

UNIVERSITY OF PENNSYLVANIA - PERELMAN SCHOOL OF MEDICINE  
Curriculum Vitae

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Anjan Chatterjee, M.D.

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If you are not a U.S. citizen or holder of a permanent visa, please indicate the type of visa you have:  
none (U.S. citizen)

Education:

1980	B.A.	Haverford College (Honors in Philosophy)
1985	M.D.	University of Pennsylvania

Postgraduate Training and Fellowship Appointments:

1985-1986	Intern in Medicine, Medical College of Pennsylvania, Philadelphia, Pa.
1986-1989	Resident in Neurology, University of Chicago, Chicago, Il.
1989-1990	Fellowship, Dementia, Case Western Reserve University, Cleveland, Oh. Mentor: Peter J Whitehouse, M.D., Ph.D.
1990-1992	Fellowship, Behavioral Neurology, University of Florida, Gainesville, Fl. Mentor: Kenneth M. Heilman, M.D.

Faculty Appointments:

1992-1998	Assistant Professor in Neurology, University of Alabama at Birmingham
1997-1999	Adjunct Faculty, Department of Psychology, University of Alabama at Birmingham
1998-1999	Associate Professor in Neurology, University of Alabama at Birmingham
1999-2008	Associate Professor of Neurology, University of Pennsylvania School of Medicine
2008-2014	Professor of Neurology, University of Pennsylvania School of Medicine
2014-present	Elliott Professor of Neurology, University of Pennsylvania School of Medicine

Hospital and/or Administrative Appointments:

2013-2014	Chief, Cognitive Neurology Section
2014-present	Chair of Neurology, Pennsylvania Hospital

Other Appointments:

1994-1999	Associate Scientist, Center for Aging, University of Alabama at Birmingham
1998-1999	Associate Scientist, Vision Research Center, University of Alabama at Birmingham
1999-present	Adjunct Scientist, Moss Rehabilitation Research Institute
1999	Associate Scientist, Alzheimer's Disease Center, University of Alabama at Birmingham
1999-present	Professor, Center for Cognitive Neuroscience, University of Pennsylvania
2000-present	Member, Graduate Group Neuroscience Department, University of Pennsylvania
2000-present	Member, Graduate Group Psychology Department, University of Pennsylvania
2001-present	Member, Haverford Corporation
2002-present	Professor, Center for Functional Neuroimaging, University of Pennsylvania
2002-2015	Member, Advisory Committee to the President, Haverford College
2002-2006	Member, Board of Managers, Norris Square Neighborhood Project
2004-2006	Board President, Norris Square Neighborhood Project
2006-present	Member, Board of Managers, Haverford College
2009-2011	Associate Director, Penn Center for Neuroscience and Society
2010-present	Member, Advisory Board, Cognitive Dynamics
2010-present	Member, Board, International Association of Empirical Aesthetics
2011-2016	Member, Board, Universal Promise
2012-2014	President, International Association of Empirical Aesthetics
2012-present	Member, Board, Associated Services for the Blind and Visually Impaired
2013-2015	President, Behavioral Neurology Society
2013-2015	Chair, American Academy of Neurology, Behavioral and Cognitive neurology Section
2015-present	Member, Board, The College of Physicians of Philadelphia

Specialty Certification:

Diplomate, American Board of Psychiatry and Neurology

Licensure:

1999-Present	Pennsylvania
-Present	Alabama, Ohio, (not continued)

Awards, Honors and Membership in Honorary Societies:

1977	Archibald Macintosh Scholar-Athlete Award
1980	Varsity Cup

1980	All American Athlete, Track and Field
1997	American Neurological Association, member
1998	Resident's Teacher of the Year Award University of Alabama at Birmingham
2002	Norman Geschwind Prize in Behavioral and Cognitive Neurology from the American Academy of Neurology
2005-2017	Best Doctors in America
2009	Fellow, American Academy of Neurology
2016	Rudolf Arnheim Award for contributions to the Psychology of the Arts. American Psychological Association

#### Memberships in Professional and Scientific Societies and Other Professional Activities:

##### International:

2002-Present	International Association of Empirical Aesthetics (President (2012-2014) Board of Directors (2010-2012))
2006-2010	The Neuroethics Society (Board of Governors, Founding Member)
2009-2011	American Academy of Neurology Committee on Ethic, Law and Humanities (Member)
2009-Present	American Academy of Neurology, Behavioral Neurology Section (Councilor)  Brain and Behavioral Sciences Associate  Cognitive Neuroscience Society  International Neuropsychological Society ((Educational Committee, 2001-2005))

##### National:

1990-Present	Behavioral and Cognitive Neurology Society (President (2013-2015) Executive Committee (2010-2013))
1995	NIH-Sensory disorders and language study section (ad hoc reviewer)
1996-1998	NIH-Sensory disorders and language study section (CMS) (member)
1998-2000	NIH-Cognitive neuroscience study section (IFCN-8) (member)
2001-present	American Board of Psychiatry and Neurology, Inc. Part IB Question writers (member)
2002-present	NSF Cognitive Neuroscience Initiative (Reviewer)
2005	NIH-SEP,BBBP-D study section (ad hoc reviewr)

2012 NIH-SEP, Language and Communications study section (Chair)

2016 NIH NIDCD, LRP study section (grant reviewer)

American Academy of Neurology

American Neurological Association

Behavioral and Cognitive Neurology Society

The College of Physicians of Philadelphia

Local:

Alabama Academy of Neurology

Philadelphia Neurological Society

Editorial Positions:

1998	Guest Editor, Brain and Cognition special issue on neglect.
2001-Present	Editor, Associate Editor 2005-2010, Journal of Cognitive Neuroscience
2002-Present	Editor, Cognitive and Behavioral Neurology
2003-2011	Editor, Cognitive Neuropsychology
2004-2013	Editor, Behavioral Neurology
2006-Present	Editor, Empirical Studies of the Arts
2006-Present	Scientific Advisory Board, Polimetrika
2007-Present	International Editorial Advisory Board, Policy Studies in Ethics, Law and Technology
2007-2012	Consulting Editor, Neuropsychology
2009-Present	Editor, The Open Ethics Journal
2010-present	Editor, European Neurology
2010-Present	Editor, Brain Sciences
2011-2013	Editor, Journal of the International Neuropsychological Society
2012-present	Editor, American Journal of Bioethics: Neuroscience
2013-present	Editor, Journal of Alzheimers Disease
2017-Present	Editor, Psychology of Aesthetics, Creativity, and the Arts

Academic and Institutional Committees:

1994-1996	UAB University Hospital Utilization Management Medical Advisor
1996	UAB Cognitive Science Head Search Committee
1996-1997	UAB Neuroscience Strategic Planning Work Group
1998-1999	Information Management Subcommittee, UAB Neurology
2000-2001	U Penn Cognitive Neuroscience Search Committee
2001-2002	General Clinical Research Center review committee
2002-2006	U Penn Neuroscience MD-PhD admissions committee

2006-2007	Sleep Faculty Search Committee
2006-Present	Penn Behavioral and Cognitive Neuroscience training grant Executive committee
2007-2008	Bioethics Review Committee
2010-Present	Penn Neurology Research Committee
2011-Present	Chair, 2013-, Penn Neurology Committee on Appointments and Promotion.
2012-Present	Penn Neurology Mentoring Committee
2013-Present	Penn Neurology Executive Committee
2013-Present	Penn Neurology Finance Committee
2014-present	Pennsylvania Hospital Council of Chairs
2014-present	Pennsylvania Hospital Executive Committee

#### Major Academic and Clinical Teaching Responsibilities:

1999-2006	Cognitive Neurology Seminar Series (Bi-Weekly)
1999-2006	Clinical neuroscience small group seminars for medical students
2000-Present	Neurology Professor's Rounds (Monthly)
2006-2011	Cognitive Neurology Seminar Series (3 times/year)

#### Lectures by Invitation:

Dec, 1990	Neurotransmitter systems, The Florida Society of Neurology 16th Annual Course in Behavioral Neurology and Neuropsychology, Lake Buena Vista.
Sep, 1991	Behavioral and physiologic effects of physostigmine in an amnesic man with a discrete basal forebrain lesion, University of Florida Center for Neuropsychological Studies.
Dec, 1991	The neurochemistry of memory, The Florida Society of Neurology 17th Annual Course in Behavioral Neurology and Neuropsychology, Lake Buena Vista.
Jan, 1993	Mechanisms in Unilateral neglect, UAB Rehabilitation Medicine Grand Rounds.
Jan, 1994	Personality in Alzheimer's Disease, Alzheimer Disease Center Seminar.
Mar, 1994	Aphasia, UAB Rehabilitation training seminar.
May, 1994	The mental status examination, The Alzheimer's Disease Center Continuum of Care Conference.
Apr, 1995	Language and the right hemisphere. UAB Department of English, Biological bases of language.
Apr, 1995	Spatial Neglect. UAB Department of Psychology Colloquium Series.
Jun, 1995	Panel Discussion on treatment, research and ethical/legal issues. UAH School of Primary Medical Care, CME.
Jun, 1995	Management of the Alzheimer's patient. UAH School of Primary Medical Care, CME.
Mar, 1996	Patterns of breakdown of consciousness. UAB Biomedical Engineering Seminar Series.

