clearly.

Some people can change the way they write. Norman Mailer is the only example who comes to mind, with *The Executioner's Song*. Most great writers have a very distinctive voice that doesn't vary: it doesn't need to. But many writers nowadays do not have any kind of voice whatsoever, fixed or changing. Or they write in pasteurised machine prose, indistinguishable one from the other. To me that indicates they are not producing worthwhile thought; it's worthless thought or non-thought, shoddy material or no material at all.

Although I insist philosophy is distinct from literature, the points I want to make apply as much to philosophy as literature. It's just that there is an appropriate idiom for philosophy, wherein good writing and thought can be done. That's why I find Jacques Derrida's writing

insufferable: he seems to be wanting to purloin some of literature's idioms, and as a result ends up sounding windy. He rings hollow. I don't think he loves literature at all. He's envious of it – as Sartre was of Genet. Sartre's big amazing tome Saint Genet is tantamount, it seems to me, to an attempt to disembowel Genet. Genet, by all accounts, shook his head in disbelief, or just blinked. What was all that about, I imagine he thought to himself.

I've always read but I haven't always taken it so much to heart as now – and don't always feel so strongly about it nowadays. In writing about it like this, I validate my perceptions and my responses, I make them more solid. It must be the case because you couldn't do it by an effort of will or by feigning it. To put it another way, if I keep on writing like this I can avoid the shame of feeling inauthentic, though the very act of writing as I do invites the feeling.

He thought the shame of it would outlive him.

Penrose (Shadows of the Mind) mentions experiments to show how unnaturalistic is a comprehension of logic; thus a majority of college students gave the wrong answer to this question:

If all As are Bs and some Bs are Cs, then does it necessarily follow that some As are Cs?

(The source is Broadbent D., The Simulation of Human Intelligence.)

Their mistake presumably arose because they unconsciously assumed that “all As are Bs” implies “all Bs are As”.

Penrose: “If ordinary college students are this illogical in their thinking, it might well be questioned, then how can we deduce anything of value from far more sophisticated Godelian type of reasoning?”

This betrays an absurd confusion – of the kind, one might think, he is trying to combat: between being illogical in behaviour or thought, and failing to understand a calculus, which in this case happens to be a logical calculus (presented informally). In fact, one wonders whether it is ever possible to accuse someone of being illogical in thought – and perhaps only done because of some underlying idea of mechanism; the charge implies a failure in the logical/computational mechanism below.

There are, of course, no mechanisms in nature by definition: a machine is a man-made thing. You can call a clock or an engine a mechanism. I don't think you'll find many programmers who really think of their software as mechanism.

The idea of thought being the pushing of bits of paper around in Searle's Chinese room is vraitment bonkeur, as any fool can see. No that's all it is say the cog. psy. people. Speak for yourself, buster.

Daniel Dennett thinks natural selection is an algorithm. But that makes no sense, it's incoherent. Genetic algorithms in programming are written in programming languages. There is no such thing as an algorithm outside a formal or semi-formal language.

Wittgenstein in the preface to *Philosophical Investigations*:

For more than one reason what I publish here will have points of contact with what other people are writing to-day. – If my remarks do not bear a stamp which marks them as mine, – I do not wish to lay any further claim to them as my property.

Hold on. I don't understand. Thoughts having a stamp ... a stamp that marks ... you want your stamp? ... you want to mark your stamp? ... you want to stamp on ...

There ain't no breakman on this train.

one two three four five six seven eight nine ten eleven twelve



## Notes

1. Here is the passage in which the sentence I quoted from William Hazlitt (in his essay *On Familiar Style*) appeared:

It is as easy to write in a gaudy style without ideas, as it is to spread a pallet of shewy colours, or to smear in a flaunting transparency. ‘What do you read,’ – ‘Words, words, words.’ – ‘What is the matter?’ – ‘*Nothing*,’ it might be answered. The florid style is the reverse of the familiar. The last is employed as an unvarnished medium to convey ideas; the first is resorted to as a spangled veil to conceal the want of them. When there is nothing to be set down but words, it costs little to have them fine. Look through the dictionary, and cull out a *florilegium*, rival the *tulippomania*. Rouge high enough, and never mind the natural complexion. The vulgar, who are not in the secret, will admire the look of preternatural health and vigour; and the fashionable, who regard only appearances, will be delighted with the imposition. Keep to your sounding generalities, your tinkling phrases, and all will be well. Swell out an unmeaning truism to a perfect tympany of style. A thought, a distinction is the rock on which all this brittle cargo of verbiage splits at once. Such writers have merely *verbal* imaginations. Or their puny thoughts have dragon wings, all green and gold.

2. The footnote mentioned on page ## (from D. Dennett’s *Consciousness Explained*):

Levet tells me that he himself is an inveterate pun-hunter (in his native Dutch), and he knows just how he does it. “By lifelong training I turn around just about every word I hear. I then (quite consciously) check the result for its meaning. In 99.9 percent of the cases there is nothing funny coming out. But one per thousand is fine, and those I express right away.”

3. The letter on Bosnia in *The Guardian*, July 1995:

Ed Vuillamy (For whom the bell tolls now, July 15) is surprised that the left was united around the cause of Spanish democracy in the thirties, but is now split and confused over Yugoslavia. Why?

Spain had a democratically elected, left-leaning government which was threatened by the fascist states of Germany and Italy and abandoned by European democracies. Yugoslavia was a multi-ethnic state, albeit a flawed one. Against all the principles of national sovereignty, the Germans recognised the breakaway state of Croatia – the one that fought alongside the Nazis. The break-up of Yugoslavia followed with jumped-up small-time, nationalist politicians vying for power.

None of the new so-called governments has been democratically elected, nor have their borders been internationally determined, or agreed, yet the West encouraged the process. Is it not ironic that, to return to the Spanish comparison, the

West was able to institute a tight arms embargo on a left-wing republic, but in Yugoslavia it appears impotent?

The real reason the left, and almost everyone else, feels despair and hopelessness over Bosnia is because there are no clear “goodies and baddies”, only victims and perpetrators on all sides. The cynical and manipulative position of most western governments leaves us with a sense of impotence and anger, but no useful or cohesive policy to stop the bloodshed.

4. If human cognitive functions are computational, one might expect the experts in computation (computer scientists) to be generally sanguine about the possibility of artificial intelligence. In practice, computer scientists take very little interest in the idea of artificial intelligence – mainly because algorithms and other aspects of software are so much more interesting on their own terms. If you look into any book on algorithms – Robert Sedgewick’s *Algorithms* is highly recommended, along with Donald Knuth’s major work – you will see that algorithms are far less mechanical and more mysterious than AI propagandists would have us believe. The type of algorithm most widely studied is the sorting algorithm, used to sort lists of numbers or letters. Some sorting algorithms are better for some purposes than others. The Quicksort algorithm is regarded as the best all-rounder, but is not necessarily the first choice for every task. Although Quicksort can be expressed in less than 30 lines – 30 program statements – using a language like Pascal, it is not easy to see why Quicksort is more effective than alternative sorting algorithms. The idea underlying Quicksort is, in other words, by no means an obvious one – and the algorithm was not invented (or discovered) until 1962, by C.A.R. Hoare. Computer scientists are equally interested in different types of data structures – arrays, queues, stacks, linked lists, binary trees, and so forth. These too have their uses according to the type of application. Algorithms, moreover, are frequently tied to particular types of data structure. Most significantly, the study of both algorithms and data structures is always connected to the range of tasks that computers characteristically perform: manipulating and processing numerical data and text which has been coded as numerical data. Computer scientists write at length about the ways different types of algorithm work; they describe the features of classes of algorithms; they give labels to the methods algorithms use (Quicksort uses a “divide-and-conquer” method). What they do not do is attempt to express or formulate the algorithm in English as a series of step by step instructions, except occasionally in summary form. In using words to describe an algorithm, the computer scientist must necessarily have recourse to the terms and concepts of programming. To talk of an algorithm outside of a programming language is usually meaningless. Some algorithms cannot be expressed concisely in programming languages that do not support recursion.

5. We can characterise cognitive science as the study of human cognitive functions which is based on the belief that these functions are computational. It may be the case that many cognitive scientists would not commit themselves to a belief in artificial intelligence, whether full strength AI or weak AI. A little thought on the matter shows that the first belief implies the second, protests to the contrary notwithstanding.

6. From Exons, Introns & Talking Genes by Christopher Willis, Professor of Biology, University of California, San Diego:

At the extreme upper limit, somebody with ten thousand smart alleles and no dumb ones would have an IQ of 3100, quite sufficient to become master of the universe. Obviously, this has not happened. The upper limit of human intelligence, while it cannot be measured by ordinary IQ tests, shows no signs of being at such a godlike level.

One way to get round this problem and still retain the simple Mensa model is to arbitrarily reduce the number of genes involved in intelligence. Suppose there were only fifty instead of five thousand: Then 95 percent of the population would have between 40 and 50 smart alleles and the smartest possible person in such a population would have 100 and an IQ of 250. This is far smaller than the incredible IQ we got with ten thousand smart alleles. It has even been suggested that there are such people around, but so far no one has been clever enough to design an IQ test capable of measuring such a level of intelligence in any consistent and standardizable way.

