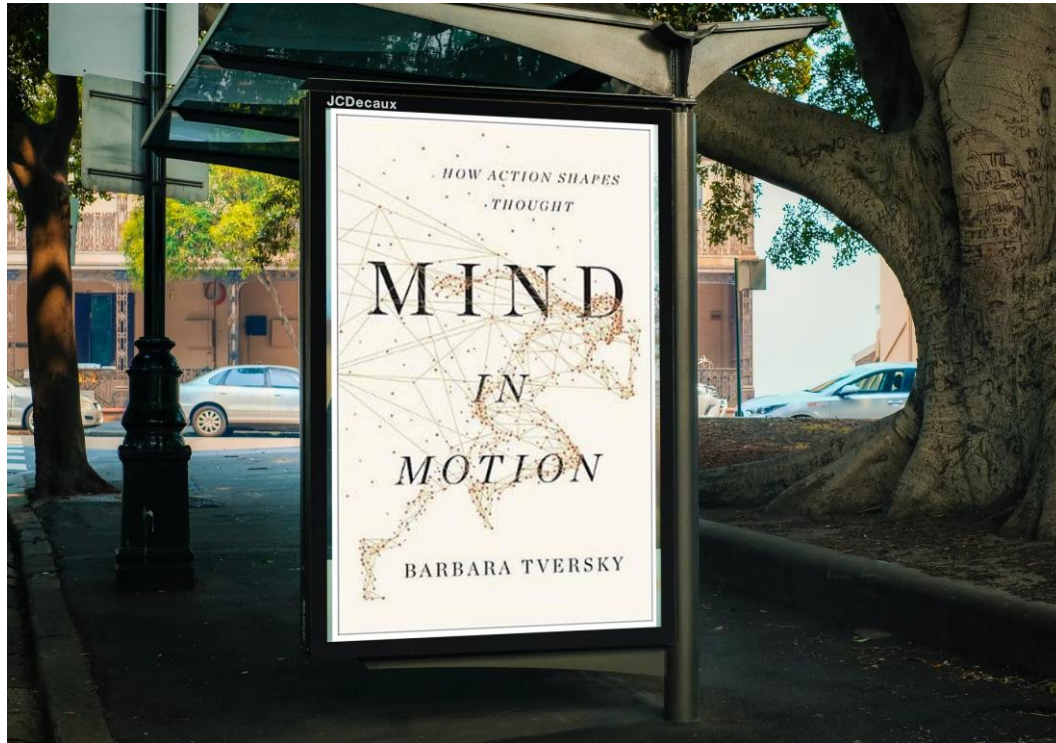


“Mind in Motion, how action shapes thought”,

by Prof. Dr. Barbara Tversky

2019, Basic Books, New York.

Reviewed by Lucas Derks, PhD



This book is like no other book in academic psychology. Emerita Professor in cognitive psychology Barbara Tversky worked at Stanford and is currently Professor of Psychology and Education at Columbia Teachers College. She has been surrounded by the most respected psychology researchers for 40 years and made her own breakthrough in cognitive psychology in the beginning of the 1990s. She recognized the priority of “space” in how humans think. With a long series of elaborated scientific articles based on a variety of “space”-related experiments she helped co-create a field of study called “spatial cognition”. This is a steadily expanding area with proponents on every continent. Barbara Tversky worked hard on the development of this field, but in a somewhat modest way.

Recently, in 2019, Barbara Tversky has published a book to further open up this field of spatial cognition for psychology researchers, students and in fact for all those interested. She has chosen to write *Mind in Motion* in the most understandable prose and left out all unnecessary jargon, citations and references. Thus, partly motivated by the publisher, she is not referring in the standard APA-style, that she probably demanded from her students for many years. The result is indeed an easy read, that lists all relevant research facts in combination with examples of everyday life, which induce the reader to position the role of “space” in human thinking dead centre. The 375 pages are filled with examples, so common and fascinating, that they scream: Everybody has been totally blind to what is so obvious!



This very secret hidden in the open can be summarized as: All thought is based on the ability to navigate the physical environment, mental maps are created in the space around us and when we think we move concepts up, down, back and forth and upside down etc. Cognition is 3-D and space and movement are the most critical factors. One of Barbara Tversky's main statements builds on Leonard Talmy's article from 1984, *How language structures space*, where he claims: Space was first. In other words, thought is primarily structured in space and language follows by a long stretch. For a lot of what we think there don't even exist any words at all. Because words can be written down and studied as text, or can be spoken and listened to and then interpreted, language is easy to study in comparison to the elusiveness of thought itself, which is only composed of flashes of electrical-chemical activity in the brain. However, by focussing on neurological processes, psychology did not get any closer to the study of thought itself. But by the realization that thinking takes place in space it will do so, and thus the future of psychology lies in space.

From the beginning of the book Barbara Tversky mentions *The Nine Laws of Cognition*, as listed on page 289. One would expect these laws to form the backbone of the story. But they are not. The laws are rather abstract, and can be used as mantras to meditate on, and by doing so come to a deeper understanding of the psyche. The laws pop up in a nearly random order, whenever the examples fit them.

This book summarizes the foundation of a new age in psychology. Barbara Tversky, who keeps her ego largely out of the argumentation, makes clear that this way of looking at the psyche will *turn* psychology on its head. It will cause a *paradigm shift*. And the greatest power of *Mind in Motion* must be to bring the minds of psychologists in motion and then make this giant *leap ahead*.

Spatial cognition has been an interdisciplinary field from the start, where software engineers, designers and architects meet linguists and psychologists. Currently, more academic psychologists begin to see the dawning of this new age in their science, where the rigid conventions borrowed from the natural sciences, that were always too tight a shoe for psychology, will necessarily be loosened somewhat, to create a methodology that fits to psychology's subject matter: thought itself. It can be a field where neuroscience, behavioural science, biological psychology, subjective experience, and cognition come together in one framework in which "space" and motion/action are the binding agents. Thus, future psychologist will frequently ask "where?" and "from where to where?"

Yes, one can criticize *Mind in Motion* for having too many sentences ending with ten examples in a row. And that it is hard to find the research that is mentioned in the extensive list of relevant literature. The index and this list take possession of 80 pages. Barbara Tversky masters abstraction and compensates this level of thinking by offering many concrete examples. What misses is what is in between: the structuring level of intermediate abstraction; a level in which a

story line could be followed. Only a few times a bit of research-history is told. But nothing about the social struggle that comes with such a paradigm shift. No human conflict or scientific debates are reported. The questions "How did you come to these insights and how did others respond to them?" could have given the book more blood, sweat and tears and historic structure. Now it is: Here are the facts as I see them, one after the other. The choice to make it accessible for a greater audience makes the first 3 chapters less challenging. Its apotheosis is reached between page 130 and 180, which may be too late for the impatient reader. However, the content is so outstanding, that these flaws are peanuts in comparison to the general statement made.

My personal opinion is that Barbara Tversky wrote a soft-voiced book about a major revolution in social science. She makes a series of points that all in one way or the other tell the same story: "If we consider how fundamental spatial organization in our life and in our thinking is, it is totally logical to put this central in the science of the psyche." People that can only be convinced by loud voices may miss the historic and revolutionary relevance of *Mind in Motion*.