Apr, 1996	Evaluating Alzheimer's Disease. UAB Primary Care CEU Course.
May, 1996	Biologic basis for language. Integrative Neuroscience graduate course.
Nov, 1996	Fractured Consciousness. The UAB Theodore Haddin Humanities Forum.
Mar, 1997	Directions in Language. UAB Philosophy Colloquium. Out of sight, out of mind: Inferences to the unobserved.
Apr, 1997	Neglect and the power function. Harvard Department of Psychology Research Seminar.
Apr, 1998	Neglect. UAB Rehabilitation Training Seminar.
Apr, 1998	Language. UAB AI Seminar.
May, 1998	Spatial and propositional codes in thinking. UAB Cognitive Psychology graduate course.
Nov, 1998	Quantitative observations in neglect. University of Pennsylvania Neurology research seminar.
Nov, 1998	Piecemeal Vision. UAB Center on Aging Seminar Series.
Apr, 1999	Some Quantitative Observations in Neglect. American Academy of Neurology Annual Meeting, 'Kick-off Program'.
May, 1999	Current Treatments for Alzheimer Disease. Dementia Research in African Americans; Breaking Down the Barriers. Birmingham Civil Rights Institute.
Feb, 2000	Spatial and Linguistic Representations. Temple University/ Moss Rehabilitation, Cognitive Neuroscience Research Seminar.
Mar, 2000	When Right Goes Left in Neglect. Institute for Research in Cognitive Science. University of Pennsylvania.
Apr, 2000	Representational Anisometry in Neglect. Cognitive Neurology Seminar, Johns Hopkins University
Jun, 2000	Patient-based Research. Workshop in Cognitive Neuroscience. Annual Meeting of the Cognitive Science Society. Philadelphia.
Sep, 2000	Anisometry and Representational Instability in Neglect, Como. EuroConference on the Cognitive and Neural Bases of Neglect. Italy
Sep, 2000	Language and Space. The University of Padova, Cognitive Science Seminar, Padova, Italy.
Oct, 2000	Language and Space. The Sackler Institute of Cornell University. New York.
Dec, 2000	Quantitative Observations in Neglect. The Haddassah Hospital, Neurology Department, Israel.
Dec, 2000	Language and Space. The Hebrew University, Israel.
Mar, 2001	Fractured Consciousness. The Philips Lecture. Haverford College.
Apr, 2001	Knowledge of events: the functional and neural organization. U Penn Institute for Neurological Sciences Annual Retreat.
Apr, 2002	Space, Language, and Cognition. Neurology Grand Rounds, New York University. New York

Apr, 2002	Primitive Thinking and Sophisticated Brains. Key Note Address. Annual Behavioral and Cognitive Neurology Society Dinner. Denver
Dec, 2002	What Neglect Reveals about the Neural Organization of Space. Key Note Address. 2nd International Conference, "Neurology, Language, and Cognition." Kerala, India.
Feb, 2003	Rethinking Truisms in Neglect. Symposium discussant. International Neuropsychological Society. Honolulu, Hawaii
Feb, 2003	Neglect and the Neural organization of Space. Cooper Hospital Neurology Grand Rounds. Camden, New Jersey
Mar, 2003	The Right Hemisphere and Cognition. Neurosurgery Grand Rounds. Hospital of the University of Pennsylvania. Philadelphia, PA
Oct, 2003	Where the action is: functional and neural considerations, University of California at Berkeley. Berkeley, California
Oct, 2003	Cosmetic Neurology. University of Pennsylvania Bioethics seminar series.
Dec, 2003	Where the action is: functional and neural considerations. Cognitive Neurology Seminar, Johns Hopkins University.
Sep, 2004	The neuropsychology of art. Key Note Address. Bi-annual meeting of the International Association of Empirical Aesthetics. Lisbon, Portugal.
May, 2005	The neuropsychology of visual art. Invited Address. The Medical Society of London, The Mansell Bequest Symposium. London, England
May, 2005	Cognitive Therapy and Enhancements: Ethical Dilemmas. Invited Address. EURECA: European project on delimiting the research concept and research activities, Bologna, Italy.
May, 2005	Hard Science-Hard Choices. Facts, ethics, & policy guiding brain sciences today. Discussant. Library of Congress. Washington, D.C.
Sep, 2005	Spatial thought and language. University of Maryland, Department of Neurology, Grand Rounds.
Oct, 2005	Spatial thought and language. Medical College of Wisconsin, Functional Imaging Research Center Symposium.
Nov, 2005	Spatial thought and language. Beth Israel Medical Center, Behavioral Neurology Seminar.
Dec, 2005	Spatial thought and language. University of Texas Southwestern. Clinical Neurosciences Grand Rounds.
Feb, 2006	Spatial language. The International Neuropsychological Society Annual Meeting.
Mar, 2006	Cosmetic neurology: promises, perils, and predictions. Penn Neuroethics seminar series.
Mar, 2006	The neurology of visual artists. The American College of Physicians. Philadelphia
Aug, 2006	The neurology of visual art, Wake Forest University
Nov, 2006	Language and Action, Winter School, University of Aachen, Germany

Feb, 2007	Rapidly Progressive Dementia, North Carolina Neurological Society, Charlotte, NC
Aug, 2007	Cosmetic Neurology, National Academies, Committee on Military and Intelligence Methodologies. Washington DC.
Sep, 2007	Thought and Spatial language. Saffran Memorial Conference. Moss. Philadelphia
Sep, 2007	Cosmetic Neurology. Swarthmore College, Swarthmore
Nov, 2007	Spatial thought and language, University of Iowa, Cognitive Neuroscience and Neuropsychology Seminar
Nov, 2007	Space and Language. The University of Iowa Cognitive Neuroscience Seminar Series.
Nov, 2007	The Neurology of Art. University of Iowa, Pathology Grand Rounds
Mar, 2008	Space and Language. Washington University Conference on Perception, Language and Space. St. Louis
May, 2008	Space and Language. Clinical Aphasia Conference, Key Note Speaker. Jackson Hole, Wyoming
Jun, 2008	Space, Language and Referential Promiscuity. Venice, Italy
Nov, 2008	"Abstraction of Spatial Relations". Nat-Geographic-NSF, Washington DC
Feb, 2009	"Alien hand syndrome- what makes the alien hand alien?", Society for Social Psychology, Tampa FL
Mar, 2009	"Spatial thought and language", Cornell University, Ithaca NY
Mar, 2009	"The Neuropsychology of Art", Cornell University, Ithaca NY
Apr, 2009	Neuroaesthetics: principles and practice, American Society of Aesthetics, Philadelphia
Apr, 2009	Disembodying Cognition, Northwestern University, Evanston, IL.
Jul, 2009	A 3-dimensional taxonomy for spatial representations, NSF(SILC)-DFG workshop on Spatial Cognition, New York
Aug, 2009	Degenerative Neurological Diseases, Neuroscience bootcamp. Penn Center for Neuroscience and Society, Philadelphia
Sep, 2009	Neuroaesthetics, principles and practice. Key Note Address. Copenhagen Neuroaesthetics Conference. Copenhagen
Oct, 2009	Cosmetic Neurology. Drexel School of Medicine Psychiatry Grand Rounds. Philadelphia
Oct, 2009	Cosmetic Neurology. Pennsylvania Neurology Society Annual Meeting. Harrisburg.
Oct, 2009	Cosmetic Neurology. Lennox Hill Hospital Psychiatry Grand Rounds. New York City
Feb, 2010	Cosmetic Neurology, Penn Institute, Palm Beach, FL
Mar, 2010	Are better brains better? Cosmetic neurology and the Ethics of Enhancement, Haverford College
Mar, 2010	Art and The Brain, Cafe Scientifique, Philadelphia
Apr, 2010	Building Better Brains. The ethics of Neuroenhancing Drugs, Lyons Daughters Invited Lecture, University of Rochester, Rochester, NY
Sep, 2010	"Science and Humanities in the Arts" University of the Balearic Islands



Oct, 2010	Neuropsychology of Art, Johns Hopkins University
Apr, 2011	Neuroaesthetics: Principles and Practice. Johns Hopkins University
May, 2011	Advances in the Neuropsychology of Art. Copenhagen Business School, Copenhagen, Denmark
Jun, 2011	Neuropsychology of Art: From Qualitative to Quantitative Approaches, University of Vienna, 4th Vienna Aesthetics Symposium, Vienna, Austria
Jul, 2011	Ethics of non-invasive brain stimulation, Penn Neuroethics CME, Philadelphia, PA
Jul, 2011	Space, Time, and Causality. Keynote address Cognitive Science Society Annual Meeting, Boston MA.
Oct, 2011	Neuroaesthetics, Gettysburg College Psychology Symposium, Gettysburg PA
Jan, 2012	Neuropsychology of art: qualitative and quantitative approaches. Key Note Address, Symposium on Aesthetics and Semiotics, Aarhus, Denmark.
Feb, 2012	Beyond ocular centrality in art, College Association of Arts, Los Angeles, California
Feb, 2012	Art and Memory, Brainwave Conversation, Rubin Museum of Art, New York, New York.
Mar, 2012	Neural bases for relations and metaphors, Emory University Symposium on Metaphors, Atlanta, Georgia
Jun, 2012	The Neurology of Art. The James Stinnet Annual Lecture. Psychiatry Grand Rounds. University of Pennsylvania
Aug, 2012	Some thoughts on the evolution of art. Keynote address, International Association of Empirical Aesthetics, Taipei, Taiwan
Sep, 2012	Disembodying Cognition. University of Maryland Cognitive Science Colloquium.
Aug, 2013	Neuroethics. Presidential Commission for the Study of Bioethical Issues
Oct, 2013	Cosmetic Neurology: The ethics of Enhancement. National Academy of Neuropsychology, San Diego
Oct, 2013	Art and Neuroscience. The Helix center for Interdisciplinary Investigation. New York
Nov, 2013	The Aesthetic Brain. Pain and pleasure. The Art and Science of Body representation. Venice, Italy
Dec, 2013	Cosmetic Neurology. New York Psychoanalytic Society. New York.
Dec, 2013	The neurology of visual art. Royal Society of Medicine. London, UK.
Feb, 2014	The Neurology of Art. McGill Neurology Grand Rounds. Montreal, Canada
Feb, 2014	Relational Thinking. Killam Seminar Series. Montreal Neurological Institute. Montreal, Canada
May, 2014	Ethics of technological transformation of human experience. Brocher Foundation. Geneva, Switzerland