You may feel uncomfortable, as I do, with the idea that only fifty genes contribute to a character as complex as IQ. Discomforting or not, it cannot be ruled out, for it is not yet possible to design an experiment to find the real number.

One wonders what level of intelligence is required to understand that the concept of an IQ of 250, let alone 3100, is meaningless. (It has no meaningful application.) How much intelligence does it take to see that the highest IQ scores do not correlate with the highest intellectual performances (as evinced by the achievements of scientists, mathematicians, and artists)?

7. When you consider the concept of IQ in the context of computer programs, immediately a disparity appears between software capacity and the IQ notion of intelligence. In general, computer scientists have no use for the idea of a faster program, or a smarter program, or a program that makes fewer mistakes and gets more answers right – at least not in a sense that would be testable by an IQ test. An error in a computer program is not the same as a failure to give the correct answer to an IQ question; badly designed programs can give the same results as well designed programs. Certainly some programs are more effective than others; some are quicker, some can solve problems that defeat others, some are more flexible. The algorithms and data structures a program uses are a significant factor in its speed of execution, the time it takes to carry out a task. But the most important factor in raw performance is the speed of the computer hardware, the speed and power of its processor. There is no sensible way of measuring other aspects of software performance.

It is well known that practice can improve IQ scores. What would the software equivalent be? Running a program repeatedly? Feeding it a greater variety of data?

8. The opening paragraphs from Computing Machinery and Intelligence, the article in which

Alan Turing set out his idea of a test for computer intelligence: Computing Machinery and Intelligence, *Mind*. Vol. LIX, No. 236 (1950).

I propose to consider the question “Can machines think?” This should begin with definitions of the meaning of the terms “machine” and “think”. The definitions might be framed so as to reflect so far as possible the normal use of the words, but this attitude is dangerous. If the meaning of the words “machine” and “think” are to be found by examining how they are commonly used it is difficult to escape the conclusion that the meaning and answer to the question, “Can machines think?” is to be sought in a statistical survey such as a Gallop poll. But this is absurd. Instead of attempting such a definition I shall replace the question by another, which is closely related to it and is expressed in relatively unambiguous words.

The new form of the problem can be described in terms of a game which we will call “the imitation game”. It is played with three people, a man (A), a woman (B), and an interrogator (C) who may be of either sex. The interrogator stays in a room apart from the other two. The object of the interrogator is to determine which of the other two is the man and which is the woman.

Turing expands on the details of the game. Three paragraphs further on:

We now ask the question, “What will happen when a machine takes the part of A in this game?” Will the interrogator decide wrongly as often when the game is played like this as he does when the game is played between a man and a woman? These questions replace our original “Can machines think?”

Turing’s argument in the first paragraph could serve in a philosophical textbook as an example of the uses of *non-sequitur* and other forms of speciousness. The conclusion to the article is: If a machine can deceive us into thinking it is a person, we should judge it capable of thinking.

The *non-sequitur* is as follows:

1. The only way we can answer the question “Can a machine think?” is by conducting a Gallop poll. This is absurd.
2. Therefore we can substitute another question as equivalent to the initial one.

Needless to say, the new question is not equivalent to the original, and is not even “closely related” to it. One might just as validly start with the question “Can a hamster think?”, and then suggest a test for hamster thinking.

The chief objection to Turing’s argument is not that his test rests on behaviourist assumptions, but that it is circular: it assumes what it seeks to establish. If a computer could convince me it was a person, I would be delighted to acknowledge it as a thinking thing. The same goes for a pocket calculator, a toaster, a VCR player, and a steak and kidney pie. But I have no reason to believe such an event is possible, either conceptually or in terms of empirical possibility. By conceptually impossible, I mean that the idea of a computer intelligence is incoherent.

Another line of thought with regards to the Turing Test is to speculate as to who is to be convinced. Does the putative artificial intelligence need to convince everyone? Many people have had the experience of being deceived into thinking a computer was a person; notably, those subjects on whom Weizenbaum tested his psychotherapist program Eliza. Doubtless they would be wary of being deceived a second time. Since I know how easy it is to write a program which simulates an autonomous response – at least for a few exchanges – I would require very extensive tokens of intelligence and personhood before being convinced. Even then I would be doubtful. It would be easier to believe a supernatural force, a spirit of some description, had possessed the computer.

If you pursue this line of speculation, you can come to see that the only way a computer could convince everyone – or a good proportion of those participating in the Test – would be to exhibit God-like powers. Thus the artificial intelligence brigade following in Turing's footsteps has constructed a new version of the Ontological Argument for the existence of God – a kind of Ontological Argument turned upside down.

9. One reason why the myth of Artificial Intelligence has managed to pass itself off as scientific feasibility is the common portrayal of artificial intelligences in science fiction films and books. The idea of an AI is depicted in many different forms: as a robot steward or butler, an android (taking human form), the master computer on a space ship (paranoid or motherly), killing machines, corporate AIs in the books of William Gibson, and AIs acting for a world government in the books of Iain Banks. (The last two are the best writers of science fiction in English today.)

In some cases, the fictional AIs are simply contemporary versions of figures in fairy tales and fantasies: hobbits, pixies, trolls, wizards, orcs, and related creatures. Other portrayals could perhaps be seen as explorations of what it is to be human. The more realistic or naturalistic enactments of fictional AIs come in several kinds:

- The AI as a servant-steward, supreme at mechanical reasoning – reasoning that can be reduced to calculation and computation – but lacking certain other qualities that would make it comparable or superior to a human being. Examples are the androids who appear in *Alien* and *Aliens*. In the first film, the AI is a member of the crew, but his loyalty is to the Company. In the follow-up film, *Aliens*, the AI proves his loyalty to his human crew mates and sacrifices himself for them. The cuddly robots and butler robots in the *Star Wars* series fall into this category too, as does the consistently entertaining android in the British comedy series *Red Dwarf*.

- the AI as god-like, either benign or faintly malevolent. This form is well illustrated in the books of William Gibson and Iain Banks. The near divine AIs are not encountered in person, but always through their robot emissaries. Their powers, though vast, are limited in ways having to do with their lack of peculiarly human intellectual capacities. They never make important scientific discoveries and they do not engage in philosophical and artistic activities. In Iain Banks' books, the AIs serve as tutelary spirits on a world scale, whose effectiveness draws largely from their mastery of social engineering implemented through supremely talented human individuals.

- The AI as intellect without feeling. The best illustration of this theme is probably Ridley Scott's film *Blade Runner*. But the film contradicts itself in one of its main premises. Decker, the Harrison Ford character, hunts and eliminates rogue androids (called replicants). He is trained to run tests on them which reveal their artificiality. The tests presume your AI lacks affect and is callous. Yet the replicants who have been supplied with photos from fictitious childhoods are racked with homesickness for memories and upbringings they did not have. And the beautiful replicant Decker falls in love with is nothing else than a portrayal of a human being. Rather than being an exploration of the idea of pure thought, the film marks the point at which the technological conception of mind is betrayed as incoherent.

It is striking how the range of feelings AIs can express in films is in direct proportion to their physical similarity to people. *Blade Runner's* replicants cannot be distinguished from human beings. AI enactments which are obviously artificial are given a much more limited range of expressiveness. Most of the humour in *Red Dwarf's* android butler-crew member rests on his woodenness. (He looks half-way between a person and a robot.) He and the other characters engage endlessly in banter around the fact that he lacks a full set of human feelings and desires. Emotionally wooden is the most salient quality children usually see in their image of a scientist (see Liam Hudson's *Frames of Mind*). It is also the way some scientists seem to portray themselves.

10. In the article *Computing Machinery and Intelligence*, Alan Turing considers and replies to various arguments against the idea of artificial intelligence. One he calls the Argument from Consciousness. He quotes from Professor Jefferson's Lister Oration for 1949: "Not until a machine can write a sonnet or compose a concerto because of thoughts and emotions felt, and not by the chance fall of symbols, could we agree that machine equals brain". To answer the argument, Turing constructs a dialogue between an AI and the interrogator in the imitation game:

INTERROGATOR: In the first line of your sonnet which reads "Shall I compare thee to a summer's day," would not "a spring day" do as well or better?

WITNESS: It wouldn't scan.

INTERROGATOR: How about a "winter's day"? That would scan all right.

WITNESS: Yes, but nobody wants to be compared to a winter's day.

INTERROGATOR: Would you say Mr. Pickwick reminded you of Christmas?

WITNESS: In a way.

INTERROGATOR: Yet Christmas is a winter's day, and I do not think Mr. Pickwick would mind the comparison.

WITNESS: I don't think you are serious. By a winter's day one means a typical winter's day, rather than a special one like Christmas.

