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# Coherent Effects In Primary Visual Perception Eye

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Neurobiology of Attention

Proceedings of the National Academy of Sciences of the United States of America

Vision in Alzheimer's Disease

Encyclopedia of Neuroscience, Volume 1

J K Smith Power Station Units 1-2, Transmission Line

The Estuary as a Filter

Neuronal Bases and Psychological Aspects of Consciousness

Scientific and Technical Aerospace Reports

Dynamics of Visual Motion Processing

Practical Guide to Transcranial Direct Current Stimulation

Implementing Mobile TV

Interpersonal Psychoanalysis and the Enigma of Consciousness

Atoms of Mind

Simultaneous EEG and FMRI

The Industrial Environment - Its Evaluation and Control

Selected Papers on Apodization--coherent Optical Systems  
Detection and Identification of Rare Audio-visual Cues  
The Cat Primary Visual Cortex  
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Characterizing the Spatial and Temporal Frequency Tuning Properties in Mouse  
Visual Cortex with Calcium Imaging  
Advanced Methods of Electrophysiological Signal Analysis and Symbol Grounding?  
Optics Letters  
Journal of the Optical Society of America  
Perceptual Coherence  
Narrative Comprehension, Causality, and Coherence  
Computational Neuroscience: Trends in Research 2004  
The Neuropsychology of Vision  
Multisensory and sensorimotor interactions in speech perception  
Frontiers in Cognitive Neuroscience  
The Neurology of Consciousness  
A Practical Guide to Seismic Reservoir Characterization  
Studies of Cortical Synchrony and Coherence in the Human Sensorimotor System  
Neurophysiological Correlates of Figure/ground Segmentation in the Macaque  
Primary Visual Cortex During Performance of a Visual Discrimination Task

The Industrial Environment - Its Evaluation and Control  
Pre-cueing Effects on Perception, Attention, and Cognitive Penetrability  
Issues in Neurology Research and Practice: 2011 Edition  
Design Strategies for Reimagining the City  
The New Handbook of Multisensory Processing  
The Roots of Visual Awareness  
From Structure to Function in Neuronal Networks: Effects of Adaptation, Time-Delays,  
and Noise

*Coherent  
Effects In  
Primary Visual  
Perception Eye*

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HAMILTON**

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*Neurobiology of Attention*  
Lulu.com  
Encompasses a summary  
of major research and  
scientific thought

regarding the nature of  
consciousness, the neural  
circuitry involved, how the  
brain, body, and world  
interact, and our  
understanding of  
subjective states.

**Proceedings of the  
National Academy of  
Sciences of the United  
States of America**

Springer Science &  
Business Media  
The Neuropsychology of  
Vision describes a range  
of new approaches to  
neuropsychological  
investigation and provides  
a broad overview of visual  
neuropsychology. The  
book starts by presenting  
the results from new

research employing single-unit recordings, on the neuronal basis of perception demonstrating that the visual system relies strongly on feedback from higher to lower levels of information processing, and that neuronal plasticity exists in the primary sensory cortices of adults, areas previously considered to be hard-wired. The book also describes other new and adapted techniques to measure brain activity, including multi-unit sum potential recording, functional magnetic

resonance imaging and employing transcranial magnetic stimulation to induce temporary, circumscribed functional lesions in the cortices of normal subjects to mimic disorders. The coverage then moves on to review the experience of patients suffering from disturbances of visual perception. The disorders covered include agnosia, neglect, blindsight and achromatopsia. The final chapter is devoted to recovery and rehabilitation from cerebral visual disorder.

Professors Fahle and Greenlee have brought together some of the leading international specialists in the field to provide this comprehensive and up-to-date review.

[Vision in Alzheimer's Disease](#) Frontiers Media SA

Machine learning builds models of the world using training data from the application domain and prior knowledge about the problem. The models are later applied to future data in order to estimate the current state of the

world. An implied assumption is that the future is stochastically similar to the past. The approach fails when the system encounters situations that are not anticipated from the past experience. In contrast, successful natural organisms identify new unanticipated stimuli and situations and frequently generate appropriate responses. The observation described above lead to the initiation of the DIRAC EC project in 2006. In 2010 a workshop was held, aimed