Aug, 2014	Neuroaesthetics and its Critiques, Presidential Address, International Association of Empirical Aesthetics. New York
Sep, 2014	Cosmetic Neurology, Florida Society of Neurology, Orlando Florida
Sep, 2014	Cosmetic Neurology and the ethics of enhancement. World Congress on NeuroTherapeutics: Dilemmas, Debates & Discussions. Basel, Switzerland.
Oct, 2014	The Biology of Beauty, Center for Human Appearance at Penn, Philadelphia
Dec, 2014	"Is Psychology relevant to Aesthetics?" Max Planck Institute, Frankfurt, Germany
Mar, 2015	The Neuroscience of Aesthetics and Art, Keynote address, Cognitive Neuroscience Society. San Francisco
Jun, 2015	Metaphors as Source of Creative Thought. Keynote Neurohumanities dialogue, Catania, Italy
Jun, 2015	Schemas and Grounding in Cognition, NSF Science Learning Center, University of Chicago, Chicago
Sep, 2015	The ethics of genetic enhancement. Keynote Address. World Congress on Neurotherapeutics. Prague, Czech Republic
Oct, 2015	The Neuroscience of Aesthetics. Keynote address. Interact Design, London, UK
Nov, 2015	Realizing Fechner's Fantasy: Neuroaesthetics Now. Johns Hopkins Brain Sciences Institute, Baltimore, MD
Nov, 2015	Neuroscience of Aesthetics and Art. Interdisciplinary Humanities Center. UCSB, Santa Barbara, California
Dec, 2015	Neuroaesthetics. KeyNote address. 3rd International Conference on Cognition, Brain, and Computation. IIT Gandhinagar, India
Feb, 2016	The Biology of Beauty. Focus on Health & Leadership for Women. University of Pennsylvania. Philadelphia
Feb, 2016	The Neurology of Art. Indiana University Neurology Grand Rounds
Feb, 2016	The Aesthetic Brain. Herron School of Art and Design, Indianapolis
Mar, 2016	The Aesthetic Brain. The Science of Imagination, Orlando, FL.
Mar, 2016	Realizing Fechner's Fantasy, University of Delaware Psychology Colloquium, Newark, Delaware
Jul, 2016	The Neuroscience of Aesthetics and Art. Keynote, Art Therapy Association Annual Meeting, Washington DC
Aug, 2016	The Aesthetic Brain. Keynote address. European Conference on Visual Perception. Barcelona, Spain
Aug, 2016	Neuroaesthetics. Rudolf Arnheim Address. Division 10, American Psychological Association, Denver, CO
Sep, 2016	Prospects for a neuroscience of architecture. Academy of Neuroscience for Architecture. La Jolla, CA
Sep, 2016	The Biology of Beauty. The American Plastic Surgery Association Annual Meeting. Los Angeles, CA
Nov, 2016	The Aesthetic Brain. Hofstra University. New York
Nov, 2016	The Aesthetic Brain. University of Alabama in Birmingham. Birmingham, Alabama

Dec, 2016	The biology of beauty. Nanyang Technical University, Singapore
Dec, 2016	Beauty. TEDMED. Palm Springs, CA
Jan, 2017	Beauty and Wellness. Global Wellness Institute press conference. New York.
Feb, 2017	The Neurology of Art. North Carolina Neurological Society. Pinehurst, North Carolina
Mar, 2017	Abstraction of forms and forms of abstraction. Keynote Society for Neuroscience and Creativity. San Francisco
Mar, 2017	Abstraction of forms and forms of abstraction. NYU Neurology Grand Rounds. New York
Mar, 2017	The Neurology of Art. SUNY Downstate Neurology Grand Rounds
Apr, 2017	Neuroaesthetics. Keynote address. 21st Century Great Conversations in Neuroscience, Art and Related Therapeutics. Indiana University. Indianapolis, IN
Jun, 2017	Schematic representations: neural underpinnings and implications for Creativity. Society for Philosophy and Psychology, Baltimore
Jun, 2017	Behavioral and neural responses to facial disfigurement, Penn Center for Human Appearance Annual symposium, Philadelphia
Jun, 2017	Abstraction of Forms and Forms of Abstraction, The Barry Arnason Lecture, University of Chicago, Chicago

#### Organizing Roles in Scientific Meetings:

1997	The International Neuropsychological Society Annual Meeting Committee
1998	The American Academy of Neurology, Scientific Issues Committee
1998	The International Neuropsychological Society Annual Meeting Committee
1998	Abstract Reviewer, International Neuropsychological Society Annual Meeting
2000	International Neuropsychological Society Continuing Education Committee
2001	Course Director: Behavioral Neurology for Practicing Neurologists. AAN annual meeting.
2001	Abstract Reviewer, American Academy of Neurology Annual Meeting
2006	AAN Topic Working Group for Educational Program
2008	Course Director: Contemporary Topics in Behavioral Neurology Chicago
2010	Course Director, Penn Clinical Neuroethics Conference Philadelphia
2011	Course Director, Penn Clinical Neuroethics Conference Philadelphia
Oct, 2014	Juror, Brain Art exhibit, Art and Science Collaboration, Inc. New York Hall of Science, New York
2014	Abstract Reviewer. International Neuropsychological society Seattle

2014	Abstract Reviewer, Society for the Neurobiology of Language San Diego
Aug, 2016	Abstract reviewer, Spatial Cognition Society Philadelphia

Grants:Current:

Behavioral and Neural underpinning of facial appearance, Penn Center for Human Appearance, 3/2017-12/2017 (Anjan Chatterjee, PI: David Sarwar, Co-Investigator), \$10,000/annual direct costs, 3% effort (Role in grant: PI)

Tms As A Biomarker Of Plasticity In Aphasia Recovery, National Institute On Deafness & Other Communication Disorders/Nih/Dhhs, 7/2013-6/2018 (ROY HOSHI HAMILTON, PI), \$227,354/annual direct costs (Role in grant: Co-PI)

Figurative Language In Aphasic And Healthy Participants, National Institutes Of Health, 3/2013-2/2018 (ANJAN CHATTERJEE, PI), \$212,500/annual direct costs, 30% effort (Role in grant: PI)

Spatial Intelligence And Learning Center (Silc), Temple University, 330161-18110-7341, 10/2011-9/2013 (ANJAN CHATTERJEE, PI), \$0/annual direct costs (Role in grant: PI)

Fmri Studies Of The Process Architecture Of Face Perception, Burroughs Wellcome Fund, N/A, 9/2004-8/2013 (GEOFFREY K AGUIRRE, PI), \$221,000/annual direct costs (Role in grant: Co-PI)

Past:

Neuropsychological Probes Of Orbitofrontal Dysfunction, American Psychological Association, 40000-7317, 3/2011-11/2012 (Vidya Kamath, PI), \$10,000/annual direct costs (Role in grant: Co-PI)

Partial Support For Annual Clinical Neuroscience And Society Conference, National Institute Of Neurological Disorders And Stroke/Nih/Dhhs, 1R13NS074850-01 REVISED, 3/2011-2/2012 (MARTHA J. FARAH, PI), \$0/annual direct costs (Role in grant: Co-PI)

Neural Mechanisms Underlying Changes In Preference, National Institute On Drug Abuse/Nih/Dhhs, 7/2010-3/2015 (JOSEPH W KABLE, PI), \$196,425/annual direct costs, 10% effort (Role in grant: Co-PI)

A Neuroethics Learning Collaborative, National Science Foundation, DBI-0933919, 10/2009-9/2013 (MARTHA J. FARAH, PI), \$0/annual direct costs (Role in grant: Co-PI)

Spatial Language In Normal And Aphasic Subjects, National Institutes Of Health, 5-R01-DC-008779-05, 8/2007-7/2012 (ANJAN CHATTERJEE, PI), \$200,996/annual direct costs (Role in grant: PI)

Performance enhancement with stimulants: Individual differences and neurocognitive mechanisms, ONR, N00014-07-1-0034, 11/2006-10/2009 (Martha Farah, PI), \$195,694/annual direct costs, 15% effort (Role in grant: Co-Investigator)

Science Learning Center, NSF, 10/2006-9/2011 (Nora Newcomb, PI), \$77,500/annual direct costs, 3% effort (Role in grant: Co-Investigator)

Spatial Language: Developmental And Neural Studies, National Institutes Of Health, 5-R01-HD-050199-05, 9/2006-7/2012 (ANJAN CHATTERJEE, PI), \$182,530/annual direct costs (Role in grant: PI)

Spatial Intelligence And Learning Center (Silc), Temple University, 33-1811-241/CC / PO #0147, 9/2006-8/2012 (RUSSELL A EPSTEIN, PI), \$35,050/annual direct costs (Role in grant: Co-PI)