Turing continues:

And so on. What would Professor Jefferson say if the sonnet-writing machine was able to answer like this in the *viva voce*? I do not know whether he would regard the machine as "merely artificially signalling" these answers, but if the answers were as

satisfactory and sustained in the above passage I do not think we would describe it as “an easy contrivance”.

More than any other passage, this one shows how very odd and inconsequential Turing’s article is – in a way that is almost disquieting. It clear that Turing is fully serious in his claims. Yet the conversation between the Interrogator and the machine is essentially facetious. Nowhere else is the question-begging aspect of the argument exhibited so blatantly. Sure! you feel like shouting, if a machine could respond like this it would be intelligent. But why imagine it could? What if the Witness was a donkey?

When I read the passage above I had a faint sense of familiarity. It grew stronger as I read the writings of other scientists from the AI camp.

Two extracts from Nature’s Mind – The Biological Roots of Thinking, Emotions, Sexuality, Language and Intelligence – by Michael Gazzaniga, Director of the Centre for Neuroscience at the University of California, Davis:

A particularly significant contribution [at a conference to discuss the application of ideas about selection theory to brain science] was made by Steven Pinker of MIT, who is the world’s expert on language and on just about everything else in cognitive science these days.

A friend of Gazzaniga’s sends him an article by the immunologist Niels Jerne written over twenty-five years before, raising the idea of the applicability of selection theory to brain science.

I immediately passed the article on to the smartest man in the world, Leon Festinger, who was then working on a book on medieval history.

Another extract from Daniel D’s book Darwin’s Dangerous Idea:

For what it is worth, however, I suspect from that his [John von Neumann] formulation of the measurement problem in quantum mechanics is his one bad idea, a sleight-of-hand endorsement of a fundamentally Cartesian model of conscious observation that has bedevilled quantum mechanics ever since. My student Turham Canli first opened this door in his (undergraduate!) paper for me on the problems of Schrodinger’s Cat, in which he developed the sketch of an alternative formulation of quantum physics in which time is quantized. If I ever master the physics (a very remote prospect, sad to say), I will tackle this hunch, which might extend in wildly ambitious ways my theory of consciousness; more likely, however, is the prospect that I will be a semi-comprehending but enthusiastic spectator of this development, wherever it leads.

Daniel Dennett is not a scientist but a philosopher and is over 50 years old. The prospect of me joining the *corps de ballet* at Sadler’s Wells is less remote than that of Dennett mastering the physics.

[I would be the last person to deny that Daniel Dennett is a very clever man. Not the least of his merits is the ability to dig up excellent quotes. I particularly like his quote from Peter de Vries to illustrate the power of the comma: “Call me, Ishmael”.]

Patterns in the Mind by distinguished cognitive scientist Ray Jackendorf puts the cognitive science view of language and mind. The last chapter, Social Organisation, degenerates into waffle. Here are the closing paragraphs:

I’m claiming, rather, that human nature has a rich and complicated organisation that is largely inaccessible to conscious introspection. It reveals itself only upon careful study. If we are trying to develop social policy, it pays to attend to what such study can reveal, instead of relying on over-simplified truisms about what people want or need.

Science is often thought of as being in opposition to human values – “the triumph of reason over superstition”. I’m suggesting that in fact science need not and should not ignore human values: they are a vital aspect of our experience and ought to be studied as an essential part of human psychology. No doubt some of our most fervently held values *will* prove to mere superstitions, but others will be recognized as deeply grounded in our heredity, for better or for worse.

Two extracts from Bright Air, Brilliant Fire by Gerald Edelman, Nobel Prize winner in 1972 for physiology (a very readable book when he confines himself to his field of expertise):

In principle, however, there is no reason to believe that we will not be able to construct such artefacts someday [thinking artefacts with “higher order-consciousness”]. Whether we should or not is another matter. The moral issues are fraught with difficult choices and unpredictable consequences. We have enough to concern ourselves with in the human environment to justify suspension of judgement and thought on the matter of conscious artefacts for a bit. There are more urgent tasks at hand.

The results from computers hooked up to NOMADs [Neurally Organized Multiply Adaptive Device, Edelman’s invention] or noetic devices [Edelman’s adjective for a NOMAD] will, if successful, have enormous practical and social implications.

Where has one heard this kind of thing before? In my case, at school as an adolescent: from the science whizz-kids.

One of the brightest of these (and one of the most peculiar), who had his own chemistry laboratory at home, once gave me a good tip. He was sitting in the bath next to mine, talking about linear induction engines. He noticed me washing my hair and pointed out that the method I used was inefficient. Instead of bending forwards to submerge your head between your legs, it takes less effort to arch your back and wet your hair from behind. I have used this method ever since.



There is also an echo in the talk of these scientists that pre-dates adolescence. It has something of a quality found in English children's books written forty or fifty years ago. An Awfully Big Adventure.

In a garden in a middle-class suburb, the children meet in a hut.

“AT's had an absolutely wizard idea.”

“I bet he's fearfully clever.”

“He's going to make a robot and it's going to be very very brainy. It'll solve all the world's problems. It's going to make everything all right.”

“Too bad he doesn't like girls.”

When you remind the children that it's getting a bit late, they become over-excited and upset. Then it is tears before bedtime.

11. Throughout all discussions of artificial intelligence there is a conspicuous absence of common sense and practical consideration. For instance, you will not find any speculation on the form an AI could take. There is no indication of what level of intelligence the AI workers hope their creation will achieve. Would they be content with a mediocre AI, capable only of menial intellectual work? It sounds rather silly to ask what programming language or languages will the AI be written in; or, What data structures will it use? What kind of database system and methodology will it use? Presumably AI workers could answer that the languages will be vastly richer and more expressive or on quite a different model from today's programming languages. Alternatively, they could answer that the question is misconceived, premature, a facetious one; or, if connectionists, that the artificial intelligence's software will not necessarily be written in a formal programming language.

But there is a good reason why such questions are indeed pertinent: the fantastic claims made by the leading AI proponents. In 1959, Herbert Simon (Nobel Prize laureate in economics) and Alan Newell, creators of the LOGIC THEORIST program, predicted that “within the visible future” artificial intelligence would produce computers with processing powers “co-extensive with the range to which the human mind has been applied”. As late as 1970, Marvin Minsky claimed that “In from three to eight years we will have a machine with the general intelligence of a human being”.

When these distinguished scientists made their extraordinary claims, how did they conceive of the intelligent software being instantiated? Did they imagine that a new set of algorithms would shortly arrive which could be implemented in our temporal programming languages? That such Platonic algorithms could be written in Fortran, Lisp, Prolog, or Pascal? I am baffled.

12. What about operating systems? AI people hardly ever mention operating systems. But a computer can do nothing without an operating system. The computer's operating system is its single most important piece of software. When a programmer writes a program to run on a particular type of machine, he writes for the operating system. Microsoft Windows provides nearly 600 functions – software subroutines – for the programmer's benefit. Together they

form the Windows Application Programming Interface (API). A program that runs under Windows – a wordprocessor, for example – talks only to the Windows API; to all intents and purposes, Windows programs never address the computer hardware itself.

What is an operating system? The idea of an operating system is one of the hardest to explain to non-technical people. When you store a file on disk, the operating system consults the disk's directory and finds some spare space for the file; it copies the file to particular tracks on the disk, and then makes a note in the directory of where the file is held. When you press a key, the operating system tells your program which key has been pressed. It is up to the operating system to allocate space in the computer's memory for a program and if more than one program is loaded into memory to make sure each has its own space. The operating system notes the movement of your mouse and represents it on screen as a pointer. At the same time, the operating system is wholly responsible for what appears on screen; it provides drawing and painting routines for displaying objects on screen.

And the operating system does many other things as well. The essential point is that operating systems are by no means transparent; they do not act merely as a neutral layer of software between the user and the computer. It would be more accurate to say – as computer writers do say – that the operating system provides an environment for other programs. One might even talk of operating systems in terms of Wittgenstein's 'forms of life'. The phrase is appropriate because there is nothing determinate about the form an operating system takes. There are many different operating systems and many different ways of designing an operating system.

As we've seen, nothing happens on a computer without the agency of an operating system. No one who knows about computers has suggested it would be possible to dispense with an operating system – not in their wildest imaginings. If we are to take the idea of an artificial intelligence in any way seriously, we can reasonably ask questions about the operating system it will use.

Writers on cognitive science do occasionally employ the idea of an operating system. But they seem to think the notion is unproblematic. Here is Philipp Johnson-Laird in his book *The Computer and the Mind*:

Simple consciousness – the bare awareness of events such as pain – may owe its origin to the emergence of a high-level monitor from the web of parallel processes. This 'operating system' at the top of the hierarchy sets goals for lower level processors and monitors their performance.

On the same page:

The experience of reality is a triumph of the architecture of the mind: the operating system has no access to the processes on which it is based.

Note how in using the word "architecture", Johnson-Laird takes considerable liberties with the computer concept of architecture. Some operating systems run on several different microprocessors with different hardware architectures. Others, such as Windows 3.X, are very

firmly based on a specific architecture. Furthermore, each operating system has its own architecture. There is a hardware architecture and a software architecture. The two are not always related.

