



## Kluge: The Haphazard Construction of the Human Mind

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Are we “noble in reason”? Perfect, in God’s image? Far from it, says New York University psychologist Gary Marcus. In this lucid and revealing book, Marcus argues that the mind is not an elegantly designed organ but rather a “kluge,” a clumsy, cobbled-together contraption. He unveils a fundamentally new way of looking at the human mind -- think duct tape, not supercomputer -- that sheds light on some of the most mysterious aspects of human nature.

Taking us on a tour of the fundamental areas of human experience -- memory, belief, decision-making, language, and happiness -- Marcus reveals the myriad ways our minds fall short. He examines why people often vote against their own interests, why money can’t buy happiness, why leaders often stick to bad decisions, and why a sentence like “people people left left” ties us in knots even though it’s only four words long.

Marcus also offers surprisingly effective ways to outwit our inner kluge, for the betterment of ourselves and society. Throughout, he shows how only evolution -- haphazard and undirected -- could have produced the minds we humans have, while making a brilliant case for the power and usefulness of imperfection.

## **Kluge: The Haphazard Construction of the Human Mind Details**

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## **From Reader Review Kluge: The Haphazard Construction of the Human Mind for online ebook**

### **Diego Petrucci says**

Non ricordo di preciso né quando lo lessi né cosa ne pensai, ma ricordo che mi piantò nella testa una delle idee più potenti (e veritieri) che abbia mai incontrato: noi, il nostro corpo, siamo soluzioni ai problemi dell'ambiente, ma soluzioni "kluge", ovvero fatte «alla meglio». Niente a che vedere con un progetto o una direzione, l'evoluzione ha usato strutture pre-esistenti per adattarsi.

Insomma: se uno studia il corpo e come si è adattato scopre che ci sarebbero millemila modi migliori per svolgere le funzioni che fa, ma è così perché è un «accrocchio», un adattamento. Anche strutture complesse come occhi o polmoni. Checché ne dicano i creazionisti.

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### **Laura Carmignani says**

Un kluge è una soluzione temporanea alla bell'e meglio, con i materiali che si hanno a disposizione, a un problema che va risolto in poco tempo.

Marcus in questo saggio considera l'essere umano un kluge — un accrocchio, insomma. Basti vedere l'apparato respiratorio e quello digerente, separati solamente da una piccola membrana; o la spina dorsale che non è adatta per camminare su due gambe e quindi crea problemi alla schiena. Continua poi con argomenti più specifici come la memoria, la fede, la felicità e, sempre basandosi su dati empirici, prova a dare un senso al comportamento umano leggendolo in chiave evolutiva.

Dopo aver elencato questi difetti e comportamenti deleteri, cerca di offrire varie soluzioni al lettore per aggirarli nella vita di tutti i giorni.

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### **Derrick says**

Marcus takes a new slant: our brains are the products of evolution, and as such, are not perfect. In fact, they're a "kluge" of different evolutionary developments, each overlaying on top of each other. He ends the book with some advice on how we can handle our imperfect minds - sort of like a self-help book on how we can deal with our klugey minds.

One annoying thing - he gradually uses more footnotes toward the end of the book. For some reason, it began to annoy me. M

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### **Maica says**

As this book suggests, the human mind is a mixture of inconsistencies. It can systematically plan and prepare, but it can also disregard those prepared plans in favor of immediate and short-term gratification. It

can store and accurately retrieve memories, but it can also hardly absorb readily available information, and sometimes, memories which can be retrieved at one particular time can also be distorted due to subjectively retained external stimuli. In other words, despite its reliability in certain aspects of information processing and retrieval, it is actually a mixture of complex areas which oftentimes seem to work together in an intertwined manner—rational decisions can be influenced with the subjective preferences of emotions.

The human mind is not infinite in reason, but as the book suggests, it is more of a ‘kluge.’