Fronto-temporal dementias, NIH-NIA, AG017586-06S1 , 5/2006-2/2010 (Virginia Lee, PI), \$176,127/annual direct costs, 5% effort (Role in grant: Investigator)

Cognitive Neuroscience of Temporal Processing, NIH-NIMH, MH076227, 12/2005-11/2010 (H Branch Coslett, PI), \$225,000/annual direct costs, 20% effort (Role in grant: Co-Investigator)

Database system for patient-based neuroscience research, NIH-NIMH, MH073529, 5/2005-4/2010 (Daniel Kimberg, PI), \$195,300/annual direct costs, 10% effort (Role in grant: Co-Investigator)

Fmri Of Neural Information Processing Of Face Perception, National Institutes Of Health, 5-K01-MH-07296-05, 1/2005-12/2009 (GEOFFREY K AGUIRRE, PI), \$168,080/annual direct costs (Role in grant: Co-PI)

Neglect And Neural Mechanisms Of Magnitude Estimation, University Of Arkansas, ARIA 14378, 7/2004-4/2006 (ANJAN CHATTERJEE, PI), \$10,703/annual direct costs (Role in grant: PI)

Concepts And Language, National Institutes Of Health, 5-R01-DC-004817-05, 8/2002-7/2008 (ANJAN CHATTERJEE, PI), \$222,154/annual direct costs (Role in grant: PI)

Flexible Architecture for Neuroimaging Data Analysis and Presentation , NIH-NIDA , DA14418 , 7/2001-6/2006 (Daniel Kimberg, PI), \$0/annual direct costs (Role in grant: Co-Investigator)

Neglect And Neural Mechanisms Of Magnitude Estimation, University Of Alabama At Birmingham, SUB TO R01-NS-39348-03, 6/2001-4/2004 (ANJAN CHATTERJEE, PI), \$9,181/annual direct costs (Role in grant: PI)

Neural Bases of Semantic Memory , NIH-NINDS , 7/2000-6/2004 (Sharon L Thompson-Schill, PI), \$0/annual direct costs (Role in grant: Co-Investigator)

Drug Studies Of Dopamine And Prefrontal Function, University Of California- Berkeley, AGMT # SA3059-29417PG, 6/2000-5/2001 (ANJAN CHATTERJEE, PI), \$43,436/annual direct costs (Role in grant: PI)

Neural Bases Of Semantic Memory, National Institutes Of Health, 5-RO1-MH-060414-04, 5/2000-4/2005 (SHARON L THOMPSON-SCHILL, PI), \$219,613/annual direct costs (Role in grant: Co-PI)

Concepts and Language , Penn Research Foundation, 3/2000-2/2001 (Anjan Chatterjee, PI), \$0/annual direct costs (Role in grant: PI)

Neglect And Spatial Representations, National Institutes Of Health, 5-R01-NS-037539-06, 9/1999-12/2003 (ANJAN CHATTERJEE, PI), \$149,356/annual direct costs (Role in grant: PI)

Simultaneous Activation of Multiple Routes in Reading , SHRP mini-grant, 12/1998-11/1999 (M Helen Southwood, PI), \$0/annual direct costs (Role in grant: Co-Investigator)

Neglect and Spatial Representations, NIH-NINDS , RO1NS37539, 2/1998-12/2002 (Anjan Chatterjee, PI), \$0/annual direct costs (Role in grant: PI)

Phonological Processes in Normals: an fMRI study , NIH-NIDCD , RO3 DC03353., 2/1998-1/2000 (M Helen Southwood, PI), \$0/annual direct costs (Role in grant: Co-Investigator)

Treatment of Hemispatial Neglect , VA-VISTAR Award , 6/1997-5/1998 (Britt Anderson, PI), \$0/annual direct costs (Role in grant: Co-Investigator)

A Treatment for Excess Motor Disability in the Aged , NIH-NINDS , RO1134273, 12/1996-11/1999 (Edward Taub, PI), \$0/annual direct costs (Role in grant: Medical Director)

Spatial Neglect and Mechanisms of Attention , NIH-NINDS , R29NS318150, 3/1996-2/2001 (Mark Mennemeier, PI), \$0/annual direct costs (Role in grant: Co-Investigator)

Excess Motor Disability in Stroke: Neural Mechanisms and Treatment , UABHSF Patient Care Initiative, 1/1996-12/1996 (Anjan Chatterjee, PI), \$0/annual direct costs (Role in grant: PI)

Space in the Representation of Events , UAB Cognitive Science Intramural Grants Program. , 10/1995-9/1996 (Anjan Chatterjee, PI), \$0/annual direct costs (Role in grant: PI)

Effects of Stroke on Survivors and Caregivers , The Dean's Research Award Program., 6/1995-5/1996 (Anne Williams, PI: Anjan Chatterjee, Co-Investigator), \$0/annual direct costs (Role in grant: Co-PI)

Lexical access, sentence production and aphasia, UAB Faculty Research Grant, 9/1994-8/1995 (David Basilico, PI), \$0/annual direct costs (Role in grant: Consultant)

Unilateral Spatial Neglect and the Power Function , NIH-NINDS , KO8NS01702-01, 12/1993-11/1998 (Anjan Chatterjee, PI), \$0/annual direct costs (Role in grant: PI)

#### Philanthropy:

Barrist Family Fund: \$130,000

Smith Family Fund: \$50,000

Dolores Smith Innovation Fund: \$1,000,000

#### Bibliography:

##### Research Publications, peer reviewed (print or other media):

1. Chatterjee A, Mennemeier M, Heilman KM. : A stimulus-response relationship in unilateral neglect: the power function. Neuropsychologia 30: 1101-1108, 1992.
2. Chatterjee A, Mennemeier M, Heilman KM. : Search patterns and neglect: A case study. Neuropsychologia 30: 657-672, 1992.
3. Chatterjee A, Strauss M, Smyth K, Whitehouse PJ. : Personality changes in Alzheimer's disease. Arch Neurol 49: 486-491, 1992.
4. Gorelick PB, Chatterjee A, Patel D, Flowerdew G, Gollean W, Taber J, Harris Y. : Cranial computed tomographic observations in multi-infarct dementia. A controlled study. Stroke 23: 804-811, 1992.
5. Morris MK, Bowers D, Chatterjee A, Heilman KM. : Amnesia following a discrete basal forebrain lesion. Brain 115: 1827-1847, 1992.
6. Chatterjee A, Morris MK, Bowers D, Williamson DJ, Doty L, Heilman KM. : Cholinergic treatment of an amnesic man with a basal forebrain lesion: theoretical implications. J Neurol Neurosurg Psychiatry 56: 1282-1289, 1993.
7. Strauss ME, Pasupathi M, Chatterjee A. : Concordance between observers in descriptions of personality change in Alzheimer's disease. Psychology and Aging 8: 475-480, 1993.
8. Chatterjee A, Dajani BM, Gage RJ. : Psychophysical constraints on behavior in unilateral spatial neglect. Neuropsychiatry, Neuropsychology and Behavioral Neurology 7: 267-274, 1994.

9. Chatterjee A, Mennemeier M, Heilman KM. : The psychophysical power law and unilateral spatial neglect. Brain and Cognition 25: 92-107, 1994.
10. Chatterjee A. : Picturing unilateral spatial neglect: viewer versus object centred reference frames J Neurol Neurosurg Psychiatry 57: 1236-1240, 1994.
11. Mennemeier M, Chatterjee A, Watson RT, Wertmen E, Carter P, Heilman KM. : Contributions of the parietal and frontal lobes to sustained attention and habituation. Neuropsychologia 32: 703-716, 1994.
12. Mennemeier M, Chatterjee A, Heilman KM. : A comparison of body and environment centered reference frames on neglect. Brain 117: 1013-1021, 1994.
13. Chatterjee A, Maher LM, Gonzalez Rothi LJ, Heilman KM. : Asyntactic thematic role assignment: the use of a temporal-spatial strategy. Brain and Language 49: 125-139, 1995.
14. Chatterjee A, Maher LM, Heilman KM. : Spatial characteristics of thematic role representation. Neuropsychologia 33: 643-648, 1995.
15. Chatterjee A, Southwood MH. : Cortical blindness and visual imagery. Neurology 12: 2189-2195, 1995.
16. Chatterjee A. : Crossover, completion and confabulation in unilateral spatial neglect. Brain 118: 455-465, 1995.
17. Heilman KM, Chatterjee A, Doty LC. : Hemispheric asymmetries of spatial attention. Neuropsychology 9: 58-61, 1995.
18. Maher LM, Chatterjee A, Gonzalez Rothi LJ, Heilman KM. : Agrammatic production: the use of a temporal-spatial strategy. Brain and Language 49: 105-129, 1995.
19. Chatterjee A, Mennemeier M. : Anosognosia for hemiplegia: patient retrospections. Cognitive Neuropsychiatry 1: 221-237, 1996.
20. Chatterjee A, Yapundich R, Palmer C, Marson DC, Mitchell GW: Leukoencephalopathy associated with cobalamine deficiency. Neurology 46: 832-834, 1996.
21. Marson DC, Chatterjee A, Ingram KK, Harrell LE. : Neuropsychological predictors of competency in Alzheimer's disease using an appreciation of consequences legal standard. Neurology 46: 666-672, 1996.



