

Stanford



Barbara Tversky

Professor of Psychology, Emerita

Bio

BIO

Barbara Tversky studied cognitive psychology at the University of Michigan. She held positions first at the Hebrew University in Jerusalem and then at Stanford, from 1978-2005 when she took early retirement. She is an active Emerita Professor of Psychology at Stanford and Professor of Psychology at Columbia Teachers College. She is a fellow of the Association for Psychological Science, the Cognitive Science Society, the Society for Experimental Psychology, the Russell Sage Foundation, and the American Academy of Arts and Science. She has been on the Governing Boards of the Psychonomic Society, the Cognitive Science Society, the International Union of Psychological Science, and the Association for Psychological Science. She has served on the editorial boards of many journals and the organizing committees of dozens of international interdisciplinary meetings.

Her research has spanned memory, categorization, language, spatial cognition, event perception and cognition, diagrammatic reasoning, sketching, creativity, design, and gesture. The overall goals have been to uncover how people think about the spaces they inhabit and the actions they perform and see and then how people use the world, including their own actions and creations, to remember, to think, to create, to communicate. A forthcoming book, *Mind in Motion: How Action Shapes Thought*, will overview that work. She has collaborated widely, with linguists, philosophers, neuroscientists, computer scientists, chemists, biologists, architects, designers, and artists.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Psychology

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- President, Association for Psychological Science, June 1, 2019 (2018 - present)

Publications

PUBLICATIONS

- **The kinematics that you do not expect: Integrating prior information and kinematics to understand intentions.** *Cognition*
Koul, A., Soriano, M., Tversky, B., Becchio, C., Cavallo, A.
2018; 182: 213–19
- **Sometimes we can see some mental states Comment on "Seeing mental states: An experimental strategy for measuring the observability of other minds" by Cristina Becchio, Atesh Koul, Caterina Asuni, Cesare Bertone, and Andrew Cavallo** *PHYSICS OF LIFE REVIEWS*
Tversky, B.
2018; 24: 88–90
- **Shadow play** *SPATIAL COGNITION AND COMPUTATION*
Tversky, B.

2018; 18 (2): 86–96

- **Multiple Models. In the Mind and in the World** *HISTORICAL SOCIAL RESEARCH-HISTORISCHE SOZIALFORSCHUNG*
Tversky, B.
2018: 59–65
- **When Far Becomes Near: Perspective Taking Induces Social Remapping of Spatial Relations** *PSYCHOLOGICAL SCIENCE*
Cavallo, A., Ansuini, C., Capozzi, F., Tversky, B., Becchio, C.
2017; 28 (1): 69-79
- **Gestures can create diagrams (that are neither imagistic nor analog)** *BEHAVIORAL AND BRAIN SCIENCES*
Tversky, B.
2017; 40: e73
- **Coordinating Gesture, Word, and Diagram: Explanations for Experts and Novices** *SPATIAL COGNITION AND COMPUTATION*
Kang, S., Tversky, B., Black, J. B.
2015; 15 (1): 1-26
- **Conceptually congruent actions can promote thought** *JOURNAL OF APPLIED RESEARCH IN MEMORY AND COGNITION*
Segal, A., Tversky, B., Black, J.
2014; 3 (3): 124-130
- **Thinking in action** *PRAGMATICS & COGNITION*
Tversky, B., Kessell, A.
2014; 22 (2): 206-223
- **Through your eyes: incongruence of gaze and action increases spontaneous perspective taking** *FRONTIERS IN HUMAN NEUROSCIENCE*
Furlanetto, T., Cavallo, A., Manera, V., Tversky, B., Becchio, C.
2013; 7
- **Space, Time, and Story** *PSYCHOLOGY OF LEARNING AND MOTIVATION, VOL 58*
Tversky, B., Heiser, J., Morrison, J.
2013; 58: 47-76
- **How to put things together** *COGNITIVE PROCESSING*
Daniel, M., Tversky, B.
2012; 13 (4): 303-319
- **Some ways gestures guide thought**
Tversky, B., Jamalain, A., Kang, S.
SPRINGER HEIDELBERG.2012: S32–S32
- **Remembering Routes: Streets and Landmarks** *APPLIED COGNITIVE PSYCHOLOGY*
Tom, A. C., Tversky, B.
2012; 26 (2): 182-193
- **The Shape of Action** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
Hard, B. M., Recchia, G., Tversky, B.
2011; 140 (4): 586-604
- **Visualizing Thought** *TOPICS IN COGNITIVE SCIENCE*
Tversky, B.
2011; 3 (3): 499-535
- **Effects of visual and verbal presentation on cognitive load in vigilance, memory, and arithmetic tasks** *PSYCHOPHYSIOLOGY*
Klingner, J., Tversky, B., Hanrahan, P.
2011; 48 (3): 323-332
- **Visualizing space, time, and agents: production, performance, and preference** *COGNITIVE PROCESSING*
Kessell, A., Tversky, B.

