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If only I were, then I am.

### **The Rational Imagination**

By Ruth M .J. Byrne

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If only I were rational, then I am rational. I'm confused. We're confused! If only I were rational, then I would have better applied the possibilities imagined, the counterfactuals and semifactuals. If only! Even if! If only we had accepted that the supreme gift of life evolving is rationality, then we would have realized that it is a dialogue of reason we should have worked to master. Even if we'd all read our Plato, Aristotle, Kant, Hegel, James, Dewey, and Kekes, the probability of calculating the optimal solution to our problem would have been difficult. If only we had merged the mythos of our ever-present past with the logos of our ever-present present, then we would have realized that it is imagination and reason that are one: it is a dialogue of imagination and reason that provides us with the solutions. If only the solutions were correct! Even if! Tell me, who says the logic of possibilities is rational?

Some years ago, in the faint light of a December morning, the air crisp and cold, I recall sitting happily wrapped in a duffle coat, surrounded by fellow students who listened on, wistful and confused, as our kindly professor hammered out the art of logic. Even if our professor were a renaissance sculptor who equalled Leonardo Da Vinci in appetite and skill, he could not have shaped order from the chaos of *conclusion-from-premises-proposed*. Perhaps it was the abstract examples used, or the absence of warm porridge and tea in the belly, but logic became, for many, the greatest nightmare of modern living. Rather than depart with crafted minds - Vetruvian symmetry of thought and a love of rationality - many students marched to morning tea with a chip on their shoulder. Unfortunate is the conclusion that our logic seminars did not instil the pragmatic spirit of C.S Peirce, William James, John Dewey, or John Kekes. Little did we appreciate at the time that conformity to standards of rationality is not a matter of choice, for if one means to adapt to the

contingencies of the world, a policy *against* rationality cannot be pursued for long: It leads either to death or inconsistency. We apply our own selection pressure.

Ruth Byrne and her colleagues have investigated the thinking process for over 20 years. In seeking to understand how people imagine alternatives to reality, Byrne has come to the conclusion that the human imagination is rational. This conclusion has been drawn from a unique perspective on the function of imagination, a perspective that emphasises how it is we apply our rational machinery when thinking about possibilities. It is argued that people make inferences by imagining alternative possibilities, and that the imagination is rational because counterfactual thoughts rely on thinking about possibilities. The research findings used to support this argument illustrate how rationality functions around the fault lines of reality - the subtle flutter between the real and the unreal, the factual and the counterfactual. The great significance of this research is the rewarding conclusion that imagination and rationality are one, even if they don't always appear to cooperate. In the spirit of Dewey (1910), Byrne's book, *The Rational Imagination*, tells us much about *how we think*. And in an era when good sentiment and good judgement are unjustly confused by another new generation of lay and academic psychologists, Byrne's book is beneficial: It is a book that tells us what it is we actually do rather than what it is we should do.

### **What we do**

One of the primary reasons why human imagination is one of the last frontiers of the mind is because people differ; they differ in the efficiency and efficacy of their working memory computations, the visual-spatial and linguistic abilities that undergird their cognition, the dispositions, goals, and strategies shaping their action,

etc. At the same time, people share a common heritage and many common characteristics of action; they share a tendency to play - a predisposition rooted in a deep-seated goal – a tendency to engage the world and adapt to the world. As Piaget well recognized, we learn from sensorimotor experience to conceive of the laws of action in the concrete world. Being active, we soon imitate and then invent our own action sequences, playing with all the permutations and combinations that we can muster. Our play is inherently rewarding: so much so that we are willing to accept the negatives that arrive with the positives. We accept shame with pride, misery with joy, fear with courage, and so on. Play opens the schema leading action into the realm of possibility. It is possibility that leads us into danger and away from danger. Every action is the realization of a possibility.

Without a world where possibility co-exists with fact, imagination with reality, we would never think “if only...”. We would never conjecture how things might have turned out differently, or experience a sense that something else “almost” happened. We would never consider alternatives to the facts of our past and we would find it difficult, if not impossible, to avoid the mistakes of the past. Emotions associated with hope, relief, regret, and guilt would be non-events. In essence, we would lack essential creativity and vital emotional experience in our practical day-to-day existence. Collectively, we wouldn’t survive.

The ability to create counterfactual alternatives to reality is a significant product of evolution. It is an ability that develops throughout childhood and adolescence and is impaired by injury to the frontal cortex. Byrne and colleagues have discovered that the kinds of possibilities people think about are guided by a set of principles that shape how the rational imagination manifests. If your friend John has a tendency to drive fast and you hear that he was in a car accident, you might

propose, “if John was driving fast, he was injured” (if A then B). From here, you are likely to imagine the true possibility, “John was driving fast and he was injured” (A and B), but not the false possibility, “John was driving fast and he was not injured” (A and not-B). Our first principle: we think about true possibilities.