22. Chatterjee A, Yapundich R, Mennemeier M, Mountz JM, Inampudi C, Pan JW, Mitchell GW. : Thalamic thought disorder: on being "a bit addled". Cortex 33: 419-440, 1997.
23. Mennemeier M, Vezey E, Chatterjee A, Rapsack S, Heilman KM. : Contributions of the left and right cerebral hemispheres to line bisection. Neuropsychologia 35: 703-715, 1997.
24. Nicholas AP, Chatterjee A, Dropcho EJ, Arnold MM, Oh SJ: Stiff-man syndrome associated with thymoma. Muscle and Nerve 20: 493-498, 1997.
25. Adair JC, Chatterjee A, Schwartz RL, Heilman KM. : Power function analysis of ipsilateral neglect. Cortex 34: 147-153, 1998.
26. Chatterjee A, Thompson KA. : Weigh(t)ing for awareness. Brain and Cognition 37: 477-490, 1998.
27. Southwood MH, Chatterjee A. : Phonological and articulatory disturbances in a case of primary progressive aphasia. Aphasiology 12: 161-177, 1998.
28. Chatterjee A, Southwood MH, Basilico D. : Verbs, events and spatial representations. Neuropsychologia 37: 395-402, 1999.
29. Chatterjee A, Thompson KA, Ricci R. : Quantitative analysis of cancellation tasks in neglect. Cortex 35: 253-262, 1999.
30. Ricci R, Vaishnavi S, Chatterjee A: A deficit of intermediate vision: experimental observations and theoretical implications. Neurocase 5: 1-12, 1999.
31. Southwood MH, Chatterjee A. : Simultaneous activation of reading mechanisms: evidence from a case of deep dyslexia. Brain and Language 67: 1-29, 1999.
32. Vaishnavi S, Calhoun J, Chatterjee A: Cross-sensory and sensori-motor integration in tactile awareness. Neurology 53: 1596-1598, 1999.
33. Anderson B, Mennemeier M, Chatterjee A. : Variability not ability: another basis for performance decrements in neglect . Neuropsychologia 38: 785-796, 2000.
34. Chatterjee A, Ricci R, Calhoun J. : Weighing the evidence for cross over in neglect . Neuropsychologia 38: 1390-1397, 2000.
35. Harrell LE, Marson D, Chatterjee A, Parish JA. : The severe mini-mental state examination: a new neuropsychological instrument for the bedside assessment of severely impaired Alzheimer's patients. Alzheimer's Disease and Associated Disorders 14: 168-175, 2000.

36. Marson DC, Sawrie SM, Snyder S, McInturff B, Stalvey T, Boothe A, Aldridge T, Chatterjee A, Harrell LH. : Assessment of financial capacity in patients with Alzheimer's disease. Archives of Neurology 57: 877-884, 2000.
37. Ricci R, Calhoun J, Chatterjee A. : Orientation bias in unilateral neglect: representational contributions. Cortex 36: 671-677, 2000.
38. Southwood MH, Chatterjee A. : The interaction of multiple routes in oral reading: evidence from dissociations in naming and oral reading in phonological dyslexia. Brain and Language 72: 14-39, 2000.
39. Vaishnavi S, Calhoun J, Southwood MH, Chatterjee A: Sensory and response interference by ipsilesional stimuli in tactile extinction. Cortex 36: 81-92, 2000.
40. Fox RJ, Kasner SE, Chatterjee A, Chalela J. : Aphemia: an isolated disorder of articulation. Clinical Neurology and Neurosurgery 103: 123-126, 2001.
41. Gottfried JA, Chatterjee A. : Carbon monoxide-mediated hippocampal injury. Neurology 57: 17, 2001.
42. Ricci R, Chatterjee A. : Context and crossover in unilateral neglect. Neuropsychologia 39: 1138-1143, 2001.
43. Southwood MH, Chatterjee A. : The simultaneous activation hypothesis: explaining recovery from deep to phonological dyslexia. Brain and Language 76: 18-34, 2001.
44. Vaishnavi S, Calhoun J, Chatterjee A. : Binding personal and peripersonal space: evidence from tactile extinction. Journal of Cognitive Neuroscience 13: 1-9, 2001.
45. Barrett JJ, Mennemeier M, Chatterjee A, Fuhr PS, Toval TA.: Influence of reference frames on asymmetries in Troxler's effect. Perceptual and Motor Skills 94: 29-38, 2002.
46. Chatterjee A. : Portrait profiles and the notion of agency. Empirical Studies of the Arts 20: 33-41, 2002.
47. Kable J, Lease-Spellmeyer J, Chatterjee A: The neural substrate of action event knowledge. Journal of Cognitive Neuroscience 14: 795-805, 2002.
48. Ances B, Chatterjee A: Shopping list perseveration. Neurology 12: 1975, 2003.
49. Biran I, Chatterjee A. : Depression with anosognosia following a left subcortical stroke. Clinical Neurology and Neurosurgery 105: 99-101, 2003.

50. Gottfried J, Sancar F, Chatterjee A: Acquired mirror writing and reading: evidence for reflected graphemic representations Neuropsychologia 41: 96-107, 2003.
51. Olson E, Stark M, Chatterjee A. : Evidence for a unimodal somatosensory attentional system. Experimental Brain Research 151: 15-23, 2003.
52. Ances B, Ellenbogen JM, Herman ST, Jacobs D, Liebskind DS, Chatterjee A, Galetta SL.: Balint syndrome due to Creutzfeldt-Jacob disease. Neurology 63: 395, 2004.
53. Chatterjee A.: The neuropsychology of visual artistic production. Neuropsychologia 42: 1568-1583, 2004.
54. Ricci R, Chatterjee A. : Sensory and response contributions to visual awareness in extinction. Experimental Brain Research 157: 85-93, 2004.
55. Snyder J, Chatterjee A. : Spatial-temporal anisometries following right parietal damage. Neuropsychologia 42: 1703-1708, 2004.
56. Giovannetti T, Buxbaum LJ, Biran I, Chatterjee A. : Reduced Endogenous Control in Alien Hand Syndrome: Evidence from Naturalistic Action. Neuropsychologia 43: 75-88, 2005.
57. Grossman M, Farmer J, Leight S, Work M, Moore P, Van Deerling V, Pratico D, Clark CM, Coslett HB, Chatterjee A, Gee J, Trojanowski JQ, Lee VM-Y: Cerebrospinal fluid distinguishes Frontotemporal Dementia from Alzheimer's Disease. Annals of Neurology 57: 721-729, 2005.
58. Kable JW, Kan IP, Wilson A, Thompson-Schill SL, Chatterjee A. : Conceptual representations of action in lateral temporal cortex. Journal of Cognitive Neuroscience 17: 1855-1870, 2005.
59. Mennemeier M, Pierce CA, Chatterjee A, Anderson B, Jewell G, Dowler R, Woods AJ, Glenn T, Mark VW. : Biases in attentional orientation and magnitude estimation explain crossover: neglect is a disorder of both. Journal of Cognitive Neuroscience 17: 1194-1211, 2005.
60. Ricci R, Genaro R, Colombatti S, Zampieri D, Chatterjee A. : Visuo-motor links in awareness: Evidence from extinction. Neuroreport 16: 843-847, 2005.
61. Wilson A, Chatterjee A. : The assessment of preference for balance: Introducing a new test. Empirical Studies of the Arts 23: 165-180, 2005.
62. Biran I, Giovannetti T, Buxbaum LJ, Chatterjee A. : The alien hand syndrome: what makes the alien hand alien? Cognitive Neuropsychology 23: 563-582, 2006.

63. Chatterjee A, Amorapanth PX, Hamilton RH. : Art produced by a patient with Parkinson's Disease. Behavioural Neurology 17: 105-108, 2006.
64. Forman MS, Farmer J, Johnson JK, Clark CM, Arnold SA, Coslett HB, Chatterjee A, Hurtig HI, Karlawash JH, Rosen HJ, Van Deerlinf V, Lee, VMY, Miller BL, Trojanowski JQ, Grossman M. : Frontotemporal dementia: clinicopathological correlations. Annals of Neurology 59(6): 952-962, 2006.
65. Forman MS, Farmer J, Johnson JK, Clark CM, Arnold SA, Coslett HB, Chatterjee A, Hurtig HI, Karlawash JH, Rosen HJ, Van Deerlinf V, Lee, VMY, Miller BL, Trojanowski JQ, Grossman M: Frontotemporal dementia: clinicopathological correlations. Annals of Neurology 59(6): 952-962, 2006.
66. Kable J, Chatterjee A. : The specificity of action representations in lateral occipitotemporal cortex. Journal of Cognitive Neuroscience 18: 1498-1517, 2006.
67. Kan IP, Biran I, Thompson-Schill, SL, Chatterjee A: Letter selection and letter assembly in acquired dysgraphia. Cognitive and Behavioral Neurology 19: 225-236, 2006.
68. Kan IP, Kable JW, Van Scoyoc A, Chatterjee A, Thompson-Schill SL. : Fractionating the left frontal response to tools: dissociable effects of motor experience and lexical competition. Journal of Cognitive Neuroscience 18: 267-277, 2006.
69. Olson IR, Moore KS, Stark M, Chatterjee A: Visual working memory is impaired when the medial temporal lobe is damaged. Journal of Cognitive Neuroscience 18: 1087-1097, 2006.
70. Olson, I.R., Page, K, Moore, K., Chatterjee, A., Verfaellie, M.: Working memory for conjunctions relies on the medial temporal lobe. Journal of Neuroscience 26: 4596-4601, 2006.
71. Snyder J, Chatterjee A. : The frontal cortex and stimulus driven attentional orienting. Journal of Cognitive Neuroscience 18(11): 1913-1923, 2006.
72. Taub E, Uswatte G, King DK, Morris D, Crago JE, Chatterjee A. : A placebo controlled trial of constraint-induced movement therapy for upper extremity after stroke. Stroke 37(4): 1045-1049, 2006.
73. Van Deerlin VM, Forman MS, Farmer JM, Grossman M, Joyce S, Crowe A, Trojanowski JQ, Lee VMY, Chatterjee A. : Biochemical and pathological characterization of frontotemporal dementia due to a Leu266Val mutation in microtubule-associated protein tau in an African-American individual. Acta Neuropathologica 113: 471-479, 2006.

