Problems of Philosophy

The Limits of Inquiry

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Wherein lies the difference between science and philosophy? Science has made great progress, but philosophy seems eternally stymied. Could it be that the questions of philosophy are so much harder, so much more subtle? No, according to McGinn, the difficulties of philosophy are epistemological not ontological; they are not a reflection of how the world is, only on the nature of our reasoning. Other beings, muses the author, may find our philosophical puzzles trivial, while being stymied by elementary mechanics, or finding the emergence of consciousness obvious, but the digestive process deeply mysterious. This is clearly meant as a crude metaphor, once considered more literally it seems to disolve into mere silliness, as with most metaphors, no matter how charming. The idea of mens limited capacity of reasoning is hardly a new idea, in fact it was a prevalent idea before the hybris instigated by the age of enlightment. Clearly McGinn does not propose a reaction, a return to the submission to divine authority, but what exactly does he mean?

To acknowledge the limitations of human reasoning also in a secular setting is also not a novel idea, as McGinn admits in one of his footnotes. Schopenhauer refers to it, and after all what is Kants 'Kritik der Reine Vernuft' if not an attempt to map out the limitations of human reasoning? During the 20th century such ideas became fashionable. Wittgenstein with his concern about the limitations of language, not to mention the Post-Modernists who have made human reasoning into a caricature and an object as well as subject of abuse. So McGinn does not only have to proclaim the limitation of human reasoning, he must also treat the nature of those limitations in a technical way and with new insights not available to say Kant.

The great philosophical innovation since the age of Kant is the Darwinian theory of Evolution. Its great philosophical content is of course not the idea of evolution, to say nothing about its documentation[1], but in proposing a mechanism for it, wonderfully simple (to the point of being almost tautological), that did away with the assumption of design and explained the principle of creation. In fact so abstract and universal those principles appear that one is tempted to apply them in far more general circumstances[2], hence its philosophical attraction. But the fact remains that the prime example of evolution on the principles of selection, is the evolution of life on this planet[3] The fact of evolution allows

[1] Evolution as a fact became more and more obvious to naturalists of the 18th century

[2] The Dawkinsian theory of memes, initially meant as a joke, but a joke that is now taken dead seriously by its author, is one more or less notorious example. Evolutionary programming is another more recent.

[3] Which, contrary to wishful speculations, most likely is unmatched in its complexity by anything else in the universe, the universe as far as we know of it, being much too small a place for the likelihood of alternative evolutions, in spite of its billions of galaxies, each containing billions of stars.

us to view man from the outside and thus reduce him to being just another facet of the universe among others. The mechanical picture that arose earlier from Newton and which suitably refined has provided the basis for our materialistic view of the world has always seemed too drastic to be really taken seriously as an explanatory scheme of such high-level phenomena that constitute man. With evolution it clearly is different, as it is phrased on a different order, the order of life. Evolution cannot be predicted only explained a posteriory and thus it provides pitfalls that falsification would normally expose[4], yet as all good theories providing a good explanatory narrative as well as suggesting places to look. Human intelligence is a product of evolution just as much as arms and legs and digestion, and with all products of evolution sharing in its imperfection and limitation. In particular it has been evolved in order to perform certain tasks, but also as with most products of evolution having 'unintended' and 'fortuitous' consequences[5]. Thus any discussion of human intelligence and reasoning power based on the evolutionary picture is bound to involve ideas and suggestions denied to a contemporary of Kant, albeit that any such inquiry is bound to be circular and self-referential, with the delights and conundrums such invariably engender.

It is clear that one modern inspiration for McGinn has been Chomsky (who provides words of appreciation on the back-cover). The main thrust of Chomskys ideas is that language is innate and that its structures are 'hard-wired' into the brain. Humans learn to talk and understand language just as they learn to walk and perform other motoric acts instinctively with no need for outside instruction. In particular language competence does not involve a theory of language, the natural speaker knows much more than he or she could ever hope to articulate and dispenses quite happily with any second-order competence. This language capacity is thus not an acquired characteristics, apart from the particular form it happens to take, but a product of evolution. McGinn even, and I think this is sound, makes a distinction between our capacity for language use and our capacity to reason. This might struck many as paradoxical, not to say absurd, as reasoning is conducted through language, and in fact reasoning seems impossible without the medium of language, which might even imply that reasoning is only one component of the more general capability of language, and maybe as such nothing but a mere outgrowth of it. On the other hand much of our activity as humans consists in perambulation, walking is an indispensible part of it, yet most of our movements have purposes that transcend the mere desire to stretch our legs.