2011; 12 (1): 43-52

- **Embodied and disembodied cognition: Spatial perspective-taking** *COGNITION*
Tversky, B., Hard, B. M.
2009; 110 (1): 124-129
- **Cognitive Methods for Visualizing Space, Time, and Agents** *5th International Conference on Diagrammatic Representation and Inference*
Kessell, A. M., Tversky, B.
SPRINGER-VERLAG BERLIN.2008: 382–384
- **The effect of animation on comprehension and interest** *JOURNAL OF COMPUTER ASSISTED LEARNING*
Kim, S., Yoon, M., Whang, S., Tversky, B., Morrison, J. B.
2007; 23 (3): 260-270
- **Making sense of abstract events: Building event schemas** *MEMORY & COGNITION*
Hard, B. M., Tversky, B., Lang, D. S.
2006; 34 (6): 1221-1235
- **Arrows in comprehending and producing mechanical diagrams** *COGNITIVE SCIENCE*
Heiser, J., Tversky, B.
2006; 30 (3): 581-592
- **How eyewitnesses talk about events: Implications for memory** *APPLIED COGNITIVE PSYCHOLOGY*
Marsh, E. J., Tversky, B., Hutson, M.
2005; 19 (5): 531-544
- **Bodies and their parts** *MEMORY & COGNITION*
Morrison, J. B., Tversky, B.
2005; 33 (4): 696-709
- **Expert and non-expert knowledge of loosely structured environments** *International Conference on Spatial Informational Theory*
Fontaine, S., Edwards, G., Tversky, B., Denis, M.
SPRINGER-VERLAG BERLIN.2005: 363–378
- **Segmenting Everyday Actions: an Object Bias?** *26th Annual Conference of the Cognitive-Science-Society*
Dowell, R. E., Martin, B. A., Tversky, B.
LAWRENCE ERLBAUM ASSOC PUBL.2005: 1553–1553
- **Narratives of space, time, and life** *Conference on Narrative*
Tversky, B.
WILEY-BLACKWELL PUBLISHING, INC.2004: 380–92
- **Spinning the stories of our lives** *APPLIED COGNITIVE PSYCHOLOGY*
Marsh, E. J., Tversky, B.
2004; 18 (5): 491-503
- **Telling a story or telling it straight: The effects of entertaining versus accurate retellings on memory** *APPLIED COGNITIVE PSYCHOLOGY*
Dudukovic, N. M., Marsh, E. J., Tversky, B.
2004; 18 (2): 125-143
- **Characterizing diagrams produced by individuals and dyads** *4th International Conference on Spatial Cognition*
Heiser, J., Tversky, B.
SPRINGER-VERLAG BERLIN.2004: 214–226
- **Designing effective step-by-step assembly instructions** *Annual Symposium of the ACM SIGGRAPH*
Agrawala, M., Phan, D., Heiser, J., Haynaker, J., Klingner, J., Hanrahan, P., Tversky, B.
ASSOC COMPUTING MACHINERY.2003: 828–37
- **Structuring information interfaces for procedural learning** *40th Annual Meeting of the Psychonomic-Society*
Zacks, J. M., Tversky, B.