*A kluge is a clumsy or inelegant—yet surprisingly effective solution to a problem. The human mind is a fantastic kluge and it is a quirky yet magnificent product of the entirely blind process of evolution.*

It was even compared to a brand of paper feeder which was described as

*Accordingly temperamental, subject to frequent breakdowns, and devilishly difficult to repair—but oh so clever! It was possible to do better. It is a great metaphor for our everyday acceptance of the idiosyncrasies of the human mind, imaginably impressive, a lot better than any available alternative. But it's still flawed, often in ways we scarcely recognize. For the most part, we simply accept our faults—as standard equipment. Recognizing a kluge, such as the human mind, requires thinking outside the box. The best science often comes from understanding not just how things are, but how else they could have been.*

*Nature is prone to making kluges because it doesn't care whether its products are perfect or inelegant. If something works, it spreads. If it doesn't work, it dies out. All else is metaphor.*

In other words, the human mind as a kluge, is a product of evolution, if some of its functions don't work effectively, the better functions stay in place and improve, while newer functions are developed to replace the ineffective ones.

Since the main ideas presented on this book are based on Evolutionary psychology, much of its concepts had to be looked into question, and since the mind is modeled like a clumsy instrument, developing on a random process, the question remains, is it really so?

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### **Colin says**

In Kludge, Gary Marcus highlights a number of design problems with the mind and explains the corresponding evolutionary reasons why these problems have arisen. It's a very easy read but also very deep in knowledge. I found items in my own life explained that have always bothered me deeply (why is goal setting so difficult - it always seems like future discounting takes away the desire to to good goal setting). He also recommends some ideas on how to get past these mind design failures.

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## Melody says

Tremendously enjoyable explication of the cobbled-together nature of the human mind. Cogently explains, among other things, how we can't trust our own assessments about, well, nearly everything. The chapter on language is especially fascinating, the chapters that cover rationalizations and happiness are more squirm-inducing than otherwise. Very accessible and full of enough lame jokes and fun asides to keep it from being too scientific. Highly recommended.

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## Al Bità says

This wonderful book confronts a truth about evolution as it relates to biological science. The title rhymes with 'rouge' or 'scrooge', and is slang for 'a clumsy or inelegant solution to a problem'. It is used by Marcus to refer to the haphazard construction of the human mind, as necessitated by evolution.

Darwinian evolution has given us powerful insights which explain how each one of us as individuals are indeed individuals: we are products of a system which, while generally resulting in similar-looking bodies, for example, yet allows each of us to retain our individuality and distinctiveness. We have thus come to learn that no human being's body is 'perfect': we can now understand more comprehensively that each person's physical body has within itself certain specific 'imperfections' specific to 'me', but different to others, which in general we appreciate as contributing to our rich and rewarding awareness of differences and diversity.

The ideal of 'perfection' is our greatest illusion. It is usually limited to the realm of the Arts, where it 'exists' only as an Ideal, but is pervasive in philosophy and reasoning as well. It is in this area that we have been misled for millennia by Plato's rationalisation of these Ideals as being the only true Reality, with *everything* else, everything in the **real** world, being merely 'shadows' of those Ideals, not reality itself. Such a misconception creates real problems for 'ordinary' human beings who as a result cannot, or are unable to perceive themselves as having anything to do with 'ideal beauty' or 'ideal perfection'. We must accept ourselves as being imperfect, and often miserable and sometimes even evil aspects ('sinners') of some imagined 'true' humanity. It is not a surprise, therefore, to find that most religions and their ilk belabour this point, precisely because these organisations then proceed to try and convince us that they are needed to teach us how to achieve release from these imperfections, sometimes in one go, but mostly only through passing through specific ritualised procedures, before achieving differing higher 'levels of being', the absolute resolution of which will occur only when you are dead (imagine!). (In this context, therefore, this work can also be considered as a demolishing of the belief that human beings are 'perfectly designed' mechanisms.)