74. Grossman M, Libon DJ, Forman MS, Massimo L, Wood E, Moore P, Anderson C, Farmer J, Chatterjee A, Clark CM, Coslett HB, Hurtig HI, Lee VM-Y, Trojanowski JQ: Distinct antemortem profiles in pathologically-defined patients with fronto temporal dementia. Archives of Neurology 64: 1601-1609, 2007.
75. Wu DH, Waller S, Chatterjee A: The functional neuroanatomy of thematic role and locative relational knowledge. Journal of Cognitive Neuroscience 19: 1542-1555, 2007.
76. Chen E, Widick P, Chatterjee A: Functional-anatomic organization of predicate metaphor processing. Brain and Language 107: 194-202, 2008.
77. Fellows LK, Stark M, Berg A. Chatterjee A: Patient registries in cognitive neuroscience research: advantages, challenges, and practical advice. Journal of Cognitive Neuroscience 20(6): 1107-1103, 2008.
78. Grossman M, Xie SX, Libon DJ, Wang X, Massimo L, Moore P, Vessely L, Berkowitz R, Chatterjee A, Coslett HB, Hurtig HI, Forman MS, Lee VM-Y, Trojanowski JQ: Longitudinal decline in autopsy-defined frontotemporal lobar degeneration. Neurology 70(22): 2036-2045, 2008.
79. Wu DH, Chatterjee A: Neural substrate of processing path and manner information of a moving event. Neuropsychologia 46: 704-713, 2008.
80. Xie SX, Forman MS, Farmer J, Moore P, Wang Y, Clark CM, Coslett HB, Chatterjee A, Arnold SE, Rosen H, Karlawish JHT, Van Deerlin VM, Lee VM-Y, Trojanowski JQ, Grossman M: Factors associated with survival probability in autopsy-proven fronto-temporal lobar degeneration. Journal of Neurology, Neurosurgery and Psychiatry 79: 126-129, 2008.
81. Chatterjee A, Thomas A, Smith SE, Aguirre GK: The neural response to facial attractiveness. Neuropsychology 23: 135-143, 2009.
82. Farah MJ, Haimm C, Sankoorikal G, Smith ME, Chatterjee A: When we enhance cognition with Adderall do we sacrifice creativity? Psychopharmacology 202: 541-547, 2009.
83. Libon DJ, McMillan C, Gunawardena D, Powers C, Massimo L, Khan A, Morgan B, Farag C, Richmond L, Weinstein J, Moore P, Coslett HB, Chatterjee A, Aguirre G, Grossman M: Neurocognitive contributions to verbal fluency deficits in frontotemporal lobar degeneration. Neurology 18: 535-542, 2009.
84. Libon DJ, Xie SX, Wang X, Massimo L, Moore P, Vesely L, Khan A, Chatterjee A, Coslett HB, Hurtig HI, Liamg T-W, Grossman M: Neuropsychological decline in frontotemporal lobar degeneration: a longitudinal analysis. Neuropsychology 23(3): 337-46, 2009.

85. Straube B, Green A, Weis S, Chatterjee A, Kircher T: Memory effects of speech and gesture binding: cortical and hippocampal activation in relation to subsequent memory performance. Journal of Cognitive Neuroscience 21(4): 821-36, 2009.
86. Xie Sharon X, Libon David J, Wang Xingmei, Massimo Lauren, Moore Peachie, Vesely Luisa, Khan Alea, Chatterjee Anjan, Coslett H Branch, Hurtig Howard I, Liang Tsao-Wei, Grossman Murray: Longitudinal patterns of semantic and episodic memory in frontotemporal lobar degeneration and Alzheimer's disease. Journal of the International Neuropsychological Society : JINS Page: 1-9, Dec 2009.
87. Kranjec Alexander, Cardillo Eileen R, Schmidt Gwenda L, Chatterjee Anjan: Prescribed spatial prepositions influence how we think about time. Cognition 114(1): 111-6, Jan 2010. PMCID: PMC2783920
88. Medina Jared, Kimberg Daniel Y, Chatterjee Anjan, Coslett H Branch: Inappropriate usage of the Brunner-Munzel test in recent voxel-based lesion-symptom mapping studies. Neuropsychologia 48(1): 341-3, Jan 2010. PMCID: PMC2795086
89. Straube B, Chatterjee A: Space and time in perceptual causality. Frontiers in Human Neuroscience 4(28), April 6 2010.
90. Amorapanth PX, Widick P, Chatterjee A: The neural basis for spatial relations. Journal of Cognitive Neuroscience 22(8): 1739-53, 2010.
91. Cardillo, E., Kranjec, A. Schmidt. G.L.. Chatterjee, A.: Stimulus Design is an Obstacle Course: 560 Matched Literal and Metaphorical Sentences for Testing Neural Hypotheses about Metaphor. Behavior Research Methods 42(3): 651-64, 2010.
92. Chatterjee A, Widick P, Sternsheim R, Smith WB, Bromberger B: The assessment of art attributes. Empirical Studies of the Arts 28: 207-222, 2010.
93. Coslett, H. B., Wiener, M., Chatterjee, A.: Dissociable neural systems for timing: evidence from subjects with basal ganglia lesions. PLoS ONE 5(4): e10324, 2010.
94. Kranjec A, Lehet M, Bormberger B, Chatterjee A: A sinister bias for calling fouls in soccer. PLoS One 5(7): e11667, 2010.
95. Langner R, Wilmes K, Chatterjee A, Eickhoff SB, Stum W: Energetic effects of stimulus intensity on prolonged simple reaction-time performance. Psychological Research 74(5): 499-512, 2010.

96. Langner Robert, Steinborn Michael B, Chatterjee Anjan, Sturm Walter, Willmes Klaus: Mental fatigue and temporal preparation in simple reaction-time performance. Acta Psychologica 133(1): 64-72, 2010.
97. Olson I, Berryhill M, Drowos D, Brown, Chatterjee A: A calendar savant with episodic memory impairments. Neurocase 16(3): 208-18, 2010.
98. Straube B, Green A, Jansen A, Chatterjee A, Kircher T: Social cues, mentalizing and the neural processing of speech accompanied by gestures. Neuropsychologia 48: 382-93, 2010.
99. Wencil EB, Coslett HB, Aguirre GK, Chatterjee A: Carving the clock at its component joints: Neural bases for interval timing. Journal of Neurophysiology 104(1): 160-8, 2010.
100. Wencil Elaine B, Radoeva Petya, Chatterjee Anjan: Size Isn't All that Matters: Noticing Differences in Size and Temporal Order. Frontiers in Human Neuroscience 4, 2010. PMCID: PMC2944649
101. Bromberger B, Sternsheim R, Widick P, Smith II W, Chatterjee A: The right hemisphere in esthetic perception. Frontiers Human Neuroscience 5: 109, 2011. PMCID: 22016728
102. Libon, David J., Rascovsky, Katya, Gross, Rachel G., White, Matthew T., Xie, Sharon X., Dreyfuss, Michael, Boller, Ashley, Massimo, Lauren, Moore, Peachie, Kitain, Jessica, Coslett, H. Branch, Chatterjee, Anjan, Grossman, Murray: The Philadelphia Brief Assessment of Cognition (PBAC): A Validated Screening Measure for Dementia. The Clinical Neuropsychologist. Psychology Press, 25(8): 1314-1330, 2011.
103. Smith II W, Sternsheim R, Widick P, Bromberger B, Chatterjee A.: Artistic production following brain damage: A study of three artists Leonardo Page: 4050-410, 2011.
104. Straube B, Green A, Chatterjee A, Kircher T: Encoding social interactions: The neural correlates of true and false memories. Journal of Cognitive Neuroscience 23: 306-24, 2011.
105. Straube B, Wolk D, Chatterjee A: The role of the right parietal lobe in the perception of causality: a tDCS study. Exp Brain Res 215: 315-25, 2011.
106. Schmidt Gwenda L, Cardillo Eileen R, Kranjec Alexander, Lehet Matthew, Widick Page, Chatterjee Anjan: Not all analogies are created equal: Associative and categorical analogy processing following brain damage. Neuropsychologia 50(7): 1372-9, Jun 2012. PMCID: PMC3384712