Cognitive science bases its model of the mind on the computer, then blithely ignores the most basic facts about computers – forgetting that a computer is inert without software. People sometimes talk as if the computer is a paradigm for the perfect machine. But software has long since distanced itself from the old idea of the machine. A true Mechanical Mind would be an affair of cogs, gears, and flywheels.

13. When the first versions of Windows came out, there was some noticeable vagueness about what sort of software thing it was. Computer writers and the software manufacturers themselves dubbed it a ‘graphical user interface’ (GUI). The idea was that Windows sat on top of the computer’s core operating system (MS-DOS) providing an easier way of using ‘application’ programs; principally: wordprocessors, spreadsheets, and databases. Windows acted as a layer of software which interpreted between MS-DOS and the user. Menus, mice pointers, icons, dialogs, and the like were, it was claimed, a more intuitive means of controlling programs. In the overworked phrase of the computer industry, Windows and Windows applications were ‘user-friendly’. (The term ‘graphical user interface’ was not introduced for the Macintosh operating system and interface which appeared nearly ten years earlier, because in the Macintosh the operating system and its graphical interface were more tightly integrated, were both part of the same thing.) Writers sometimes also spoke of Windows as providing a ‘graphical environment’.

This kind of talk was misleading because it suggested a hard and fast distinction between operating system and user interface functions. And it implied an idea of Windows as in some fashion transparent, serving as a honest broker between the application program and MS-DOS. In fact, even the earliest versions of Windows took on many operating system functions or expanded some of the activities and tasks which were previously the sole responsibility of MS-DOS. Nobody now thinks of Windows as merely a cosmetic front-end, and no Windows programmer – that is, someone writing programs to run under Windows – conceives of it as such.

Writers and manufactures also liked to use the phrase ‘the desktop metaphor’ when describing Windows. They were referring to the way Windows allows the user to store documents in ‘folders’ and provides graphical icons for performing certain tasks – a trash can icon, into which the user can drag other icons representing unwanted documents. This was a very peculiar usage of the word ‘metaphor’. Windows could be said to offer a representation (or a picture) of the office worker’s desktop – but only in a very strained sense of the term ‘representation’, where the language of representation is largely symbolic or iconic. There is no sense at all in which a graphical user interface can be described as a metaphor for a desktop.

My argument is that operating systems – and that is what Windows is in its latest incarnations – cannot be comprehended in the same terms as other forms of technology: bridges, internal combustion engines, electrical circuits, space shuttles (quite apart from the fact that these

systems nowadays tend to include their own computer technology and operating systems). But to make the case convincing, I would have to devote a great deal of page space to the topic and would strain the non-technical reader's patience. The best means of giving the reader an idea of how Windows works is via several disparate and impressionistic comments and examples. My knowledge of Windows is imperfect and patchy. In this respect I keep company with the great majority of Windows programmers. Learning to program in Windows does not resemble learning how a refrigerator works or learning how to adjust the carburettor in your car. It is closer to learning a language or finding your way around in a new culture.

- Windows is a messaging system. Over any short period, hundreds of messages circulate between different parts of the operating system, between the operating system and the programs running in it, between the operating system and a program's components, between programs and their components, between programs, and even between the components themselves. Every activity in Windows proceeds on the basis of messages received and sent. Messages wait in queues, are taken off or ignored.

- Windows is a multitasking system. You can have multiple programs loaded at the same time and, to a limited extent, multiple programs can perform tasks at the same time. Thus, theoretically your wordprocessor could be engaged in a search and replace operation at the same time as your home finance program calculates a monthly budget. The technique Windows 3.X uses to support multitasking is sometimes called 'non-preemptive scheduling'. This means Windows expects every application program (the wordprocessor, the spreadsheet, the drawing package, et al.) to cooperate with the system itself and other programs in its use of the microprocessor's time. 'Well-behaved' programs send a message, every now and then, by which they yield execution time to other programs. Selfish programs send no message and hog the processor's time, preventing any other programs from running.

- What is a component of a program? It could be a Windows 'control' – a form, a button, a dialog box, a list box, a combo box, an edit box, etc.. Each control is a member of a class of controls or a sub-class. Controls are owned by other controls. Each class of control has its own logic for receiving and sending messages, and for responding in a specific way to specific messages (that is, logic for processing its messages). No activity takes place, at any level, without being triggered by a message. Here are some examples of Windows messages (taken from the Windows API Bible, Waite Press):

**BN\_CLICKED.** Purpose: Notification that a button control was clicked by the mouse, or the spacebar was pressed when the control has the input focus.

**CBN\_KILLFOCUS.** Purpose: Notification that the combo box has lost the input focus.

**EN\_MAXTEXT.** Purpose: Notification that the user attempted to insert more characters than will fit in an edit control.

**WM\_OTHERWINDOWCREATED.** Purpose: Sent to all overlapped and popup windows running in the system when a new top-level window (a window unowned by any other window) is created.

**WM\_PAINT.** Purpose: Notification that the client area of a window needs to be repainted.

- Strangest of all, controls often need to send messages to Windows in order to be displayed on screen. Paint me, the message reads. And paint me as an edit box of such and such a size at this or that position on screen. If as a programmer you create a new type of control, possibly

derived from one of the existing classes, you may have to supply – as part of the code defining the new type and its behaviour – a set of instructions telling Windows exactly how to paint the control: paint me like this.

- At the level of the screen display, Windows has its own set of conventions and forms of representation. A good example occurred when I was writing a program for some booksellers. One of the program's tasks involved a fairly lengthy operation on a database of books. To indicate that the program would be occupied and that the user would not be able to access it for the time being, I changed the mouse pointer from an arrow to an hour glass symbol – following the standard Windows convention. It is recommended practice to include program code to restore the mouse pointer to its arrow shape should an error occur. This time, I didn't bother. In due course, an error did arise while I was demonstrating the new function. The program recovered from the error but left the pointer as an hour glass. It took me a while to work out what had happened, and the users were thoroughly confused. Why were we so disconcerted? Because the hour glass is the principal sign by which programs indicate that they are tied up, while the arrow is always taken to mean "Normal service has been resumed".

- No user, certainly no first-time user, learns to use software from a manual alone. Nor do users learn solely from on-screen help facilities. Microsoft has implicitly conceded this by dispensing with a manual for Windows 95. People learn to use software largely by being in a computer culture, through the assistance of other people. Very rarely do users consult help systems in order to find their way round. The chief purpose of on-screen help, in fact, is to reassure and to enact the idea of help. (If you already know quite a lot about a software system and need assistance on an obscure point of operation, consulting the on-screen help is usually futile.)

The Windows operating system – developed over the last eight or nine years by scores, if not hundreds, of system programmers – is an impressive achievement. Each successive release incorporates improvements. It is fair to say the software is advancing, both in its design and functionality – although not always in the ways Microsoft's marketing departments claim for it. None the less, the direction in which Windows develops is not fixed. Windows does not represent the best possible design or the only possible design. For one thing, the shape of Windows has been determined partly by contingent and historical factors: the need to preserve compatibility with the vast stock of application programs running under MS-DOS; Microsoft's marketing strategy in the context of the evolving PC market and competition with alternative operating systems from other manufacturers (e.g. Digital Research's GEM, initially, and later the many brands of UNIX); the architecture of the Intel microprocessor family to which Windows 3.X (and Windows 95) is tied.

14. Daniel Dennett and his colleagues liken the project of cognitive science to reverse engineering. Reverse engineering is what an engineer does when he discovers how a machine works by examining the way it functions. It is only possible to reverse engineer a device if the engineer already has extensive familiarity with the technology used to build the device. In the computer industry, working backwards in this way to reverse engineer chips and software is exceptionally difficult and not always possible.

In Dennett's view, nature has created an immensely complex software system, running on the

brain's hardware, using natural selection as an algorithm – or, less crudely, using natural selection to generate algorithms. The task of the cognitive scientist is to reverse engineer the system. (A similar idea lies behind some of the claims made for the Human Genome Project. When the 3,000 million elements in the human genetic code are held in a database, it is thought they will provide something like a blueprint or a circuit diagram for the construction of the human machine.)

Let us take seriously the analogy of reverse engineering and apply it to the Windows operating system. Would it be possible for a team of engineers to reverse engineer Windows, given enough time? By analogy, we can allow the engineers just two types of material with which to work: a very long list of binary digits representing the code for Windows, and a PC running Windows. We cannot grant them any other expertise or knowledge – by the terms of the analogy; in particular, by strict analogy, we must deny the engineers:

- an expertise in computer science.
- a knowledge of the principles of software construction.
- a knowledge of the principles of operating system design.
- a knowledge of the underlying hardware principles or the instruction set the hardware instantiates. (You cannot reverse engineer a microprocessor unless you know what its instruction set is.)
- a knowledge of the purposes and activities for which people use Windows.