Second, people think about few possibilities. Given John’s conditional (if A then B), we tend to think only about the most salient true possibility (A and B), not the less salient possibilities. It’s possible that John was not driving fast and was not injured (not-A and not-B). It’s also possible that John was not driving fast and was injured (not-A and B). Nonetheless, less salient means less accessible.

Now, let’s suppose you know the facts - John was not driving fast and he was not injured - and let’s suppose you test Byrne’s third principle by recounting the following counterfactual conditional to your friend, “if John had been driving fast he would have been injured”. The third principle states that some ideas *require* people to think about two possibilities. The counterfactual statement *leads* your friend to consider the conjecture, “John was driving fast and he was injured”, *and* the presupposed facts, “John was not driving fast and he was not injured”.

The fourth principle harkens back to, and places a functional twist on, our reality principle: when people do think about dual possibilities, they often think about possibilities that once may have been true possibilities but can be true no longer. In other words, the rational imagination can work with false ideas *as if* they are true. This is the essential function of the counterfactual. We may assume that overriding the reality principle can be beneficial if correct. Byrne’s research and insights, however, tell us less about the conditions under which counterfactual imagination is beneficial and correct in various contexts of adaptation.

The fifth principle tells us that people can readily imagine a counterfactual possibility for an idea that is mentally represented with a second possibility. If the local café sells not one, but two brands of tea, and you order the one that tastes like drain cleaner, then you are more likely to say “if only I had ordered the other”. More choice equals more counterfactuals. Many of our ecologically situated representations naturally capture the variety.

The sixth principle refers to the logic of an obligation – “if you work a second job, you must inform the tax inspector”. When people think about an obligation they think about two possibilities, the rule and the forbidden possibility. Combine choice and rules and the tree of imagined possibilities blossoms.

The seventh principle is that the possibilities people keep in mind reflect the temporal order of events in the world: if you didn’t declare that second job to the tax man, you’ll find your name in his little black book.

These seven principles, along with a number of related corollaries, form the basis for the argument that the counterfactual imagination is rational. A reasonable view of some of what we do.

### **What we should do**

Many years after our December mornings of festive logic had faded from memory, I met again our kindly professor strolling by the sea. He said, Michael, I’d like to build a model of the thinking brain. My first useful thought, after a variety of feelings, was to his logic, and his vision of logic as a process - a process indispensable to the art of philosophical thought. My second thought was to the brain, and my vision of the brain as embodying structure, process, and function. How to formulate a kindly word? Both thoughts, the products of a rational imagination, led to the conclusion

that our courageous professor would benefit from a thorough reading of cognitive neuroscience. After collecting three of the leading texts in the field at the time, I returned to his office bearing gifts. I haven't heard from him since. It has been four years!

If there is any moral to be had from a story where the conclusion is inaction rather than action, then it might be that the logic of the philosopher and the logic of the psychologist are not necessarily constructed of the same stuff. This can make difficult the dialogue between *how the mind works* and *how we think*. Traditionally, the philosopher is less interested in the phylogenesis and ontogenesis of the human system and more interested in whether or not its leading process – cognition – can be usefully applied to the discovery of Truth. On the other hand, psychologists, accepting historical embeddedness, lifelong development, multidirectionality, multidimensionality, plasticity, contextualism, and multidisciplinary, are more interested in working and re-working their partial view of the elements and relations within the human system that shape their mental model of how that system works, and tend to view the discovery of Truth as a secondary ideal. In other words, the aesthetics and sentiment of the philosopher and psychologist often differ. In order to bridge that divide we need to fashion a collective aesthetic and sentiment and apply our formal logic to first study 'how' the developing brain, in contexts multifarious, conducts the process of thinking, 'how' the outcome of this process is manifest in action, and 'how', in contexts multifarious, the action manifest is adaptively beneficial or not. Fundamentally, as we think about thinking, we should couch our focus within a broad developmental cognitive neuroscience view. From here, we accept that there are many levels and links in the chain of reason that bring us closer to understanding, to the truth about *how the mind works*, *how we think*, and *how we*

*adapt.* Byrne's carefully written and insightful book takes us direct to the midpoint, to *how we think*. Now, let's call for the dialogue to extend backward and forward, up and down, inside and out. Let's call for an end to confusion. If only! Even if!

## References

Dewey, J. (1910/1991). *How We Think*. New York: Prometheus Books.