Why is physics so successful but philosophy not? McGinn introduces the acronym CALM[6] meaning 'combinatorial atomism with lawlike mappings' to characterize reasoning. It is very hard, as well as dangerous, to try and characterize reasoning, especially in a few words suitable to be acronymized. The best two-line characterization of reasoning I know of, is the one supplied by William James. Namely that reasoning is to choose

[4] I am in particular thinking of the fanciful theories that go under the name of evolutionary psychology, dressing up the just-so-stories of Kipling in modern garb

[5] Not entirely unlike the many chemicals that are artificially manufactured for specific purposes

[6] His book is filled with acronyms most of them using only one letter. This is clearly a manifestation of playfulness as well as an attempt to affect unsentimentalism of an engineering kind

out of a multitude of possibilities something which has necessary consequences[7]. This is commendable vague enough to prevent the shortcutting of reasoning[8], but precise enough to evoke some essential features of the activity. In particular reasoning is not so much about logic, although this is of course inescapable, but creativity. Also, there is a huge difference between coming up with an argument and checking that it is sound[9]. In McGinns characterization it is not clear what is meant either by 'combinatorial atomism' or 'lawlike mappings'. By the former I guess is meant that it is constituted by primitive elements that can be logically chained together, and by the latter presumably some kind of analogy-forming is meant. The problem is that once you make a precise enough statement of reasoning to have some definite meaning to be manipulated, reasoning can transcend it, as reasoning itself is part of the subject of reasoning. In particular it is hard enough to characterize the various paradigms that is used in physics or mathematics, impossible to get an overview of all possible paradigms. The starting point of CALM reasoning is (Euclidean) geometry, a subject so eminently suitable to the approach, an approach that developed into an examplary paradigm for all other successful sciences. Mathematical reasoning being taken as the purest kind, it could be appropriate to make a slight digression.

The axiomatic method really effected a revolution of thought in Western Civilization, and one may argue that all of the successes of science boils down to it, although most of modern science is thought of as being empirical rather than deductive. One striking feature by the putting down of axioms is due to the fundamental realization that some things cannot be deduced but have to be taken on faith. Euclid made a distinction between axioms and postulates, something we tend to blur. Axioms really concerned the rules of thinking themselves (to be taken up again by Frege and his successors around the turn of the previous century), while postulates concerned the actual subject of study[10]. The purpose of the axiomatic method is to get objective certainity, to beome independant upon the fallacious testimonies of the senses, and it is this particular aspect that so excites the young student who encounters it. Namely the power of thought. The truths of the particular propositions are not restricted to figures that happens to be drawn, but all possible figures, unimagined in the mind as to their totality, but with particular essentials which somehow are fathomable. This power of abstraction fits well into Greek philosophical tradition, a tradition that in fact permeats much of philosophy through its history, namely the contrast between the confusing and multifarious world of the senses, with its tangibilities and particulars; and the simplicity and aloofness of a deeper reality only accessible by thought, eternal and general in its nature, somehow 'explaining' the accidental manifestations that

[7] This is a paraphrase of James, who unfortunately does not formulate it with quotable elegance

[8] Would we have an explicit theory of reasoning, we could dispense with direct reasoning itself, resorting to a derived variety, somehow contradicting the nature of reasoning

[9] As reflected in the notion of NP completeness in computer algorithms

[10] The most notorious being the so called parallel postulate, which was felt not to be of the same irreducible character of the others, yet 'obviously' true. The negation of this axiom opened up a hitherto unsuspected world (once again showing that true imagination only emerges under severe constraints), and also paved the way for a formal conception of axioms, not as uncontestable truths, but as arbitrary rules of a game, a developement that has had many unfortunate consequences.

are our everyday experiences[11]. But the developement of Euclidean Geometry is not just some mechanical linking of atomic statements making various combinations, but to conceive of new notions and geometrical concepts to solve previous problems and gain understanding. Those higher-order concepts, introduced by definitions, are certainly not explicit in the axioms, not even implicit, but somehow provoked by them in a process, which may well be described as evolutionary, although the metaphor (like all metaphors) should not be carried too far. In fact mathematics as practised, seldom reduces to a few simple axioms and maniplations thereof, although in principle all mathematical reasoning can be so codified (but not explained). The laymans acquaintance with mathematics is often very rudimentary, restricted to some elementary plane geometry and familiarity with arithmetics. A fragmentary understanding far from sufficient for a deeper appreciation.