My question is obviously rhetorical. The best word to describe such an endeavour is 'primitive'.

15. Equally primitive is the idea of connectionism, which is the faith in software neural networks. It can be likened to a belief in alchemy. Granted, neural networks can be taught to recognise faces and bits of speech. IBM's chess computer gave Gary Kasparov a good run for his money. Does this show conventional software is poised to achieve intelligence?

Genetic algorithms? The argument for these rested on the claim that a computer could reduce the time-scale of evolutionary processes by many orders of magnitude. Instead of thirty years, a computer can generate a new generation in a moment. Where are the fruits of genetic programming? When can we expect some results? A self-refuting argument: An evolutionary process over billions of years has produced intelligences that believe in the supreme efficacy of genetic algorithms.

16. **Quote.** The famous opening paragraphs of Marcel Proust's *A la recherche du temps perdu* (Terence Kilmartin translation):

For a long time I used to go to bed early. Sometimes when I had put out my candle, my eyes would close so quickly that I had not even time to say to myself: "I'm falling asleep." And half an hour later the thought that it was time to go to sleep would awaken me; I would make as if to put away the book which I imagined was still in my hands, and to blow out the light; I had gone on thinking, while I was asleep, about what I had just been reading, but these thoughts had taken rather a

peculiar turn; it seemed to me that I myself was the immediate subject of my book: a church, a quartet, the rivalry between François I and Charles V. This impression would persist for some moments after I awoke; it did not offend my reason, but lay like scales upon my eyes and prevented them from registering the fact that the candle was no longer burning. Then it would begin to seem unintelligible, as the thoughts of a former existence must be to a reincarnate spirit; the subject of my book would separate itself from me, leaving me free to apply myself to it or not; and at the same time my sight would return and I would be astonished to find myself in a state of darkness, pleasant and restful enough for my eyes, but even more, perhaps, for my mind, to which it appeared incomprehensible, without a cause, something dark indeed.

I would ask myself what time it could be; I could hear the whistling of trains, which, now nearer and now further off, punctuating the distance like a note of a bird in a forest, showed me in perspective the deserted countryside through which a traveller is hurrying towards the nearby station; and the path he is taking will be engraved in his memory by the excitement induced by strange surroundings, by unaccustomed activities, by the conversation he had had and the farewells exchanged beneath an unfamiliar lamp, still echoing in his ears amid the silence of the night, by the imminent joy of going home.

17. In a recent issue of the London Review of Books, distinguished analytic philosopher Bernard Williams mounts a defence of philosophy against those he maintains are hostile to it. The cover-line for the article is *Bernard Williams on Philosophy-bashing*, the heading is *On Hating and Despising Philosophy*. Philosophy bashers are fed up with the subject because it is not useful or relevant.

On the basis of this article, the main charge against philosophers must be disingenuousness. The idea that academic philosophy is threatened by philosophy-bashing is a straw-man. The question troubling people outside the academy, who may be interested in and sympathetic to analytic philosophy, is a very different one. It is rooted in a common experience: The experience of following an intricate line of thought which has the appearance of an argument, of struggling with it, finding it convincing and accepting its claims to rigor, only to see it at a later date as wrong, as having given merely the illusion of rigor. One route by which you may likely be led to see philosophical rigor as illusory is through reading another article by an equally cogent analytic philosopher which takes the opposite point of view.

Professor Williams presents a view of philosophy as a discipline and a profession. Taking refuge in the equivocation of single quotes, he talks of “getting it right”. My question is: Getting what right, Bernard?

What is the status of philosophical knowledge? Is it knowledge? How can it be? Rene Descartes put this question as bluntly as possible, then chose to ignore it, apparently believing he could give philosophical argument the solidity of Euclidean proof:

“I shall say nothing about philosophy, except that, seeing that it has been cultivated by the very best minds which have ever existed over several centuries and that,

nevertheless, not one of its problems is not subject to disagreement, and consequently is uncertain, I was not presumptuous enough to hope to succeed in it any better than others; and seeing how many different opinions are sustained by learned men about one item, without its being possible for more than one ever to be true, I took to be tantamount to false everything which was merely probable.”

(René Descartes, *Discourse on Method*)

A “malicious and cunning” demon “who employs all his efforts and industry to deceive me” is the device Descartes uses to put everything to the doubt. The one thing Descartes never doubts, the only thing his method of doubt turns a blind eye to, is his own capacity to reason. Yet what could be more deceptive, more malicious and cunning in its deceptions, more frail and more slippery, than Philosophical Reason?

Some philosophers will say: Of course philosophy is not the same kind of knowledge as that given by science or mathematics or history — and it doesn’t aspire to be. Instead, it is a kind of questioning, a fundamental questioning.

“It seems to me that philosophy is peculiar in that it has no fixed technique — no discipline, no set of operational rules in the sense in which the sciences, both empirical and formal possess them; in the sense in which they can be taught to pupils who can, if they are intelligent and retentive enough, then begin to apply them on their own.

...  
...

In so far as the first mark of a genuinely philosophical question is that it does not, as it were, carry the technical means to its own solution within itself — so that the first difficult is to establish what it is that we are asking, what it is that is troubling us, what kind of answers we would take as even the appropriate kind of solutions to this problem rather than something totally irrelevant to them (irrespective of whether they are true or false) — the solution to such questions cannot be provided by creating an army of experts who, gifted with reasonable intelligence, assiduity, devotion, can set about performing the semi-mechanical work required, as routine scientists or routine historians can perform their work without inspiration or genius or originality of the highest order, and can indeed teach others to perform useful labour without the need of these exceptional attributes.”

(from *Philosophy and Government Repression* in Sir Isaiah Berlin’s collection *The Sense of Reality*)

On the same theme, and particularly on the question of technique, we can also quote Wittgenstein: “A philosopher is not a citizen of any community of ideas. This is what makes him a philosopher.”

My respect for Sir Isaiah Berlin’s writings is so great, I am extremely hesitant about disagreeing with anything he says. Yet I think his conception of philosophy leaves something unsaid. What is the value of a fundamental questioning if it never questions itself? If it never



puts itself into question?

“They can’t all be right, can they?” Probably everyone at a very early stage in their exposure to philosophy raises this question silently to themselves and then immediately dismisses it as too shamefully crude to be uttered out loud. They censor themselves. What is it that makes you mistrust the authority of your own native intelligence? Anyone who has managed to get this far with my meandering argument will know the direction in which my answer would truthfully lie. A spurious, self-serving, and dishonest intellectual authority.

18. In the same issue of the LRB, the philosopher Galen Strawson has an article on The Sense of Self. From his investigations into the nature of self, Galen Strawson has determined six salient features of self. “Our natural, unreflective conception of the self seems to have six main elements”. His formulation of the first element is:

The self is thought of as a thing, in some sense.

The sense he has in mind turns out to be derivative of the sense of a thing as a physical object. I say this because although he talks about our natural unreflective conception of self, he is unwilling to accept that people may have a conception of themselves as other than a thing. It is not clear, that is, what kind of enquiry he believes he is engaged in. He appeals to our conception of ourselves, yet legislates on philosophical grounds against conceptions that do not match his own. Is he not aware that a large section of the academic community conceive of themselves as magic thinking machines?

Further on in Galen Strawson’s article:

A very strong form of what may be lost in depersonalisation is recorded in Gerard Manley Hopkins, who talks of considering

“my self-being, my consciousness and feeling of myself, that taste of myself, of *I* and *me* above and in all things, which is more distinctive than the taste of ale or alum, more distinctive than the smell of walnutleaf or camphor, and is incommunicable by any means to another man stress of pitch, distinctiveness, and selving, this self-being of my own.”

This is bewildering. I find it quite hard to believe that Hopkins is telling the truth, and have yet to meet someone whose experience resembles his. For most people, their personality is something unnoticed, and in effect undetectable, in the present moment. It’s what they look through or where they look from; not something they look at.

What I find utterly bewildering is Strawson’s response here. How can he imagine that the question reduces to whether Hopkins was telling the truth or not? (As a matter of fact, I have met several people whose experience resembles that of Gerard Manley Hopkins.) Does Strawson think that Hopkins is describing the properties of a physical object? When Marcel talks of experiencing himself as a church or a quartet, is he using metaphors to describe his

personality? What about Hopkins's poem *I Wake and Feel the Fell of Dark, Not Day*? The third stanza:

I am gall, I am heartburn. God's most deep decree  
Bitter would have me taste: my taste was me;  
Bones built in me, flesh filled, blood brimmed the curse.

What does Strawson think? That Hopkins has changed his mind or contradicted himself, claiming the taste of himself is incommunicable while applying the metaphor of bitterness to himself?

Later, Galen Strawson makes the time-honoured reference to James Joyce:

Joyce's use of full stops in *Ulysses* makes his depiction of consciousness more accurate in the case of Leopold Bloom and Stephen Dedalus (who have many) than in the case of Molly Bloom (who has none).

So now a philosopher allows that we have selves – selves with punctuation. One doesn't know whether to laugh or cry.