As a psychologist, Marcus is intrigued by the fact that despite this awareness (at least by those who understand that the concept of ideal human bodily perfection is an illusion) it seems that we have yet to fully comprehend that this same type of 'imperfection' lies in what we call the human brain, and so in our minds. He sets out to set the record straight, examining such 'mind' qualities as Memory, Belief, Choice, Language and Pleasure. All of these are kluges: none of them are 'perfect'; they are 'a clumsy or inelegant solution to a problem' which will 'make do' in dealing with the problem: they are **not** the most perfect solution for that problem. More importantly, none of them **can** be perfect, precisely because what we call our minds are also products of a very long process of evolution. Bits and pieces of 'earlier' remnants of our evolutionary history are retained in our brains, and 'later' developments are layered on top of these. 'Resolutions' by the mind will therefore be affected by the influences of these earlier 'solutions' (themselves kluges) and the different

combinations and permutations available to that mind in the present environment. To be human, therefore, means to be quintessentially 'imperfect': a perfect human being must, by nature, be imperfect. It's who we are.

For some people this might sound terrifying, if only because this questions the very nature of our 'absolute certainties' on about just about anything we believe, remember, feel, etc. Those who firmly believe they are in perfect control of their mind and in what happens to them and their bodies (and who expect others to be the same) might find this 'message' disconcerting. They may feel that accepting this message is too 'costly' — that in losing 'certainty' we are losing too much. Ultimately, however, appreciation of this reality of our imperfection can only result in the acquisition of greater wisdom, not only about ourselves and the external world, but also in regard how we 'deal' (personally, socially, politically, etc.) with these matters. It will make us calmer, more tolerant and understanding, less judgemental, and more able to be amused rather than annoyed or even angry at ourselves and towards others.

If all the above issues sounds heavy-handed and difficult (and perhaps they are) Marcus writes in a clear, compassionate, and illuminating way, using readily accessible language which no one would have difficulty understanding. What the reader gains, on the other hand, is wonderfully liberating and leads, naturally, to an kind of wisdom.

Marcus indeed provides a final chapter entitled 'True Wisdom' which offers 13 suggestions anyone would do well to adopt in their everyday dealings with themselves and with others. A sample: "Always remember that correlation does not entail causation" (a scientific truism consistently disregarded by pseudo-scientific reports); "Always weigh benefits against costs" (another truism often misused — 'hidden' benefits and costs are often missed); and "Beware the vivid, the personal, and the anecdotal" (they tend to make the listener extrapolate generalities which are simply not true). These are not 'rules' but suggestions. Their intent is to help us become aware of the 'kluginess' of the human mind and to help us appreciate that we can choose more wisely in our dealings with our realities; and with any luck we will all be wiser and happier as a result.

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### **Bob Lake says**

A long article stretched to a small book. This popsci book will be disappointing to anyone who tends to follow brain/mind science, but to someone who is new to the field will enjoy this book.

The premise is that the mind's faults are due to the brain's having been evolving in a stepwise fashion. Our original primate brain (reflexive) has had layered on top of it a "deliberative" section. These two parts are often fighting for control producing results that are not always satisfactory. Interesting theory that could have been examined in a longish magazine article.

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### **Conor says**

The Good: This turned out to be a wonderful little book which surveyed many of the ways in which the human brain doesn't function rationally or ideally. The examples are wonderful, and I found exception with very few of his arguments. Similar to Malcolm Gladwell's Blink, Kluge gave me a bit of insight into how to combat the flaws in my brain's design and to live more rationally. At the end, Marcus explains (successfully)

how the science of evolutionary psychology roundly debunks intelligent design theory.

The Bad: Marcus snidely inserts his political and religious views throughout; these intrusions throw off the flow of the book and serve little purpose.

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### **Jessie B. says**

This book presented one of the best arguments I've heard against creationism/ intelligent design. It suggests that we evolved enough to survive, rather than to the very best, so many human systems (the spine, our reasoning capacities, even language) is just "good enough", and often not the optimal, but rather a kluge which does the job needed but nothing more. Why would an intelligent designer create such an imperfect system when they could make the best one possible I don't agree with everything this writer says, but it is food for thought.