AMER PSYCHOLOGICAL ASSOC.2003: 88–100

- **Cognitive design principles for visualizations: Revealing and instantiating** *25th Annual Conference of the Cognitive-Science-Society*
Heiser, J., Tversky, B., Agrawala, M., Hanrahan, P.
LAWRENCE ERLBAUM ASSOC PUBL.2003: 545–550
- **Constructive perception: A metacognitive skill for coordinating perception and conception** *PROCEEDINGS OF THE TWENTY-FIFTH ANNUAL CONFERENCE OF THE COGNITIVE SCIENCE SOCIETY, PTS 1 AND 2*
Suwa, M., Tversky, B.
2003: 1140-1145
- **Structures of mental spaces - How people think about space** *ENVIRONMENT AND BEHAVIOR*
Tversky, B.
2003; 35 (1): 66-80
- **Sketches for design and design of sketches** *Conference on Human Behaviour in Design*
Tversky, B., Suwa, M., Agrawala, M., Heiser, J., Stolte, C., Hanrahan, P., Phan, D., Klingner, J., Daniel, M. P., Lee, P., Haymaker, J.
SPRINGER-VERLAG BERLIN.2003: 79–86
- **Navigating by mind and by body** *Spatial Cognition 2002 Meeting*
Tversky, B.
SPRINGER-VERLAG BERLIN.2003: 1–10
- **Segmenting ambiguous events** *25th Annual Conference of the Cognitive-Science-Society*
Martin, B. A., Tversky, B.
LAWRENCE ERLBAUM ASSOC PUBL.2003: 781–786
- **Animation: can it facilitate?** *Workshop on Interactive Graphical Communication*
Tversky, B., Morrison, J. B., Betrancourt, M.
ACADEMIC PRESS LTD- ELSEVIER SCIENCE LTD.2002: 247–62
- **A parametric study of mental spatial transformations of bodies** *NEUROIMAGE*
Zacks, J. M., Ollinger, J. M., Sheridan, M. A., Tversky, B.
2002; 16 (4): 857-872
- **External representations contribute to the dynamic construction of ideas** *2nd International Conference on Theory and Application of Diagrams*
Suwa, M., Tversky, B.
SPRINGER-VERLAG BERLIN.2002: 341–343
- **Perceiving, remembering, and communicating structure in events** *38th Annual Meeting of the Psychonomic-Society*
Zacks, J. M., Tversky, B., Iyer, G.
AMER PSYCHOLOGICAL ASSOC.2001: 29–58
- **Event structure in perception and conception** *PSYCHOLOGICAL BULLETIN*
Zacks, J. M., Tversky, B.
2001; 127 (1): 3-21
- **Effect of computer animation on users' performance: A review** *TRAVAIL HUMAIN*
Betrancourt, M., Tversky, B.
2000; 63 (4): 311-329
- **Biased retellings of events yield biased memories** *COGNITIVE PSYCHOLOGY*
Tversky, B., Marsh, E. J.
2000; 40 (1): 1-38
- **Lines, blobs, crosses and arrows: Diagrammatic communication with schematic figures** *1st International Conference on Theory and Application of Diagrams (Diagrams 2000)*
Tversky, B., Zacks, J., Lee, P., Heiser, J.
SPRINGER-VERLAG BERLIN.2000: 221–230
- **Familiarity and categorical inference** *22nd Annual Conference of the Cognitive-Science-Society*