107. Blos Johannes, Chatterjee Anjan, Kircher Tilo, Straube Benjamin: Neural correlates of causality judgment in physical and social context--the reversed effects of space and time. NeuroImage 63(2): 882-93, Nov 2012.
108. Amorapanth P, Kranjec A, Bromberger B, Lehet M, Widick P, Woods AJ, Kimberg DY, Chaterjee A: Language, perception, and the schematic representation of spatial relations. Brain Language 120(3): 226-236, 2012.
109. Cardillo ER, Watsion CE, Schmidt GL, Kranjec A, Chatterjee A : From novel to familiar: Tuning the brain for metaphors. Neuroimage 59: 3212-3221, 2012.
110. Goksun T, Woods AJ, Chatterjee A, Zelonis S, Glass L, Smith SE: Elementary school children's attentional biases in physical and numerical space. The European Journal of Developmental Psychology Page: 1-16, 2012.
111. Kranjec, AKChatterjee, A: Deconstructing events: the neural basis for space, time, and causality. Journal of Cognitive Neuroscience 24: 1-16, 2012.
112. Langner R, Kellermann T, Eickhoff SB, Boers F, Chatterjee A, Wilmes K, Strum W: Staying responsive to the world: Modality-specific and -nonspecific contributions to speeded auditory, tactile, and visual stimulus detection. Human Brain Mapping 33: 394-418, 2012.
113. Watson CE, Chatterjee A: A bilateral frontoparietal network underlies visuospatial analogical reasoning. Neuroimage 59: 2831-8, 2012. PMCID: 21982934
114. Woods Adam J, Lehet Matthew, Chatterjee Anjan: Context modulates the contribution of time and space in causal inference. Frontiers in psychology 3: 371, 2012. PMCID: PMC3498891
115. Göksun Tilbe, Woods Adam J, Chatterjee Anjan, Zelonis Sarah, Glass Leila, Smith Sabrina E: Elementary school children's attentional biases in physical and numerical space. The European journal of developmental psychology 10(4): 433-448, Jan 2013. PMCID: PMC3686136
116. Vartanian Oshin, Navarrete Gorka, Chatterjee Anjan, Fich Lars Brorson, Leder Helmut, Modroño Cristián, Nadal Marcos, Rostrup Nicolai, Skov Martin: Impact of contour on aesthetic judgments and approach-avoidance decisions in architecture. Proceedings of the National Academy of Sciences of the United States of America 110 Suppl 2: 10446-53, Jun 2013. PMCID: PMC3690611
117. Woods Adam J, Göksun Tilbe, Chatterjee Anjan, Zelonis Sarah, Mehta Anika, Smith Sabrina E: The development of organized visual search. Acta psychologica 143(2): 191-9, Jun 2013. PMCID: PMC3651801



118. Göksun Tilbe, Lehet Matthew, Malykhina Katsiaryna, Chatterjee Anjan: Naming and gesturing spatial relations: Evidence from focal brain-injured individuals. Neuropsychologia 51(8): 1518-27, Jul 2013. PMCID: PMC3699899
119. Kranjec Alexander, Ianni Geena, Chatterjee Anjan: Schemas reveal spatial relations to a patient with simultanagnosia. Cortex; a journal devoted to the study of the nervous system and behavior 49(7): 1983-8, Jul-Aug 2013.
120. Watson Christine E, Cardillo Eileen R, Ianni Geena R, Chatterjee Anjan: Action Concepts in the Brain: An Activation Likelihood Estimation Meta-analysis. Journal of cognitive neuroscience 25(8): 1191-205, Aug 2013.
121. Avants Brian B, Libon David J, Rascovsky Katya, Boller Ashley, McMillan Corey T, Massimo Lauren, Coslett H Branch, Chatterjee Anjan, Gross Rachel G, Grossman Murray: Sparse canonical correlation analysis relates network-level atrophy to multivariate cognitive measures in a neurodegenerative population. NeuroImage 84C: 698-711, Oct 2013.
122. Wende Kim C, Nagels Arne, Blos Johannes, Stratmann Mirjam, Chatterjee Anjan, Kircher Tilo, Straube Benjamin: Differences and commonalities in the judgment of causality in physical and social contexts: An fMRI study. Neuropsychologia 51(13): 2572-80, Nov 2013.
123. Nagels Arne, Chatterjee Anjan, Kircher Tilo, Straube Benjamin: The role of semantic abstractness and perceptual category in processing speech accompanied by gestures. Frontiers in behavioral neuroscience 7: 181, 2013. PMCID: PMC3866656
124. van Buren B, Bromberger B, Potts D, Miller B, Chatterjee A: Changes in Painting Styles of Artists with Alzheimer's Disease. Psychology of Aesthetics, Art, and Creativity 7: 89-94, 2013.
125. Muehlhaus Juliane, Heim Stefan, Altenbach Fabian, Chatterjee Anjan, Habel Ute, Sass Katharina: Deeper insights into semantic relations: An fMRI study of part-whole and functional associations. Brain and language 129: 30-42, Feb 2014.
126. Woods Adam J, Hamilton Roy H, Kranjec Alexander, Minhaus Preet, Bikson Marom, Yu Jonathan, Chatterjee Anjan: Space, time, and causality in the human brain. NeuroImage 92: 285-97, May 2014. PMCID: PMC4008651
127. Olson Ingrid R, Ezzyat Youssef, Plotzker Alan, Chatterjee Anjan: The end point of the ventral visual stream: face and non-face perceptual deficits following unilateral anterior temporal lobe damage. Neurocase Page: 1-9, Sep 2014.

128. Vo Khoi, Rutledge Robb B, Chatterjee Anjan, Kable Joseph W: Dorsal striatum is necessary for stimulus-value but not action-value learning in humans. Brain : a journal of neurology Oct 2014.
129. Ianni Geena R, Cardillo Eileen R, McQuire Marguerite, Chatterjee Anjan: Flying under the radar: figurative language impairments in focal lesion patients. Frontiers in human neuroscience 8: 871, 2014. PMCID: PMC4217389
130. Kranjec Alexander, Lupyan Gary, Chatterjee Anjan: Categorical biases in perceiving spatial relations. PloS one 9(5): e98604, 2014. PMCID: PMC4037194
131. Watson Christine E, Cardillo Eileen R, Bromberger Bianca, Chatterjee Anjan: The specificity of action knowledge in sensory and motor systems. Frontiers in psychology 5: 494, 2014. PMCID: PMC4033265
132. Wende Kim C, Nagels Arne, Stratmann Mirjam, Chatterjee Anjan, Kircher Tilo, Straube Benjamin: Neural basis of altered physical and social causality judgements in schizophrenia. Schizophrenia research 161(2-3): 244-51, Feb 2015.
133. Graham Daniel, Schwarz Bianca, Chatterjee Anjan, Leder Helmut: Preference for luminance histogram regularities in natural scenes. Vision research Apr 2015.
134. Pegors Teresa K, Kable Joseph W, Chatterjee Anjan, Epstein Russell A: Common and Unique Representations in pFC for Face and Place Attractiveness. Journal of cognitive neuroscience 27(5): 959-73, May 2015.
135. Göksun Tilbe, Lehet Matthew, Malykhina Katsiaryna, Chatterjee Anjan: Spontaneous gesture and spatial language: Evidence from focal brain injury. Brain and language 150: 1-13, Aug 2015.
136. Quandt Lorna C, Cardillo Eileen R, Kranjec Alexander, Chatterjee Anjan: Fronto-temporal regions encode the manner of motion in spatial language. Neuroscience letters 609: 171-5, Nov 2015.
137. Nozari Nazbanou, Göksun Tilbe, Thompson-Schill Sharon L, Chatterjee Anjan: Phonological similarity affects production of gestures, even in the absence of overt speech. Frontiers in psychology 6: 1347, 2015. PMCID: PMC4563879
138. Piedimonte Alessandro, Woods Adam J, Chatterjee Anjan: Disambiguating ambiguous motion perception: what are the cues? Frontiers in psychology 6: 902, 2015. PMCID: PMC4496557
139. Woods Adam J, Kranjec Alexander, Lehet Matt, Chatterjee Anjan: Expertise and decision-making in American football. Frontiers in psychology 6: 994, 2015. PMCID: PMC4499674

140. Cardillo Eileen R, Watson Christine, Chatterjee Anjan: Stimulus needs are a moving target: 240 additional matched literal and metaphorical sentences for testing neural hypotheses about metaphor. Behavior research methods Mar 2016.
141. Siegler James E, Kable Joseph W, Chatterjee Anjan: Resident Decision Making: Opioids in the Outpatient Setting. Journal of graduate medical education 8(2): 138-41, May 2016. PMCID: PMC4857523
142. Karaduman AyÅÿenur, Göksun Tilbe, Chatterjee Anjan: Narratives of focal brain injured individuals: A macro-level analysis. Neuropsychologia 99: 314-325, May 2017. PMCID: PMC5479932
143. Weisberg Steven M, Badgio Daniel, Chatterjee Anjan: A CRISPR New World: Attitudes in the Public toward Innovations in Human Genetic Modification. Frontiers in public health 5: 117, 2017. PMCID: PMC5439143

Research Publications, peer-reviewed reviews:

1. Chatterjee A, Mack J, Whitehouse PJ. : Dementia: Nosology and brain behavior relationships. Dementia 2: 116-120, 1991.
2. Anderson B, Chatterjee A, Graham G. : Neural transplants are gray matters. Behavioral and Brain Sciences 18: 46-47, 1995.
3. Chatterjee A. : Unilateral spatial neglect: assessment and rehabilitation strategies. NeuroRehabilitation 5: 115-128, 1995.
4. Chatterjee A. : Motor minds and mental models in neglect. Brain and Cognition 37: 339-349, 1998.
5. Chatterjee A. : Language and space: some interactions. Trends in Cognitive Science 5: 55-61, 2001.
6. Chatterjee A. : Pictures, propositions and primitives in the head. Behavioral and Brain Sciences 25: 186-187, 2002.
7. Biran I. Chatterjee A: Alien hand syndrome- seminal citations. Archives of Neurology 61: 292-294, 2004.
8. Chatterjee A: Prospects for a cognitive neuroscience of visual aesthetics. Bulletin of Psychology and the Arts 4: 56-60, 2004.
9. Chatterjee A. : Cosmetic Neurology: the controversy over enhancing movement , mentation and mood. Neurology 63: 968-974, 2004.
10. Chatterjee A. : A madness to the methods in cognitive neuroscience? Journal of Cognitive Neuroscience 17: 847-849, 2005.