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### **Lena says**

Kluge is a slang term for "a clumsy or inelegant solution to a problem." In this new book, psychologist Gary Marcus argues that the human mind itself is a kluge, and then goes on to discuss how this explains why you can't remember the name of that woman from your yoga class when you run into her at the movie theater.

The basis of Marcus' argument is that evolution was working with the tools at hand when it whipped up the more complex parts of our brain and that the result, while generally functional, is often far from optimal. In each chapter, Marcus details various maddening brain systems ranging from memory to belief to pleasure and offers intriguing reasons why they so often fail to work as we would like them to. In the chapter on choice, for example, he points out that we often make highly irrational decisions when it comes to money because our mind is basically trying to wing it with a system that was developed not to deal with money but rather with food. Anybody who has ever found themselves staring at the result of some financial indiscretion will well understand that evolution is clearly still working out the kinks on that one.

Marcus is not shy about highlighting the fact that klugey nature of our minds does not bode well for arguments in favor of intelligent design. As he discusses how we adapted our existing physiology to deal with the increasingly complex demands of language, it does make one wonder why—if there was an intelligent designer involved—the adaptations to the larynx that gave us more control over our vocalizations also dramatically increased our chances of choking to death. It does seem like there could have been a better way.

Though this book does revisit some territory I was already familiar with, his fundamental premise was compelling enough that it added a new dimension of understanding to the things that frustrate me about my own brain. In his final chapter, Marcus makes a good argument that we all need to understand the sloppy shortcuts evolution made with our minds so that we can better defend ourselves against the tendency of advertisers, politicians, cults and the like to exploit the flaws in the system, and he concludes with a useful, 13-point listing of concrete steps we can take to counteract the built-in weaknesses of our klugey brains.

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## Trevor says

In some ways the start of this is just The Psychology of Judgment and Decision Making put into chapters and continuous prose. Not that I mean that as a bad thing – quite the opposite. The ideas in both books are terribly important to anyone with a brain, particularly anyone who finds that brain getting away with terribly odd and distressing things at times.

When I Googled Kluge I found that there are quite a few people out there called Kluge – as my American friends might say “a bit of a bummer”. In this case the word means an engineering ‘fix’ that is quick and dirty and relies on what is ‘to hand’, it means making do, not coming up with the best possible solution.

The main point of this book is, like the main point in many of the essays by Stephen J Gould, that evolution doesn’t always do the best possible thing, but always does a great job with what is available. The Panda’s Thumb being both a great book to understand this idea and an excellent example of precisely this evolutionary concept at the same time. The Panda has no thumb, but it has a wrist bone it has more or less successfully evolved to use for the purpose. If you could start from scratch would you end up with a thumb like the Panda’s – no. Did the Panda have the option to start from scratch – no.

In passing this book is an excellent critique of Intelligent Design – but where Darwin criticised this notion on the basis of the badly designed bits of the human body (too many teeth for our mouths, a vestige tail bone, an appendix that does very little other than rupture occasionally and then kill us) this book does much the same with our curiously badly designed brains.

He quotes that lovely line about rationalisation being more important than sex (when was the last time you went a week without a rationalisation?) and in fact many other wonderful little quotes and asides that made this quite an amusing read.

The best bit of this is the last bit where he goes through the sorts of things that one ought to do not to be too fooled by our makeshift minds towards the end. These are the sorts of things you can never hear too often – avoiding confirmation bias where we select the facts that support our views and ignore those that challenge them, trying to think of alternatives, reframing things so as to see what we are thinking about in another light – all of these are things we do far too infrequently and would be better people if we did them more often. There is a nice piece of research on asking female coffee drinkers about some research into the bad effects of coffee on women here where many of these biases are shown all too clearly. This is a book where if you are paying close enough attention you might see yourself over and over again. As someone who took far too long to give up smoking the shock of recognition involved in self-justifying arguments for what I was planning to keep on doing anyway does dampen my ability to call out “ALL IS RATIONAL” with any gusto.