Gdels theorem has gained a wide currency although its significance has been exagarrated and it plays almost no role whatsoever in the quotodian concerns of a professional mathematician. Yet, as a precise toy-model for the concerns of McGinns thesis, it has definite pedagogical value. It is essentially about the contrast between formal meaning and real meaning and plays the two concepts against each other in an almost self-referential dance, known by mathematicians as the Diagonal principle of Cantor. To be more specific, it makes a distinction between formal truth, as something being provable, and truth by transcendental inspection. What makes this distinction possible is the infinity[12], more precisely it concerns axiomatic systems powerful enough to encompass the natural integers. Thus, reasoning as specified as deduction, is not sufficient to obtain all the truths[13] Furthermore Gdel teaches that the consistency of a system of axioms can never be settled within that system itself. Once again giving tangible limits to reasoning, albeit of a limited kind, inevitably whenever a process of reasoning is made precise enough to be argued about.

The lay-out of McGinns book is to present a sample of central philosophical problem tantalizingly intractable, and to each of them apply a certain scheme of traditional viewpoints, refered to as DIME (an acronym to be explained below), showing their inadequacy, and then contrasting by his own point of view, fittingly refered to by the acronym TN (transcendental naturalism). The set of philosophical problems the author choses to consider can be separated into two kinds. One kind concerns problems of consciousness, involving the sense of self and the sticky business of free will, as well as intentionality and meaning of sentences in language, the other kind the problems of knowledge, in particular

[11] The paradigms of Plato constitute the most obvious illustration.

[12] Infinity is on one hand a philosophical conundrum, the source of many a puzzle; on the other hand a non-problematic ingredient of mathematical thought. The fact that there are two kinds of infinity, in fact an infinite hierachy of infinities, is a mathematical discovery by Cantor provoked by some technical investigations (on Fourier series) and it is doubtful whether it would ever have been discovered by pure philosophers.

[13] Penrose makes a big deal out of this, showing that the algorithmic procedures implementable on a computer are in principle insufficient to generate the kind of transcendental intelligence that is the prerogative of man. What it boils down to is that man is allowed to have an acquaintance with the infinite, going through in his mind, the numbers one by one; while such feats of fancy are denied the mechanical computer.

how we can acquire it. To each of those problem he applies the four standard points of view of philosophers when confronted by the intractable. D for domestication, I for irreducibility, M for magic and E finally for elimination. D essentially tries to reduce what is puzzling to something that is already understood. We are talking about reductionism, one example would be to reduce the phenomenon of consciousness to some purely materialistic one, which we in principle understand. E is carrying this a bit further, namely denying that the phenomenon really exist, i.e. the ultimate reduction. Thus from the E point of view consciousness is an illusion, it simply does not exist. In scientific endeavours this is a very tempting option, leaving to philosphy the dregs of the impossible. But we may also take the attitude of irreducibility, (refered to as I), that the puzzling phenomenon is simply a fact of the universe, to be taken on its own terms and not reducible to anything else we have considered. In the fanciful imagery of McGinn think of weights and shapes! We cannot reduce shape to weight, it simply is something completly independant of weight[14] In a mathematical setting we would have to add a new axiom, encountering a fact that cannot be reduced to the previous. In fact reduction can only bring us so far, in the end we cannot end up with nothing, thus as every axiomatizer realises, we need to come up with a minimal set of assumptions (which incidentally would then be consistent). And why should not the universe contain thousands of irreducible phenomena instead of just two or three? Finally M carries the I hypothesis a bit further postulating some kind of transcendant principle beyond the reach of our understanding. God being a traditional choice. Formally one may think of there being no essential difference between the I and the M positions, just as E is just a sharpening of D. The difference is that while in I we add something that is still subject to reasoning (just as the adding of an axiom does not compromise our deductive activities). M means that we abdicate from reasoning, and thus M is a position in which no respectable philosopher would want to be caught, although in certain circumstances such a stand strikes me just as respectable as the alternatives, and, as we will se below, in fact a big deal more convincing as well!