- Collister, D., Tversky, B.
LAWRENCE ERLBAUM ASSOC PUBL.2000: 1020-1020
- **Some ways that maps and diagrams communicate** *SPATIAL COGNITION II*
Tversky, B.
2000; 1849: 72-79
 - **Cognitive models of geographical space** *INTERNATIONAL JOURNAL OF GEOGRAPHICAL INFORMATION SCIENCE*
Mark, D. M., Freksa, C., Hirtle, S. C., Lloyd, R., Tversky, B.
1999; 13 (8): 747-774
 - **Bars and lines: A study of graphic communication** *MEMORY & COGNITION*
Zacks, J., Tversky, B.
1999; 27 (6): 1073-1079
 - **Three spaces of spatial cognition** *1997 Annual Meeting of the Association-of-American-Geographers*
Tversky, B., Morrison, J. B., Franklin, N., Bryant, D. J.
ROUTLEDGE JOURNALS, TAYLOR & FRANCIS LTD.1999: 516-24
 - **Imagined transformations of bodies: an fMRI investigation** *NEUROPSYCHOLOGIA*
Zacks, J., Rypma, B., Gabrieli, J. D., Tversky, B., Glover, G. H.
1999; 37 (9): 1029-1040
 - **Mental representations of perspective and spatial relations from diagrams and models** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-LEARNING MEMORY AND COGNITION*
Bryant, D. J., Tversky, B.
1999; 25 (1): 137-156
 - **Pictorial and verbal tools for conveying routes** *International Conference on Spatial Information Theory (COSIT 99)*
Tversky, B., Lee, P. U.
SPRINGER-VERLAG BERLIN.1999: 51-64
 - **Ontology and geographic objects: An empirical study of cognitive categorization** *International Conference on Spatial Information Theory (COSIT 99)*
Mark, D. M., Smith, B., Tversky, B.
SPRINGER-VERLAG BERLIN.1999: 283-298
 - **Reading bar graphs: Effects of extraneous depth cues and graphical context** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-APPLIED*
Zacks, J., Levy, E., Tversky, B., Schiano, D. J.
1998; 4 (2): 119-138
 - **Indexing events in memory: Evidence for index dominance** *MEMORY*
Taylor, H. A., Tversky, B.
1997; 5 (4): 509-542
 - **Three-dimensional bilateral symmetry bias in judgments of figural identity and orientation** *PSYCHOLOGICAL SCIENCE*
McBeath, M. K., Schiano, D. J., Tversky, B.
1997; 8 (3): 217-223
 - **What's happening? The structure of event perception** *19th Annual Conference of the Cognitive-Science-Society*
Zacks, J., Tversky, B.
LAWRENCE ERLBAUM ASSOC PUBL.1997: 1095-1095
 - **Body schemas** *19th Annual Conference of the Cognitive-Science-Society*
Morrison, J. B., Tversky, B.
LAWRENCE ERLBAUM ASSOC PUBL.1997: 525-529
 - **Perspective in spatial descriptions** *JOURNAL OF MEMORY AND LANGUAGE*
Taylor, H. A., Tversky, B.
1996; 35 (3): 371-391

- **SPATIAL CONCEPTS AND PERCEPTION OF PHYSICAL AND DIAGRAMMED SCENES** *PERCEPTUAL AND MOTOR SKILLS*
Bryant, D. J., Lanca, M., Tversky, B.
1995; 81 (2): 531-546
- **COGNITIVE ORIGINS OF GRAPHIC PRODUCTIONS** *Conference on Understanding Images*
Tversky, B.
SPRINGER-VERLAG.1995: 29-53
- **SPATIAL MENTAL MODELS FROM DESCRIPTIONS** *JOURNAL OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE*
Tversky, B., Franklin, N., Taylor, H. A., Bryant, D. J.
1994; 45 (9): 656-668
- **PREPOSITIONS AREN'T PLACES** *BEHAVIORAL AND BRAIN SCIENCES*
Tversky, B., Clark, H. H.
1993; 16 (2): 252-253
- **DESCRIPTIONS AND DEPICTIONS OF ENVIRONMENTS** *MEMORY & COGNITION*
Taylor, H. A., Tversky, B.
1992; 20 (5): 483-496
- **SWITCHING POINTS-OF-VIEW IN SPATIAL MENTAL MODELS** *MEMORY & COGNITION*
Franklin, N., Tversky, B., COON, V.
1992; 20 (5): 507-518
- **DISTORTIONS IN COGNITIVE MAPS** *GEOFORUM*
Tversky, B.
1992; 23 (2): 131-138
- **SPATIAL MENTAL MODELS DERIVED FROM SURVEY AND ROUTE DESCRIPTIONS** *JOURNAL OF MEMORY AND LANGUAGE*
Taylor, H. A., Tversky, B.
1992; 31 (2): 261-292
- **INTERNAL AND EXTERNAL SPATIAL FRAMEWORKS FOR REPRESENTING DESCRIBED SCENES** *JOURNAL OF MEMORY AND LANGUAGE*
Bryant, D. J., Tversky, B., Franklin, N.
1992; 31 (1): 74-98
- **ASSESSING SPATIAL FRAMEWORKS WITH OBJECT AND DIRECTION PROBES** *BULLETIN OF THE PSYCHONOMIC SOCIETY*
Bryant, D. J., Tversky, B.
1992; 30 (1): 29-32
- **STRUCTURE AND STRATEGY IN ENCODING SIMPLIFIED GRAPHS** *MEMORY & COGNITION*
Schiano, D. J., Tversky, B.
1992; 20 (1): 12-20
- **CROSS-CULTURAL AND DEVELOPMENTAL-TRENDS IN GRAPHIC PRODUCTIONS** *COGNITIVE PSYCHOLOGY*
Tversky, B., Kugelmass, S., Winter, A.
1991; 23 (4): 515-557
- **PARTS AND THE BASIC LEVEL IN NATURAL CATEGORIES AND ARTIFICIAL STIMULI - COMMENTS ON MURPHY (1991)** *MEMORY & COGNITION*
Tversky, B., Hemenway, K.
1991; 19 (5): 439-442
- **SPATIAL MENTAL MODELS** *PSYCHOLOGY OF LEARNING AND MOTIVATION-ADVANCES IN RESEARCH AND THEORY*
Tversky, B.
1991; 27: 109-145
- **SEARCHING IMAGINED ENVIRONMENTS** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
Franklin, N., Tversky, B.
1990; 119 (1): 63-76