11. Chatterjee A: The promise and predicament of cosmetic neurology. Journal of Medical Ethics 32: 110-113, 2006.
12. Chatterjee A. : Cosmetic neurology and cosmetic surgery: parallels, predictions and challenges. Cambridge Quarterly of Healthcare Ethics 16: 129-137, 2007.
13. Chatterjee A: The neural organization of spatial thought and language. Seminars in Speech and Language 29(3): 226-252, 2008.
14. Smith S, Chatterjee A: Visuo-spatial attention in children. Archives of Neurology 65(10): 1284-1288, 2008.
15. Chatterjee, A: Is it acceptable for people to take ritalin to enhance performance? No. British Medical Journal 338: 1956, 2009.
16. Chatterjee, A: Disembodying Cognition. Language and Cognition 2(1): 79-116, 2010.
17. Schmidt GL, Kranjec A, Cardillo ER, Chatterjee A: The Neural Basis of Metaphor: A Critical Assessment. Journal of the International Neuropsychological Society 16: 1-5, 2010.
18. Watson C, Chatterjee A: The Functional Neuroanatomy of Actions. Neurology 76: 1428-34, 2010.
19. Chatterjee A: Neuroaesthetics: a coming of age story. Journal of Cognitive Neuroscience 23: 53-62, 2011.
20. Hamilton R, Messing S, Chatterjee A: Rethinking the thinking cap: Ethics of neural enhancement using noninvasive brain stimulation. Neurology 76: 187-93, 2011.
21. Kelley B, Chatterjee A: Brain branding: When neuroscience and commerce collide. AJOB Neuroscience 2: 18-27, 2011.
22. Watson CE, Chatterjee A: The functional neuroanatomy of actions. Neurology 76: 1428-34, 2011.
23. Chancellor Bree, Duncan Angel, Chatterjee Anjan: Art Therapy for Alzheimer's Disease and Other Dementias. Journal of Alzheimer's disease : JAD Oct 2013.
24. Chatterjee Anjan, Vartanian Oshin: Neuroaesthetics. Trends in cognitive sciences 18(7): 370-375, Jul 2014.

25. Daffner Kirk R, Gale Seth A, Barrett A M, Boeve Bradley F, Chatterjee Anjan, Coslett H Branch, D'Esposito Mark, Finney Glen R, Gitelman Darren R, Hart John J, Lerner Alan J, Meador Kimford J, Pietras Alison C, Voeller Kytja S, Kaufer Daniel I: Improving clinical cognitive testing: Report of the AAN Behavioral Neurology Section Workgroup. Neurology Jul 2015.
26. Quandt Lorna C, Chatterjee Anjan: Rethinking actions: implementation and association. Wiley interdisciplinary reviews. Cognitive science 6(6): 483-90, Nov-Dec 2015. PMID: PMC4600459
27. Pearce Marcus T, Zaidel Dahlia W, Vartanian Oshin, Skov Martin, Leder Helmut, Chatterjee Anjan, Nadal Marcos: Neuroaesthetics: The Cognitive Neuroscience of Aesthetic Experience. Perspectives on psychological science : a journal of the Association for Psychological Science 11(2): 265-79, Mar 2016.
28. Chatterjee Anjan, Vartanian Oshin: Neuroscience of aesthetics. Annals of the New York Academy of Sciences Apr 2016.
29. Jamrozik Anja, McQuire Marguerite, Cardillo Eileen R, Chatterjee Anjan: Metaphor: Bridging embodiment to abstraction. Psychonomic bulletin & review 23(4): 1080-9, Aug 2016. PMID: PMC5033247
30. Coburn Alex, Vartanian Oshin, Chatterjee Anjan: Buildings, Beauty, and the Brain: A Neuroscience of Architectural Experience. Journal of Cognitive Neuroscience Page: 1-11, May 2017.

Editorials, Reviews, Chapters, including participation in committee reports (print or other media):

1. Chatterjee A, Whitehouse PJ. : Dementia. The Geriatric Review Syllabus. 2nd Edition, American Geriatric Society, New York. JC Beck (eds.). 1991.
2. Harrell LE, Marson D, Duke L, Foster J, Burgard S, Anderson B, Chatterjee A, Bartolucci A. : Behavioral changes in early Alzheimer's disease. Research Advances in Alzheimer's disease and Related Disorders. John Wiley & Sons Ltd. Iqbal K, Mortimer JA, Winblad B, Wisniewski HM (eds.). Page: 219-224, 1995.
3. Chatterjee A, Mennemeier M. : Diagnosis and Treatment of Spatial Neglect. In Principles of Neurorehabilitation, McGraw-Hill Inc. Lazar R (eds.). Page: 597-612, 1998.
4. Chatterjee A. : Feeling frontal dysfunction: paratonia and frontal regulation of motor behavior [Editorial]. Neurology 51: 937-939, 1998.
5. Chatterjee A. : Some quantitative observations in neglect. AAN syllabus, 'kick-off' program 1999.

6. Chatterjee A, Maher L. : Grammar and agrammatism. Aphasia and Language: Theory to Practice, Guilford Publications , New York. Gonzalez Rothi LJ, Crosson B, Nadeau S (eds.). Page: 133-156, 2000.
7. Chatterjee A, Farah M. : Face module, face network: the cognitive architecture of the brain revealed through studies of face processing [Editorial] Neurology 57: 1151-1152, 2001.
8. Chatterjee A. : Representational anisometry and instability in neglect. The Cognitive and Neural Bases of Neglect, The Oxford University Press Karnath H-O, Milner AD, and Vallar G (eds.). The Oxford University Press, Page: 167-180, 2002.
9. Chatterjee A, Coslett HB. : Neglect: Cognitive Neuropsychological Issues. Behavioral Neurology and Neuropsychology. Feinberg T, Farah MJ (eds.). McGraw-Hill Page: 313-324, 2003.
10. Chatterjee A. : Neglect. Neurological Foundations of Cognitive Neuroscience. D'Esposito M (eds.). MIT Press, Page: 1-26, 2003.
11. Coslett HB, Chatterjee A: Simultanagnosia. Behavioral Neurology and Neuropsychology. Feinberg T, Farah MJ (eds.). McGraw-Hill Page: 325-336, 2003.
12. Chatterjee A. : Cognitive Neurology. The Year in Neurology. Page: 209-224, 2004.
13. Chatterjee A.: The neuropsychology of visual art: Conferring capacity. The Neurobiology of Painting. Rose, C. (eds.). Academic Press Page: 39-49, 2006.
14. Chatterjee, A: Cosmetic neurology and the problem of pain. Cerebrum 2008: Emerging Ideas in Brain Sciences. Read, CA (eds.). The Dana Foundation, Page: 81-94, 2008.
15. Chatterjee, A.: Where there be dragons: Finding the edges of neuroaesthetics. American Society of Neuroaesthetics Newsletter 31(2): 4-6, 2011.
16. Chatterjee A: Neuroaesthetics: Growing pains of a new discipline. Aesthetic Science. Shimamura AP, Palmer SE (eds.). Oxford University Press, New York, 2012.
17. Chatterjee Anjan: Neuroaesthetics: range and restrictions. The Behavioral and brain sciences 36(2): 137-8, Apr 2013.
18. Chatterjee Anjan: The ethics of neuroenhancement. Handbook of clinical neurology 118: 323-34, 2013.

19. Chatterjee, Anjan: Neuroscience: Drugs to build a better brain. Nature. Nature Publishing Group, a division of Macmillan Publishers Limited. All Rights Reserved. 496(7446): 431-432, 2013.
20. Chatterjee Anjan: Scientific aesthetics: Three steps forward. British journal of psychology (London, England : 1953) 105(4): 465-7, Nov 2014.
21. Vo Khoi, Rutledge Robb B, Chatterjee Anjan, Kable Joseph W: Reply: Differential functions of ventral and dorsal striatum. Brain : a journal of neurology Mar 2015.

Books:

1. Chatterjee A, Farah MJ (Eds): Neuroethics in Practice. Mind, Medicine, and Society. Oxford University Press 2013.
2. Chatterjee A, Coslett HB (EDs): The Roots of Cognitive Neuroscience. Behavioral Neurology and Neuropsychology. Oxford University Press 2014.
3. Chatterjee, A: The Aesthetic Brain. How We Evolved to Desire Beauty and Enjoy Art. Oxford University Press 2014.

Alternative Media:

1. Chatterjee A. : Neglect. Neurobase. Arbor Publishing Corp. (CD-ROM text). 1997.
2. Chatterjee A. : Neglect. Neurobase. Arbor Publishing Corp, 1998.
3. Chatterjee A. : Art, a window into the brain? Journal of Neurobiological Aesthetics. 2001 Notes: [www.artbrain.org](http://www.artbrain.org).
4. Chatterjee A. : Op-Ed. Cosmetic Neurology: For Physicians the Future is Now. Virtual Mentor August 2004.
5. Anjan Chatterjee: The Use of Workplace Productivity Drugs Is the Probable Future. New York Times April 21 2015.
6. Anjan Chatterjee: Build Better Voice Technology. New York Times May 2 2016.