McGinn refers to his DIME classification as mapping out the geography of philosophical standpoints[15] with his own TN point of view somehow making up for an orthogonal direction transcending the other four points of view. The danger of such an approach lies in caricaturing the opponents ending up vanquishing a tottering army of strawmen. And I must admit that I find the triumphs the author proclaims somewhat hollow. What progress is there really in emphasizing our ignorance, specifically how does such a stand really differ from the classical one of defering to God? [16], or, to parody the terminology of

[14] We can imagine a brew of intelligent beings that try to relate the shape of their brains to their weights. Such parables may be silly, as I have noted, still they point out that matters who looks very hard in some contexts maybe completly trivial in another. The 'intelligent' beings that struggle with their version of the mind/brain dichtomy may appear stupid to us, yet what would prevent some putative superior intelligence to make similar remarks on our own denseness concerning our particular paradox of neural firings generating consciousness. Silly such parables will be if pursued literally, but can be indulged when taken for what they are. Playful exercises.

[15] To me I conjure up the image of a diamond (as opposed to hearts and clubs), although the actual labelling of its four vertices does not seem canonical to me.

[16] And what is God anyway? If you ask someone whether he believes in 'Strewq' the response will

McGinn, falling into the black hole of position M. In order to escape vapidity, the author needs to be more specific.

A fundamental concern of philosophy is the problem of knowledge. How can we secure objective knowledge of the world, meaning that which is? McGinn makes a distinction between *a priori* knowledge (i.e. internally generated, analytic in the sense of Kant[17]) and that empirically generated (so called synthetic)? In view of the evolutionary view-point there really is no fundamental distinction to be made. Innate knowledge is evolved, 'hard-wired' into our brains in such a way that through it the synthetic knowledge we are enabled to acquire serves our purposes of reproduction well. Such an explanation both appeals to us and repels us. It appeals to us because of its simplicity and inevitability, it repels us because of its extreme reductionism and the sense that what we take as knowledge might be illusory and subjective, and we almost seize with relish the inherent contradiction inherent in such an explanation. If we can explain our knowledge of the world as entirely pragmatic, that explanation itself is pragmatic, and hence provisional maybe even false in some deep sense. Anyway the power and scope of our intelligence, and especially its ambition, seem to go way beyond the selectional pressures out of which it must be the result. As McGinn writes, what about science, mathematics, art, what shortterm evolutionary advantages do they provide? This is not, as anti-evolutionaries might construe, an argument against evolution[18] it only points to an extremly intriguing problem to be considered within its paradigm. As McGinn rightly remarks brainpower is about flexibility, and it is this very flexibility that the enlargement of the neural network generates that has selectional advantage. Natural selection is not about design, but about fortuitous change happening to be confirmed, thus the changes effected have no casual relation to the problems to which they in retrospect are seen as solutions, and hence are not restrained to those[19]. Nevertheless it is hard not to wonder about our ability to find out hard objective facts (the kind that kick back at you) about the world. There seems to be some kind of congeniality between our minds and the world out there (in the evolutionary perspective a succesful adaptation). The belief in an outside world cannot be proven scientifically, it has to be taken on faith, a leap not

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invariably be a puzzled 'Strewq, who?', yet we all seem to have a very definite idea of who is God, especially if we do not believe in him. It is hard not to suspect that the idea of God is deeply ingrained in us, almost a kind of *a priori* knowledge, an archetype in the sense of Jung. Also Freud provided an elabourate and fanciful theory of how the idea of God took hold in the minds of men.

[17] Frege clearly conceives of logic as the law of thought, more fundamental than anything else at least in the sense of being incapable of having alternatives imagined.

[18] On the matter of human intelligence, Wallace and Darwin differed as to whether to include it in the general scheme. I forgot who was sentimental enough to make an exception, if it would have been Wallace, (as I suspect), Darwin deserves his unshared position at the pinnacle.