19. **Quote.** From Elias Canetti's piece *Hitler according to Speer*, in his book *The Conscience of Words*:

Both desires, construction and destruction, are acutely present, adjacent and operative in Hitler.

Even the strong impression that the building projects make on the spectator today is determined by that fact. While poring over these plans, one is aware of the dreadful destruction of the German cities. One knows the ending; and now, suddenly, the beginning is presented in its full scope [via Speer's revelations of Hitler's extraordinary building projects, intended to 'outdo' every grand building and city in history]. This adjacency is what makes such a confrontation shattering. It seems enigmatic and inexplicable. Yet it is the most concentrated utterance of what makes us uneasy beyond Hitler. It is basically the one undeniable and recurrent outcome of all previous 'history'.

It compels us to thoroughly investigate that sudden focusing of history, as which one can regard Hitler's appearance. It is impossible to turn away in disgust and repugnance, which would be natural. Nor is it enough to accept the usual methods of historical enquiry. Their inadequacy is obvious. Where is the historian who could have offered a prognosis of Hitler? Even if a particularly conscientious historiography could now manage to remove forever its inherent admiration of power from its circulatory system, it would at best be able to warn against a new Hitler. But since he would turn up elsewhere, he would appear different, and the warning would be idle.

The full grasp of this phenomenon requires new methods. One has to perceive them, draw on them, and employ them wherever they are to be found. The method

for such an enquiry cannot yet exist. The rigor of the disciplines turns out to be superstition here. The things that elude them are precisely the crucial ones. An integral contemplation of the phenomenon itself is the supreme requirement. Any arrogance of concept, wherever else it may have proved its value is harmful.

My admiration for this passage centres on the first part of the sentence containing the word “historiography” – which means the writing of history. Could a new Hitler really arise? It is pity Elias Canetti is not around any more to explain how; though of course he does say why he wouldn’t be able to explain.

20. **Qualia.** Cognitive scientists discovered these phenomena some years ago. They stand for the quality of experience, the subjective feel of things. Danniell Dennett cites philosopher Thomas Nagel as someone who believes “even a revolutionized science would be unable to deal with such properties”:

The subjective features of conscious mental processes – as opposed to their physical causes and effects – cannot be captured by the purified form of thought suitable for dealing with the physical world that underlies the appearances. [Thomas Nagel, *The View from Nowhere*, 1986.]

Thomas Nagel is not in the cog. sci. camp. But he might as well be if he believes it makes sense to talk of a purified form of thought.

Chapter 12, *Qualia Disqualified*, in Danniell Dennett’s book *Consciousness Explained* tackles qualia by way of our perception of colour. Some of us, he says, are misguided in the way we think we perceive colours; we believe they have subjective qualities, we think we have colour sensations, as in “a sensation of red”.

Of all the possible candidates for qualia, the perception of colour is the least suitable. Does anyone think they experience colours? Do we have colour experiences in the normal way of things? I don’t think I’ve ever had a sensation of red, except once when a woman punched me on the nose at a party.

Dennett is quite right: qualia do not exist. The reason is as follows:

A. There is no such thing as pure thought or impure thought. Every experience has a cognitive component and an affective component. No affect without thought. No thought without affect. No sensation without thought. All experience has a feel to it. Experience just is feel, where the word ‘feeling’ must be understood in a much wider and looser sense than normally. People sometimes complain that they lack affect. But if they really lacked feeling they would be quite content. What they complain of is the feeling of flatness. To be alive is to have the feeling of being alive, even if that feeling takes the form of a feeling of not being alive. There is no sense at all in talking of consciousness except as the condition of not being unconscious, as when one recovers consciousness after fainting.

B. In *Philosophical Investigations*, Wittgenstein returns again and again to the question of

what is involved in mental arithmetic, in calculative thought. His conclusion: nothing. At the most, calculation may be accompanied by certain mental activities but the latter are not necessary. Cognitive scientists will have no problem with this idea because their theory asserts that the computational processes underlying thought are unconscious – meaning that they are in principle inaccessible to consciousness. Cognitive science therefore has nothing to say about thought and thinking. It does not pretend to say anything sensible about feeling.

C. This is not to say that thought is in some manner subordinate to feeling; that, in Nietzsche's aphorism, "thought is the shadow of emotion". Sensations and feelings have always a cognitive component, and vice versa. For example, physical pain – its tolerableness or degree of painfulness – is in part determined by how one construes it. This is certainly true for mild pains. To use an example that has often occurred to me: Leave your hand in the sun on a very hot day; after a while the feeling of heat is at least as intense as that from an electric fire. Yet if after dangling your hand in front of an electric fire for a few minutes, without having noticed it before you suddenly become aware of an intense heat, you jerk your hand away. While the radiated heat from an electric fire is not thought to have value, the sun's heat is presumed to be beneficent – though it could well lead to sun burn. But if the amount of heat coming from both sources were measured, it would probably be found to be more or less the same, or in the same order of heat. Similarly, if you have an intermittent pain in your leg, your response to it will be mainly determined by what it indicates. Is it a passing twinge or a sign of a serious vascular problem?

It is very hard to see how intense pain could have a cognitive component. But then one only needs to think of people who take sexual pleasure from pain. True masochists do not play with the idea of pain. They want the real thing – as can be observed in clubs catering for sado-masochism.

D. Thought (thought-affect, experience, awareness, what-have-you) is plastic. There are no conceivable limits to the form it can take. Imagine you are walking down the road to a friend's house. No thoughts worthy of the name pass through your head. Nor are you troubled by any anxiety, vague or pressing. You could have a feeling of mild well-being. In such circumstances (admittedly rare), one sometimes becomes aware of one's breathing and finds it pleasurable. Then it can come to seem as if one is one's breathing. Your experience then seems to be expressed in and by your breathing. Alternatively, you might happen to think of your thinking as like breathing. When you are wrestling with a mathematical problem, your thought becomes more sweaty and physical; thinking is a strain. When you drink, your thoughts take on solidity, they may be more clearly outlined than at other times. If you are attacked by a sudden acute anxiety, your thoughts are scattered; you cannot control them. When you leave the cinema after a good film, your thoughts may be so strongly infused with the film that for some minutes afterwards you perceive everything as if you were still in the film. When you don't understand something someone is explaining to you, your thoughts gum up and are paralysed; you can no longer think. If you are unlucky enough to have a mildly psychotic experience, wherein a delusional system takes hold, your thoughts seem electrically charged, they may seem to tingle or shimmer unpleasantly. Sometimes your thoughts are things you can organize. They can be elusive and fugitive. And so on and so on, in this vein.

E. The most plastic thought-emotion thing of all is sexual desire. You do not need to be an aficionado of psychoanalysis to accept the complexity and plasticity of sexual feeling. Male sexuality is often described as a simple thing – animal lust. And female sexuality is sometimes seen only a little less crudely. Nothing could be further from the truth. If that were the case, then impotence and frigidity – for whatever cause – would be understandable only in hydraulic terms, as the cessation or damming up of a drive. Why then would people who suffer from these things be worried about them? Celibacy, after all, has been prized throughout history for its beneficial effects. When does the most unalloyed experience of sexual desire occur? In dreams, when it is not physically instantiated. Why are the depictions of sex on tv and in film so unerotic? Precisely because they portray sexual feeling as it is not – as the expression of a drive which in the healthy person is unmediated by thought and feeling. To take another tack altogether, why is even the best erotic writing so feeble in its effects?

21. Being swept up in or swept away by an emotion? Is it so very different from being swept up in thinking?

22. “Mindless violence” is the least appropriate term for football hooliganism. The hooligans are well organised. Some physical expressions of violence do indeed seem thoughtless – but the more violent they are in the sense of being purely bodily reactions the less effective they are. They do not usually achieve their aim. The brilliance of Mailer’s Executioner’s Song is that it shows how extreme violence can emerge in an intelligent man under the intolerable pressure of certain thought-emotion packages. Gary Gilmore is not explained in Mailer’s book as someone who is a victim of thoughtless murderous impulse. His murderous acts are in some respects mysterious to him; he does not feel animosity toward the individuals he kills. Even so, everything in the book makes convincing the idea that Gary Gilmore’s violence has a meaning in the terms of his psyche.

23. Real violence is very much guided by thought. And, then again, violent thoughts, thoughts of inflicting violence – which are common in all sorts of people – are among the most intense, least diaphanous thoughts one can have. It would be very foolish to think philosophers do not have violent thoughts about the ideas of other philosophers. John Searle has taken to describing Daniel Dennett’s ideas as the pathology of thought – rather annoyingly for me since I coined the term myself about Dennett’s thinking in my diary two years ago. I dread to think how witheringly Daniel Dennett would dismiss my attacks on his ideas, should they ever come to his notice.

24. When you read about Wittgenstein’s behaviour towards other philosophers in seminars and discussion groups, he comes across as the worst kind of intellectual bully and thug. He could not tolerate dissent. But his thuggery was not a matter of using specious or rhetorical arguments or of being more insistent (though he was that). He succeeded in dominating his peers only through the effectiveness of his thinking. His arguments were the weapons of his intellectual thuggery.

