

Bright Ideas

WHERE IDEAS COME FROM AND HOW HUMANS ARE UNIQUELY SUITED TO HATCH THEM

by Julie Haire

■ We humans appear to be the only species with the capacity to think the way we do. But *why* is still the question – one that Mark Turner explores in *The Origin of Ideas: Blending, Creativity and the Human Spark* (Oxford 2014). Turner, professor of cognitive science at Case Western Reserve University, focuses on the theory of blending – the ability to blend existing ideas to form new ideas – and posits that when humans build blend upon blend, they ultimately innovate. We talked to Turner to learn more.

BrainWorld: You claim the human mind hinges on the concept of blending. How so?

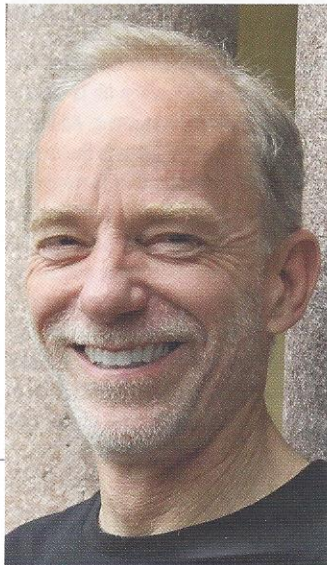
Mark Turner: If only we had a time machine, like Dr. Who, we could drop in on Earth 200,000 years ago and see so many species, some of them doing spectacular things that human beings cannot do, and deploying amazing minds with attention, memory and perception. But we would not see the ability to *think* at vast scales, inventing flexible new ideas that arc over time, space, causation and agency. We would not see art, science, mathematics, religion, dance, fashion and all the other amazing advanced performances that distinguish human beings. Something happened. Blending is a basic mental operation, and rudimentary blending seems to have been around in the descent of species since early in the mammalian line. The blending hypothesis claims that a small additional development, to achieve the level of advanced blending in which we blend strongly opposed concepts, was a tipping point: It was a tiny evolution with a cascade of grand effects throughout the human mind, giving us the ability to create and innovate with unprecedented power and speed.

BW: Why is this a controversial idea?

MT: First, popular culture and research alike view human thought as separated into boxes: language, music, social cognition, gesture, humor, categorization and so on. The blending hypothesis claims that these different performances share a basic mental operation, a system that runs across them and makes them possible in the first place. Second, it is natural, if wishful, to hope that we can study the brain by studying little, simple, basic things first, and then, much later – which means never – study remarkably creative and inventive thought. The blending hypothesis claims that this is backward: The supposedly simple and basic feats of human thought are wildly complex, and they share a foundation – advanced blending – with the most remarkable performances. Simple things only look simple. We are blind to their wonder.

BW: Is the human brain ever not blending?

MT: You are doing fabulous blending even to read this sentence. Certainly, you are blending when you dream. Advanced blending plays a role throughout the human brain, but it is just one tool.



It enlarges the power of every other tool in the toolbox and dramatically changes what we can accomplish. Yet we still must do all the mental work necessary to create and learn the products. It took human beings tens of thousands of years to build products we now take for granted: writing, cultures, table manners, languages, complex numbers, tax law.

BW: With so many blends happening over the course of a day, how does the brain determine which are useful to keep and develop and which should be discarded?

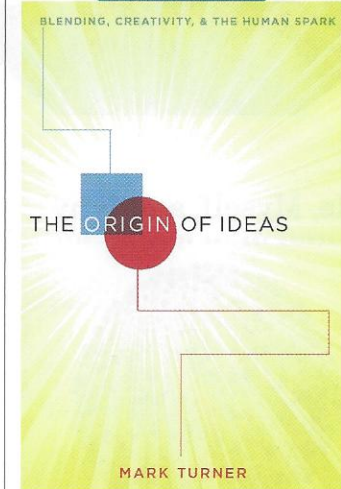
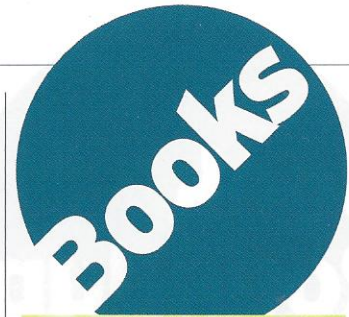
MT: I think of the human brain as constantly trying to blend different things, unconsciously. Any two ideas activated simultaneously in the mind are candidates for blending. Nearly all of these attempts fail even to meet the principles of blending. The few that do mostly fail to survive various governing constraints on blending; the few that do often attach to no purpose, and so pop like transitory bubbles. Poof. Almost none of the products of blending ever enters consciousness. Much of the usefulness of culture lies in its creating a great web of other people to help us locate and sustain good blends that might otherwise just slip away.

BW: A blend may be more valuable when it allows us to navigate a situation rather than when it gives us an accurate picture of a situation – why?

MT: Having an accurate idea of reality can often help us to be fit, but, in itself, accuracy is not the fundamental measure of fitness. For fitness, we need tractable ideas we can work with, often very quickly, ideas that foster fit performance. For fitness, we need a memory that helps us perform in the present and navigate into the future. Advanced blending is indispensable for the flexible, large-scope navigation into the future that distinguishes human thought.

BW: Why are humans able to perform blending at an advanced level when other mammals are not?

MT: This question is, in my view, the central open question of cog-



nitive neuroscience. In the book, I review the neuroscientific hypotheses – all of them at the moment utterly speculative. There are glimmers. A few ideas have emerged recently, since I wrote the book, that might launch a neuroscience of blending. But, given the blunt nature of our present tools for investigating the brain, the field is embryonic. The question is very exciting but very hard.

BW: You use the movie *Winnie the Pooh and the Blustery Day* as an example of blending occurring on many levels. Is it possible for a child to grasp the story without blending?

MT: Border collies, New Zealand rooks, dolphins, bats, elephants and bonobos are awesome. But even if they have been raised in the same household as the human child, they don't seem to have a clue what to do with Saturday-morning cartoons, while the human 3-year-old parses the cartoons, usually without apparent effort, laughing all the while. The child is using advanced blending nonstop in such moments. Every child has advanced blending, and that is why every child is born a genius. **B**