[19] The popular presentations of natural selection tend to stress too much the seamlessness of evolution, everything evolving for a reason. In particular I find the books by Dawkins too glib in that respect. Gould on the other hand emphasizes the fumbling nature of evolution stumbling blindly along, taking what is available with lots of unintended consequences ('corbels' in the words of Gould). I myself remembered in the early 70's being struck by traffic lights playing such a crucial role in directions in the States (as in take a right at the fourth traffic light), a role for which they surely were never designed (and not numerous enough to play a role in my native Sweden at the time).

unlike that of a religious conviction. The E position on the problem of objective knowledge is scepticism. This can take many forms. The categorical denial leads to paralysis, less categorical denials invariably stress the subjective and provisional nature of knowledge (but is this not an objectively stated fact?), emphasizing pragmatism or degenerating into the irresponsible silliness of post-modernistic posturing. The M position, held by Descartes, is based on that knowledge as well as the ability to rationally reason about it is due to God. As noted before this argument has an undeniable (scholastic) beauty to it, and carries a conviction lacking in the alternatives. How are we about to extricate ourselves from the bind of holding such a position (or is it a black hole out of which escape is impossible?).

One thing that is lacking in McGinns argument is a discussion of what does knowledge constitute? A naive view would be to say that knowledge means assigning to an infinite list of statements truth values. So to say that knowledge is static and rigid consisting of facts[20]. But usually we are not concerned about isolated facts, we need patterns, schemes of thought, theories, all more or less tied up with 'understanding' out of which we can, if needs be, generate the necessary facts[21]. Understanding and rational thought seem inextricably connected, stressing that rational thought is dynamic and inured to dogma. Of course the problem of explicating understanding is on the same level of the other intractable philosophical problems, in fact it seems to be an ultimate quest involving conscious free will with its sense of meaning and intentionality and objective knowledge, beset with the same self-referential puzzles that seem to characterize the unsolvable. Yet, something of this must be implicit in the TN-approach of McGinn, unless it simply reduces to that some things men cannot understand only gods[22]. Somehow he must refer to some kind of meta-rationality, of which human rationality and reasoning power is but one aspect; and claim that the world is rationally understandable, but for each rational intelligence, only a part of it can be fathomed, and (un)luckily presenting problems that can be asked and 'understood' by that intelligence, but not resolved[23]. To make this interesting one ideally needs to give examples, but unfortunately by its very nature, non-human reasoning is not accessible to humans. McGinn gives a few evocative metaphors, but I think that better and more suggestive ones are available, especially if you use mathematical ones. Many problems

[20] This is truly a formal view of knowledge, in which truth and falsity are but formal parameters. But contemplating the set up, we infuse it with meaning. First the assignments of truth values cannot be arbitrary (the formal approach invites the notion of many alternative worlds, the one we pick being arbitrary) there must be consistency. A second order statement, being expressible by combination of letters and thus included in the list, and hence inviting a comparison between the formal truth and the meaningful truth. This kind of reasoning can easily be made into a paradox known as the Richards paradox about 'the smallest integer not expressible in ten words or less'

[21] And understanding seems to transcend that of the individual, who is more than apt to abdicate from any extensive demands, and refer to mankind as such

[22] McGinn does not propose gods, only alternative intelligences, each with their own weaknesses and blind spots

[23] A mathematical metaphor would be that the world is a manifold, covered by local intermittently overlapping charts, corresponding to each kind of intelligence, mapping out its portion of the 'big Elephant'. Incidentally this metaphor endorses the authors insistence on everywhere 'smoothness', philosophical problems do not stand out as singular when viewed from a more comprehensive point of view.

in mathematics can formally be reduced to diophantine equations. Logicians have proved that those normally are unsolvable[24]. What does it mean? A diophantine equation either has a solution or not, as we simply check for each integer (or as it typically will be an array of integers (although the latter can be reduced to the former)) to see whether it is a solution or not. The problem is that the process is infinite and it cannot be 'physically' carried out. The only solutions we can accept are those that can be finitely encoded[25]. The logical theorem simply states that most diophantine equations cannot be solved in a finite way. This clearly being a prerequisite for us finite humans to come up with solutions Thus we have problems, admittedly not as emotionally compelling and complex as those of say consciousness, that can be stated in simple terms but turn out to be intractable to our intelligences. But for 'infinite' intelligences, able to perform all those infinite steps[26] those questions would turn out to be trivial. This example high-lights a few notable points. Our human reasoning actually understands, or at least has a strong illusion, of understanding the situation in toto. The kind of intelligence implied does not seem strange, yet is in fact totally inaccessible[27] I do not know whether this is what McGinn has in mind. Maybe the infinite as a physical reality is banished in the world, and the kind of intelligences[28] exploiting it impossible as a consequence.