25. What is the relation between thought and emotion? The most widespread conception of the relation is via the idea of rationalisation. Cognitive psychologists talk of ‘folk psychology’

by which they mean the set of psychological principles the rest of the population use to understand each other's behaviour. One item of folk psychology they never mention is the principle of rationalisation, which almost everyone applies to other people's thinking. This is the idea that the thoughts we have – other people have – are primarily determined by our interests. When Shakespeare's Henry IV says to his son, "Thy wish was father, Harry, to that thought" he invokes the idea of rationalisation. In the Profumo scandal of 1962, a judge attempted to rebuke the call-girl Mandy Rice Davies. He told her that one of the British Establishment figures involved in the case had made a statement contradicting her statements. She replied: "He would say that, wouldn't he?" – thereby pungently expressing the principle everyone operates with.

But the argument from rationalisation is a bad argument. Someone says to you:

"Oh, you would think that, wouldn't you? It suits you to think that."

You should reply like this:

"Yes, it does. It is in my interests to think this point of view is true. That's why I have made special efforts to find good arguments for it."

In other words, having a motive for holding a belief does not necessarily invalidate the belief. Suppose I carry out a series of calculations which show that I am due a large rebate on my income tax. It would be absurd for an accountant then to argue with the result of the calculations on the grounds that it benefits me. The most he could reasonably suggest would be that my eagerness to claw back some tax might have led me astray in my calculations.

The Language of Psychoanalysis (authors Laplanche and Pontalis) gives the following definition of the concept of rationalisation:

Procedure whereby the subject attempts to present an explanation that is either logically consistent or ethically acceptable for attitudes, actions, ideas, feelings, etc, whose true motives are not perceived. More specifically, we speak of the rationalisation of a symptom, of a defensive compulsion or of a reaction-formation. Rationalisation also occurs in delusional states and tends towards a more or less thoroughgoing systematisation.

This strikes me as wholly beside the point and question-begging. Isn't rationalisation what psychoanalysis is all about? When an analyst presents a patient with an interpretation of his behaviour, the patient as often as not rejects the interpretation. In so doing, he gives an alternative set of reasons for his behaviour. The act of denial in a session – which analysts believe stems from resistance – can be seen as the act of producing a rationalisation.

The idea of rationalisation is a most unsatisfactory one. It is impossible to explain the phenomenon of rationalisation except in terms of the model of thought and emotion employed by cognitive science. I wouldn't be surprised if cognitive scientists embrace psychoanalytic ideas at some point. They could use object-oriented programming languages to model the psychoanalytic theory of object- relations.

26. Paul de Man was Jacques Derrida's leading disciple in the United States. After his death, a Belgian journalist discovered that Paul de Man (who was Belgian) had written a number of articles during the war for a national newspaper supportive of the Nazis. Some of the articles gave clear evidence of sympathy with fascist ideas including anti-semitism. A great hullabaloo arose in American university English departments. Many people pointed out that certain aspects of Derrida's theory would suit the interests of a person who wanted to avoid a sense of guilt over past actions (see Dennis Donoghue's comments in a review of a book by De Man, written before the scandal broke).

Deconstructionists went to absurd lengths to argue that De Man's wartime journalism did not in fact inculcate him. They claimed De Man was really a deconstructionist *avant la lettre*. Derrida himself made utterly crass remarks to that effect.

The wonder of it was why they became so agitated. People have held the right views for the wrong reasons before. What on earth did Paul de Man's moral behaviour fifty years earlier have to do with the truth or falsity of deconstructionism?

27. Sartre's Outline for a Theory of Emotion is quite interesting. But like much of his philosophical stuff, it reads as if it was written on speed – as it probably was. Until the late fifties in France you could buy a form of speed across the counter from pharmacists. Sartre bought it regularly.

Sartre's thinking is always in top gear. It is ceaseless one-paced mentation. He never stops to explain further or to question his formulations or to give them greater support. Emotion is a magical transformation of the world? Can't stop, can't stop. More theory to generate. When you read Sartre's philosophical writings, you get a very strong impression of high-powered thinking as an activity. Here is the silkiest of silky minds relentlessly coating every topic in its path with thought.

28. Psychoanalysis has a very meagre conception of the relation between thought and feeling. According to the idea of the primary process (the thought and emotion processes that occur in the unconscious), anything goes: thought and emotion are infinitely plastic. But psychoanalysis has little to say about the connection between the two at the level of consciousness.

In particular, psychoanalysis does not provide a satisfactory account of how treatment proceeds. The crudest version – now put forward only by certain psychotherapies that are debased forms of psychoanalysis – is that a repressed thought is brought to the surface, whereupon the emotion attached to it is released. There is an emotional discharge, termed abreaction by psychoanalysis. Many other psychotherapies – pop psychologies – effectively imply that there is no connection between thought and emotion. Psychic health is a matter of 'getting in touch with your feelings'.

These days psychoanalysts rarely talk of 'cure'. Yet the aim and methods of treatment remain

the same: to alleviate and dispel neurotic symptoms through interpretations. The idea of transference merely explains how such a method could be successful. What never happens, however, is that a patient suddenly comes to experience the truth of an interpretation. On the other hand, I wouldn't want to deny the effectiveness of psychoanalytic treatment on some occasions; or to deny that being in psychoanalysis is a very distinct and peculiar experience. Psychoanalysis needs to address the question of why it is not more effective as treatment. This is the mystery of psychoanalysis. Why isn't it more successful than it is? One can find some parts of the psychoanalytic theory convincing and one can have tremendously fruitful experiences during a psychoanalytic session and over a course of sessions. Moreover, other forms of therapy have little intellectual substance to them; they are not in fact backed by a cogent and consistent theory. It remains the case that psychoanalysis does not have a superior track record in treatment to any other therapy.

29. Psychoanalysis and philosophy don't go together says Freud.

Here we have the first shibboleth of psychoanalysis. To most people who have been educated in philosophy the idea of anything psychical which is not also conscious is so inconceivable that it seems to them absurd and refutable simply by logic. I believe this is only because they have never studied the relevant phenomena of hypnosis and dreams which .... necessitate this view. Their psychology of consciousness is incapable of solving the problems of dreams and hypnosis.  
(The Ego and the Id)

In his paper *Alibis of the Subject*, Mikkel Borch-Jacobsen comments that although not all philosophy is the philosophy of consciousness, most is:

... this is the dominant trait of modern philosophy, from Descartes to Husserl (and beyond): the total assimilation of being into being-represented, by and for a subject, by and for a con-scientia, which assures itself of itself by posing itself "before" itself, in the fashion of *Vor-stellung*. For such a philosophy, psychoanalysis represents a real scandal or, at best, a terrible embarrassment: in dreams, in symptoms, in the transference, something 'happens', something comes to pass; that is, manifests itself, but without my representing it. 'I' do not accompany all my representations, not because I cannot grasp myself in them (this is Lacan's interpretation, which we will examine in a moment), but because what happens to me does not happen in the mode of representation, does not take place in its space. What space, then? In an 'other scene', one that has precisely nothing to do with representation, one whose uncanny characteristics Freud spells out us: absence of delay and reflection, ignorance of negation and time, carelessness about contradiction and communication, lack of doubt, absolute 'egoism' (that is, pre-egoism), and, finally, lack of knowledge of spatiality: 'Psyche is extended; knows nothing about it'. [The last quote is from the Standard Edition of Complete Psychological Works of SE Volume 13, p.300, an essay titled *Findings, ideas, problems*].

30. Not so long ago, a formula for the relation between thought and emotion occurred to me



while I was smoking marijuana. I wrote it down on a piece of paper. Like all thoughts stimulated by drink and drugs, it didn't survive the clear light of day. The formula was: Thought is the structure of emotion. Looking at it the next day, I felt it was too formulaic. It does, however, convey something of the experience of being in analysis. As I remember my time in analysis, it seems to me that my thoughts were not under my control. It was as if they were bent into a particular shape under pressure from various idea-feelings. At the same time, they expressed those feelings and ideas. A better formula might be: Emotion is *embodied* in thought.

31. Why the numbers at the end of the manifesto? I will explain. When I finished writing it, I had my wordprocessor count the number of words. It would be nice, I thought, to make the total a prime number. With the computer, I found the nearest prime numbers above and below the current total (somewhere up in the early thirty thousands). The manifesto fell twelve short of the nearest prime above and was larger than the nearest prime below by a smaller amount (I forget how much). This presented a problem. For various reasons, I did not want to edit the piece further than I already had. On the other hand, adding one or two extra sentences to make good the shortfall would be the wrong thing to do, I felt. Hence the numbers.