- **PERCEPTUAL AND CONCEPTUAL FACTORS IN DISTORTIONS IN MEMORY FOR GRAPHS AND MAPS** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
Tversky, B., Schiano, D. J.
1989; 118 (4): 387-398
- **PARTS, PARTONOMIES, AND TAXONOMIES** *DEVELOPMENTAL PSYCHOLOGY*
Tversky, B.
1989; 25 (6): 983-995
- **A RECONCILIATION OF THE EVIDENCE ON EYEWITNESS TESTIMONY - COMMENTS** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
Tversky, B., TUCHIN, M.
1989; 118 (1): 86-91
- **DEVELOPMENT OF TAXONOMIC ORGANIZATION OF NAMED AND PICTURED CATEGORIES** *DEVELOPMENTAL PSYCHOLOGY*
Tversky, B.
1985; 21 (6): 1111-1119
- **MEMORY FOR FACES - ARE CARICATURES BETTER THAN PHOTOGRAPHS** *MEMORY & COGNITION*
Tversky, B., Baratz, D.
1985; 13 (1): 45-49
- **CITATION CLASSIC - PICTORIAL AND VERBAL ENCODING IN A SHORT-TERM-MEMORY TASK** *CURRENT CONTENTS/SOCIAL & BEHAVIORAL SCIENCES*
Tversky, B.
1984: 18-18
- **OBJECTS, PARTS, AND CATEGORIES** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
Tversky, B., Hemenway, K.
1984; 113 (2): 169-193
- **FORCE OF SYMMETRY IN FORM PERCEPTION** *AMERICAN JOURNAL OF PSYCHOLOGY*
Freyd, J., Tversky, B.
1984; 97 (1): 109-126
- **CATEGORIES OF ENVIRONMENTAL SCENES** *COGNITIVE PSYCHOLOGY*
Tversky, B., Hemenway, K.
1983; 15 (1): 121-149
- **DISTORTIONS IN MEMORY FOR MAPS** *COGNITIVE PSYCHOLOGY*
Tversky, B.
1981; 13 (3): 407-433
- **DEVELOPMENTAL-TRENDS IN THE USE OF PERCEPTUAL AND CONCEPTUAL ATTRIBUTES IN GROUPING, CLUSTERING, AND RETRIEVAL** *JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY*
MELKMAN, R., Tversky, B., Baratz, D.
1981; 31 (3): 470-486