So let us backtrack. So why has mechanics and by extension physics been so singularly successful? One answer is mathematics. Galileo famously wrote that mathematics is the language of nature, and anyone who wants to have her secrets revealed to him, needs to learn that language[29] And in recent times Wiegner has speculated about the unreasonable effectiveness of mathematics in the natural sciences. McGinn simply notes, as mentioned above, that space lends itself very well to the kind of analytic thinking that has served mankind so well[30] But is the spectacular success of natural science a historical coincidence? Due to some fortuitous stumbling on the right track? Could it have been possible that

[24] It was suspected that Fermats equation was of that kind. It turned out not to be. In a sense this is a miracle. Or to be more exact, the existence of the proof is a miracle, not its conclusion given its existence

[25] This is a prerequisite of so called constructive mathematics, assumed as well in David Hilberts program of formalizing mathematics

[26] If each step is done progressively (i.e. geometrically) faster, the process can be completed in finite time. This presupposes infinite divisibility of time, obvious in a mathematical setting, but far less so in a physical.

[27] An alternative interpretation would be the existence of computers able to perform operations arbitrarily fast, and with the same token having or not having infinite storage space (such have in fact been discussed by I.Stewart in one of his popular books on mathematics). Such computers could be programmed by us finite beings to solve problems inaccessible to our reasoning powers; yet we might be, or ought to be, as suspicious of their intelligence as we are of ordinary computers, considering the fact of their mindless plodding, which is not less mindless for being of infinite duration. In particular we would despair of them ever coming up with some 'solution' of the mind-body problem.

[28] Or computers

[29] I am personally very much against thinking of mathematics as a language, but such taking of exception is clearly misplaced encountering a mere figure of speech, as which I am sure Galileo meant it.

[30] Once again there is a distinction between the individual and the collective as represented by a small minority. Most people claim to be mathematically dyslextic, sometimes proudly so, is this true or just a

physics would have never really gotten off ground because people would have kept asking the wrong kind of questions? or is there really an innate congeniality between the analytic powers of the human brain and suitable theories for the natural world (or aspects of it)? Such questions bring feed for philosophical thought without the need to invoke hypothetical extra-terrestial intelligence. The social sciences, to continue the discussion, also seem inured to the kind of analytic thinking that has served so well in the study of nature. To us this might be obvious, but to the people of the enlightment it was not. What Newton had done for Celestial Mechanics, they thought to be able to do for the sublunar affairs of men. Some social sciences, like economics, had in the 18th century reached an intellectual sophistication[31] enough to place them at the vanguard. The Social sciences appear to be scientifically as fertile as the natural sciences, and the kind of questions you may ask, amendable to the same kind of authorative answer as the ones asked to nature[32]. When it comes to the standard philosophical questions however, pace McGinn, they appear quite of another order, not something we expect to treat scientifically[33]. To be precise they all seem to involve self-reference in some crucial way, offending our inborn analytic sense. From the purely human perspective they may, to use one of McGinns favourite expressions, appear queer. And what other perspective makes really sense, when we are congenitally incapable of conceiving another kind of intelligence, in which they would become mainstream. As William James so perceptively remarks, curiosity is always about finding the well-known in strange and unfamiliar circumstances. If there is nothing we can hatch on to, we gain no interest.

Thus once again we need some kind of suggestive examples to stimulate our curiosity. McGinn brings up our instinctive mastery of language. This is a kind of alternative reasoning, which remains opaque to our common reasoning (cf remarks above). We are unable to provide theories that fully explain and generate all the kinds of subtleties we can perform with our language ability[34]. McGinn also speculates about the brain possessing hidden knowledge of itself, employing some kind of reasoning to which we have no access[35]. Still there are so many things we feel instinctively true yet are unable to come up with formal arguments for. In other words we possess hidden wisdom which is inaccessible to

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put-on? In an educational setting one is inclined to believe them, but in a grand philosophical? People are in fact very much alike and thus it seems preposterous to assign to some people innate gifts of such a superior kind as to make them transcendant beings.