Different wordprocessors do not always agree on what counts as a word. To convert the manifesto into plain ASCII text, I loaded it into another wordprocessor. Now the figure was some twenty words higher. I toyed with the idea of looking for a pair of primes in that region of numbers that were exactly 20 apart, then thought better of it. The discrepancy didn't bother me much. You can't have everything, I said to myself. Later, I removed a passage of several thousand words from the piece. I ran the word counts again and found that the original wordprocessor still gave me a prime number, while the second program still gave a composite number. Arriving at a second prime in succession was not especially significant since prime numbers are fairly populous in that region.

Afterwards, I thought of another reason for letting the numbers stay. I remembered an incident that had occurred some months earlier. I was talking to a bookseller in an elegant office which also serves as a shop for other book dealers. I knew the man quite well. A minion from a lesser book dealer approached the desk. In a most peremptory way, he harangued the bookseller. His boss had given them a cheque for £20000, why hadn't the books been delivered, and so on. I didn't know what they were talking about, but found the other man's tone rude and offensive. My acquaintance listened to him tight-lipped and explained the situation. The other man left the office. My acquaintance stood up and walked to a cabinet of books next to the window. He counted to ten out loud, tapping the top of the cabinet with his first and second fingers as he counted, then delivered himself of an angry and eloquent stream of abuse. This struck me as an admirable way of behaving.

32. What is emotion? Theories of emotion from philosophers and psychologists are far and few between. The two modern theories most worthy of consideration – from William James and Jean-Paul Sartre – are eccentric in the extreme. Effectively, they theorise emotion out of existence. William James held that emotion was the shadow of physiological change. We cry and then feel sad; our blood pressure rises, anger follows. As Sartre characterises the theory:

The essence of his thesis is that the state of consciousness called “joy, anger, etc.” is nothing other than the consciousness of physiological manifestations – their projection in consciousness if you like. (The Emotions: Outline for a Theory, J-P. Sartre.)

Sartre cites the great French psychiatrist Janet:

Moreover, even supposing that the existence of a cortico-thalamic sensitivity were established, it would again be necessary to ask the previous question: can a physiological disturbance, *whatever it may be*, account for the *organized* character of emotion? This is what Janet understood quite well, but expressed unfortunately, when he said that James, in his description of emotion, lacked the psychic.

I must beg to differ with Jean-Paul in that I think “lacked the psychic” is a very apt expression. Sartre’s sketch for a theory is open to the same objection. By the time he has finished thinking about emotions, there is nothing left to them. He grants that emotions have an organized character, a structure, then proceeds to give every variety of feeling the same simple structure.

The more one thinks about William James’s theory the madder it comes to seem. Is there a physiology for envy that is distinct from the physiology of jealousy? Is being in pain an affective state? Is the sensation of pain when it has a physical cause essentially different from psychic pain? If it is not, how would William James explain the ghostly pains experienced by people who have lost a leg? Being tickled, being amused, having one’s sense of humour stimulated ... these states are affective. There is a definable cluster of physiological and behavioural manifestations of the humour affect. But what sense can we give to the idea that there is a physiological state for humour which precedes laughter?

In Sartre’s germ of a theory, emotion is a “transformation of the world” – by magical means. “Sadness aims at eliminating the obligation to seek new ways, to transform the structure of the world by a totally undifferentiated structure. ... In other words, lacking the power and the will to accomplish the acts which we had been planning, we behave in such a way that the universe no longer requires anything of us.”

Since Sartre has announced he is merely giving a sketch (*équisse*) for a theory, he feels no obligation to make it stick. His application of the theory to particular emotions becomes increasingly strained:

Joy is a magical behaviour which tends by incantation to realize the possession of the desired object as instantaneous totality. This behaviour is accompanied by the certainty that the possession will be realized sooner or later, but it seeks to anticipate this possession. The divers activities of joy, as well as muscular hypertension and slight vaso-dilatation, are animated and transcended by an intention which aims through them at the world. ... To dance and sing for joy represent symbolically approximate behaviour, incantations. By mean of these the object, which one could really possess only by prudent and, in spite of everything, difficult behaviour, is possessed at one swoop – symbolically. Thus it is, for example, that a man who has

just been told by a woman that she loves him, can start dancing and singing. By doing this he abandons the prudent and difficult behaviour which he would have to practice to deserve this love and make it grow. ... He even abandons the woman who, as a living reality, represents precisely the pole of all his delicate behaviour. He grants himself a respite; he will practice them later. For the moment, he possess the object by magic; the dance mimics the possession.

What a load of French nonsense! We can be sure that Sartre did little singing and dancing prior to exercising his *droit de seigneur* – which he did frequently. One of the most craven and ridiculous things I've ever heard is a remark Susan Sontag made in print about Roland Barthes. If memory serves, the remark was more or less: "He assumed the considerable sexual privileges due to one in his position."

The core of truth in Sartre's theory is that emotion does transform the world, but usually in a far more mundane way. Take, for example, the way you perceive a living room. If you think of the room at all, you may think of it as dingy and lacklustre. The room is an objective correlative of your mood. Occasionally, when in a different state of mind, the room may suddenly seem transformed – brighter, jollier, more inviting. You do not say to yourself, "I am feeling unusually perky and have therefore projected my state onto the room": the room actually looks different, it is a place you want to spend time in.

Now is there ever a time when you perceive the room neutrally? Granted, most of the time (say, for example, when you are wrestling with the finer points of evolutionary theory) you have no feelings about the room either way; you wouldn't want to concede that you have an affective relation to the room. But to my way of thinking – which assumes a much wider idea of affect – the condition of being affectively neutral towards the room is itself an affect. At the age of 17 when I read Sartre's *Nausea*, it reminded me (crudely and psychologically) of nothing so much as the burlings of some of the disaffected schoolboy aesthetes around me. "I feel detached." went a line in one of the poems in the school magazine. Sartre had elevated his sense of affective neutrality into a feeling of nauseousness..

33. I don't presume to offer an alternative theory of thought and emotion. My claim for this book is that it takes the reader to a starting point – where the questions "What is emotion? What is thought?" are genuinely puzzling. I have tried to argue that none of the accounts of thought and emotion supplied by philosophers and psychologists – by thinkers, that is – are in the least bit convincing.

Here are some further considerations on the topic of feeling, emotion, sensation, and affect (four terms that cannot easily be distinguished from each other):

\* When you mention cognitive science to people who know nothing about it, they are invariably mystified. The very idea of a psychology that separates the cognitive from the affective seems problematic. I have read so much about cognitive science that I have forgotten how puzzling I used to find the term "cognitive" and now use it quite freely. I am not sure I know what it means. If you try as a layman to express an objection to the term and the practice of cognitive psychology, your arguments seem crude – as though you are saying

people are basically irrational and thought must be empty and illusory.

\* The scientific and philosophical language for talking about affect is impoverished, as is the vocabulary for affect we use in everyday life. One could say the terminology for affective states, as employed by psychologists and laymen, is very limited. It is as if only certain prominent states can be dignified with the term “emotion”. Moods, transient and evanescent feelings, negative states, feelings of affectlessness, subtle feelings, states of feeling that are apparently transparent, Sartre’s “delicate emotions”, are not generally recognized as emotions proper, as fully-fledged emotions. For a large range of feelings that may be distinct and prolonged (say, for the duration of a piece of music) yet do not fit into any of the standard categories of feeling, just one word is available: mood. My explanation for these facts runs something like this: In making inflated claims for its own thinking, academic thought must necessarily disparage the realm of affect; thought presents itself as Reason at the expense of emotion.

\* The available emotion words – envious, content, happy, angry, bored, sad, indifferent, etc. – apply only at high level of generality to the states people actually have. The states themselves are more complex and more structured than is implied by subsuming them under a single general term. If we use emotion words at all, we do not usually apply them to our own feelings. And when we do, more often than not we misapply them. Most people are not aware of the difference between jealousy and envy.

\* “State” is in any case an inadequate word for something that is dynamic and, as it were, interactive. Emotions are no more states of mind than thoughts are propositions or sentences in Mentalese. Every emotion involves an interaction with the world outside oneself and with thought.

\* If you have a fleeting experience which is hard to put your finger on, you tend to accord it a lesser reality – as though it had less substance than an intense burst of anger. Strong emotions, people think, are more respectable than tenuous ones, except of course where thinking is involved. They are stamped with the label “emotion” and have a greater right to it than others.

\* Cognitive science’s idea of emotion is the flimsiest of conceptions. All emotions are a matter of goals and drives. Emotion is always conative, to use the term of earlier academic psychology.

\* Those psychologies that at least recognise feeling as having a psychic dimension seem to conceive of it as analogous to a physical process – like a surge of juice through a system. At the same time, such a conception does not allocate emotion an effective role in the psychic system. Emotions are seen as gratuitous, almost an encumbrance. Emotions come and go, and for much of the time are absent entirely. Meanwhile cogitation carries on regardless.

34. "Take the idea of psychoanalysis, for example". This was just what you could not do in analytic philosophy until Richard Wollheim, almost singlehandedly, made psychoanalysis respectable in these circles, made it possible to consider and reflect on psychoanalysis. His book *The Mind and Its Depths* is of exceptional interest and value.