One of my favourite bits from this last section of the book was a report of an investigation where it was found that people tended to pay for their coffee more frequently in the office honesty-box if there was a poster near the coffee with a pair of eyes in it rather than a poster with a flower, say. He recommends pretending that you are going to have to justify your decision after making it as a good way to make better decisions. Perhaps this is as a good reason as any to believe in an ever-present God? Not because this sort of creature makes a lot of sense in itself, per se, but because it (or It rather) encourages us to think again about the decisions we are making.

There is also a very interesting discussion of mental illness (depression, bipolar disorder, etc) in which he

talks about the theories concerning the evolutionary advantages of these disorders (and also the *good uncle theory* which ‘explains’ homosexuality) and thankfully comes to the conclusion that these ideas are simply trying too hard to explain stuff that might not need to be ‘positively’ explained by evolution at all. You know, perhaps anxiety and depression are bad side effects of a haphazardly put together brain – perhaps homosexuality is due more to people being more interested in the pleasure that might be derived from sex (you know, like 99.99 % of all other sex) than the vague advantages that might come from having an uncle who doesn’t seem to have kids of his own.

I’m very fond of these books on the types of systemic mistakes we make due to our curiously evolved brains – and this one is nicely put together (perhaps, unlike our brains) and is quite a fun read.

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### **Beth says**

Found the content very interesting, not only as it applies to me but also, as a teacher, as it applies to my students (and why some of them just can’t memorize their math facts or other useful information :-) I’m reminded of the importance that learning be contextual and am further inspired to keep plugging away at best teaching practices!

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### **Elaine says**

(I read the NOOKcolor ebook edition)

I thought I'd really love a book about evolution's mistakes, especially one who shows irrefutably Creationists are. Marcus starts out by noting that if God made man in His image, and if he made man perfect, it's more than passingly strange that we have lousy spines that are actually retreaded quadruped spines. Everyone who has had back and neck problems can relate to this,

However, that was the beginning. Where Marcus goes stupidly wrong is his claim that if God really designed man. He would've given homo sapiens memory like a computer's, what he calls "postal code memory," in which each memory is at a specific address in the brain. Instead God designed man with contextual memory which has us retrieve memory by thinking of something related to what we want to remember. Also, God wouldn't have given man language which can be ambiguous and in which every word has more than one meaning. Marcus shows his incredible ignorance on why our memories and languages are maximally effective, especially in that they can be adapted to new contexts immediately.

I will be writing a probably vitriolic post on this topic tomorrow at

<http://smarthotoldlady.blogspot.com>

I have already written two posts on this blog about Marcus, which explains the many things wrong with this book, and also three posts on the evolution of language, so I won't repeat any of this here.

How can such an idiotic book get published. Well, if you have academic credentials and you write in passingly clear prose, publishers will take a chance on you, I guess.

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## Kristin says

This is for you, Kirsti!

First of all, I learned a new word in reading "Kluge", and I have used that word in conversation already. And had to explain it. But that's hardly the point of this book.

The point, largely, is that the human brain, once so lauded (see the Bible, Shakespeare, etc.), is really just a somewhat cobbled-together affair which "does the job" but leaves much to be desired (the definition of "kluge" being a clumsy or inelegant solution to a problem). Marcus gives excellent examples of kluges in the brain in the "Memory" section (see: vision), but goes on to be a little less precise. Yes, the human brain does seem to have been made in rather a "hodge-podge" manner, but it has been necessarily so. We have built on the "old" brains of hominids and older ancestors and had to tackle new, shinier problems. This is the very crux of the problem, according to Marcus. He makes a pretty convincing argument. And he's a snappy writer.

I have to wonder, however, if he is right. Evolution sure has done some crazy things, but it sometimes seems to have a strange, all-knowing "mind" of its own. I mean, yes, the spine is clearly a kluge--it's faulty, it barely works, it's incredibly prone to injury, etc., but who knows, maybe in the long run, or in some way that is not presently clear, the spine really "works" for us, and as more than just a kluge to get our hands freed to do things. It's hard to say. Honestly, the jury is still out.

At any rate, I liked this book a lot. It gave me much to think about and has some handy tips for our faulty brains. 4.5 stars.

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