[31] The idas of the economists of the 18th and early 19th century were a source of inspiration for Darwin.

[32] Similarly in mathematics, as we have already noted, some questions are easily answerable, others, superficially at least, almost identical, completly intractable. Sometimes they yield by using entirely different methods, which would be the analogy of alternative intelligences

[33] Admittedly this could be due to they having resisted such efforts of inclusion.

[34] One may in this context bring up poetry as a fruit of language reasoning, inaccessible by the standard reasoning we have conscious access to. This is a view which I am sure would find many enthusiastic adherents

[35] This brings to mind Freuds theories of the unconscious, as well as the fact that the proper running of the body, to keep it well and alive, appears far more sophisticated and complicated, than the trivial thoughts of your ordinary individual. Just imagine that we would be given full responsibility for running our bodies. We would balk at the task and screw things up immediately

our analytic intelligence. All of this have the ring of truth, but it also starts to seem a bit commonplace. How many people would not agree with us? Instincts and intuition belong to those things which are almost universally cherished flattering our egos, as they are being endowed with powers we are too feeble to endow them with ourselves. One should always be suspicious of theories that are universally endorsed, true progress is usually achieved through the counterintuitive.

With this concluding caveat I feel I can permit myself to make a digression inspired by McGinns discussion of the 'unreasonable' features of our language skills, namely one on our social skills. Our social skills are clearly a product of evolution, which we share with other social mammals[36]. It is clear that our animal cousins do not possess the same kind of 'analytic' skill as we do; but when it comes to social, reading off people, they are at least by more or less sentimental reasons accorded an considerable social one[37]. Now our social skills are notoriously hard to pinpoint and describe by analytic reasoning. You do not learn to associate with people by reading books (just as you never learn to bicycle that way). Our social skills, seem to evolve just as our language skills, through instinctive osmosis. On the other hand our social skills do not develope over the generations (just as our motoric skills stay the same through history), this is why it is so instructive to read say about politics in Ancient Rome, nothing basic seems really to have changed, and we constantly recognise ourselves (whetting our curiosities as predicted by James). When it comes to reasoning, people in general are delighted when scientific insights come about through intuition, this clearly reflect the way people acquire social truths, without any conscious mental application. When it comes to reading off people, we first of all have a remarkable ability of pattern recognition when it comes to faces[38], we also subconsciously read off facial expressions or body-language in general. Some of the aspects may be brought up to our conscious reasoning ability, although such insights remain curiosities and seldom have any direct practical consequences. Such considerations may cast doubts of a permanent nature on our ability to encode say human psychology or pedagogics into any scientific scheme. Attempts to do so being just caricatures. People in psychiatry[39] furiously take exceptions to such characterizations, which they sense as hostile attacks. As to the connection of social skills with language, one encounters the same kind of intertwining that occurs between reasoning and language. Is social life not as dependant upon language that reasoning is? Would it be possible without it? It is for social animals. In fact much of what counts for speech and exchange of information is nothing but chatter; the ostensible purpose of the verbal interchanges being subsidiary to their ultimate purpose that of bonding[40]. There

[36] For most people this means dogs and horses, elephants would be a more spectacular example, to which few people have direct access

[37] Many of us know about the story about the clever horse Hans, who could count. In fact it turned out, not too surprisingly, that the horse really could not, it just sensed subconscious cues from his trainer. To me this seems a feat more remarkable than the rather trivial one of counting

[38] I have been informed that this ability almost completly goes away when confronted with negative photographic images

[39] Except those primarly involved in psychopharmacology

[40] Flattery, to take one example out of many, tends to be stereotyped, yet eagerly lapped up by its beneficiaries

is a wish, by some seen as mere sentimental, among many to communicate non-verbally, i.e. having an intuitive sense of the others wishes and conceptions, without having them explicitly articulated. One vulgar aspect of this is sexual relation, a more refined often being expressed as the communion of souls[41]. Furthermore, the social universe is in a flux, one cannot be sure of anything. Deception is rampant, pretense is legio. Your best friend may turn out to be your enemy. Individual perspectives count for everything, social truth is indeed dependant upon intention and interest. Falsifiability is simply not an option[42].

It would be easy to go on in the same vein, and just for that very reason I am reluctant to do so. Maybe one should not be so eager to make a distinction between reason and emotion, I suspect the two are more connected than one ordinarily would think. Mathematics is acquired by those with a natural ability, with the same natural osmotic ease as most people tune their social skills. If you ar a serious mathemaician, you need to have an emotional attachment to the concepts you are working with, otherwise you would come up with no ideas. Clearly it is as hard to disassociate reasoning from emotions, as it is to separate it from language. (But if we stay close to the substratum of social skill, a separation may be more feasible). As noted above, I am reluctant to make too much of this, because it is all too flattering to our intuitions.

Finally the author speculates, as he also does in the mysterious flame, that the genetic material carries within itself the key to the riddle of the conscious, but it being a riddle that may for all eternity be closed to us. The idea of genetic determinism is a simplification hoisted on an eager but ignorant public[43]. For one thing the genetic code really codes on the level of protein production. This have macroscopic consequences in the form of functioning bodies, but the relation is not direct, if in its essentials understandable in principle. There are complications, the embryological developement being an example, which I believe has not yet been properly studied by the biologists. Take the phenomenon of conjoined twins. Those turn out to be freakish organisms sharing many organs taking strange global form, yet the genetic material does not differ from what could have produced normal separate twins. All kinds of intricate solutions are supplied for which there seems to be no genetic blueprints for. Clearly the building of an organism is a local thing, involving gradients of various entities, and thus dependant upon an environment. Only a fool would believe that every thought you have somehow is coded for in the genes[44]. The genetic material provides but a small part of the total information that is needed not only to conduct a life but also to build the body which is about to be its vehicle[45]. The immune system is too complicated

[41] In the fiction of D.H.Lawrence relations between couples are not so much based on sexual intercourse as with some mutual tacit understanding

[42] The Post-Modernist attitude towards science clearly reflect this social bias

[43] And I am not claiming that the author endorses it

[44] In the same way the rules of chess, simple to learn, do not code for all possible games, let alone the clever ones. There is in fact a big gap between learning the rules and playing the game. Similarly axioms give very little inkling of what theorems that may ensue

[45] On a trivial level, there is more than the genes that are handed down to the offspring. The mothers mitochondria is one other crucial thing taking part in the embryologocal development. Thus it would not be so simple to resurrect extinct dinosaurs by simply recovering their lost DNA, the chains of births have really gotten broken, maybe irevocably so

and contains too much information to be coded by the genes. Hence it is believed that it has evolved (through a quick process) as well. Similarly the neural pathways of the brain may emerge through an evolutionary process independant of the genetic information[46]. In fact one may speculate as to a whole slew of such mini-evolutionary processes, thus the genetic material simply sets the stages for such processes to work themselves out against the environment leading to unpredictable results none of which are even implicit in the genes. McGinn may object that after all, unpredicatble as brains may evolve in their neural structures and various capacities, they all engender consciousness, except possibly in pathological cases that are of no concern to us. And thus consciousness somehow must be implicit in the genetic material. But if we will never understand how, is this not almost a tautology?

In conclusion I am sympathetic to the authors attitude of intrinsic limitations to human reasoning and understanding; but yet I find his arguments lacking in their power to compell. I find it hard to believe that billions of years from now, when the sun is about to explode and make life on earth impossible, the authors ideas on TN will be commonplace. It is hard to imagine the state of civilization only a few hundred years from now, let alone billions of years into the future, unless it has resulted in stagnation and the evolutionary degeneration of man into a less brainy creature. If so, it is hard to believe that the questions that so compell us now will have much meaning then, let alone be remembered (what beautiful conceit). The thoughts of man appear so parochial from the outside, yet from the inside they have the loftiest of ambitions, and how could it be otherwise?

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[46] Characteristically, Edelmann is a proponent of evolutionary processes in both of those phenomena, having done research succesfully in the former and made a name for himself in the latter