to bring together researchers and students from different disciplines in order to present and discuss new approaches for identifying and reacting to unexpected events in information-rich environments. This book includes a summary of the achievements of the DIRAC project in chapter 1, and a collection of the papers presented in this workshop in the remaining parts. [Encyclopedia of Neuroscience, Volume 1](#) Society of Photo Optical The job of any sensory

system is to create objects in the world out of the incoming proximal stimulus energy. The energy is neutral; it does not specify the objects itself. Thus, sensory systems must abstract the energy that does specify objects and differentiate it from the noise energy. The perceptual variables that specify objects for both listening and looking become those of contrast and correlated change across space and time, so that perceiving occurs at several spatial and

temporal scales in parallel. Given that the perceptual goals and perceptual variables are equivalent, the rules of perceiving will be the same for all senses. The goal of this book is to describe these conceptual similarities and differences between hearing and seeing. Although it is mathematical and conceptually analytical, the book does not make explicit use of advanced mathematical concepts. Each chapter combines information on hearing

and seeing, and gives a detailed treatment of a small number of topics. The first three chapters present introductory information, including properties of auditory and visual worlds, how receptive fields are organized to pick out those properties, and whether the receptive fields are optimized to pick up the structure of the sensory world. Each subsequent chapter considers one type of perceptual element: texture, motion, contrast and noise, color, timbre,

and object segmentation. Each type of perceptual situation is described as a problem of discovering the correlated energy, and the research presented focuses on how humans manage to perceive given the complicated set of skills required. This book is intended for use in upper-division undergraduate courses in perception and sensation, cognitive psychology, and neuroscience. It will fill the slot between textbooks that cover perception and sensory

physiology and neuroscience, and more advanced monographs that cover one sense or topic in detail.  
*J K Smith Power Station Units 1-2, Transmission Line* Frontiers Media SA  
Motion processing is an essential piece of the complex brain machinery that allows us to reconstruct the 3D layout of objects in the environment, to break camouflage, to perform scene segmentation, to estimate the ego movement, and to control our action. Although

motion perception and its neural basis have been a topic of intensive research and modeling the last two decades, recent experimental evidences have stressed the dynamical aspects of motion integration and segmentation. This book presents the most recent approaches that have changed our view of biological motion processing. These new experimental evidences call for new models emphasizing the collective dynamics of large population of

neurons rather than the properties of separate individual filters. Chapters will stress how the dynamics of motion processing can be used as a general approach to understand the brain dynamics itself.  
[The Estuary as a Filter](#)  
ScholarlyEditions  
Written by experts on the forefront of investigations of brain function, vision, and perception, the material presented is of an unparalleled scientific quality, and shows that analyses of enormous breadth and

sophistication are required to probe the structure and function of brain regions. The articles are highly persuasive in showing what can be achieved by carrying out careful and imaginative experiments. The Cat Primary Visual Cortex should emerge as essential reading for all those interested in cerebral cortical processing of visual signals or researching or working in any field of vision. Comprehensive account of cat primary visual cortex Generous

use of illustrations including color Covers research from structure to connections to functions Chapters by leaders in the field Topics presneted on multiple, compatible levels  
Neuronal Bases and Psychological Aspects of Consciousness Springer  
 This text is intended to aid researchers who plan to set up a simultaneous EEG-fMRI laboratory and those who are interested in integrating electrophysiological and hemodynamic data. As will be obvious from the

different chapters, this is a dynamically developing field in which several approaches are being tested and compared.

### **Scientific and Technical Aerospace Reports**

Frontiers Media SA

This collection of papers covers topics such as: the application of apodization; the effect of non-uniform illumination on critical resolution by a circular aperture using partially coherent light; and apodized aperture using frustrated total reflection.  
*Dynamics of Visual Motion Processing* Routledge



This book covers in detail the entire workflow for quantitative seismic interpretation of subsurface modeling and characterization. It focusses on each step of the geo-modeling workflow starting from data preconditioning and wavelet extraction, which is the basis for the reservoir geophysics described and introduced in the following chapters. This book allows the reader to get a comprehensive insight of the most common and advanced workflows. It

aims at graduate students related to energy (hydrocarbons), CO<sub>2</sub> geological storage, and near surface characterization as well as professionals in these industries. The reader benefits from the strong and coherent theoretical background of the book, which is accompanied with real case examples. *Practical Guide to Transcranial Direct Current Stimulation* Springer Science & Business Media Issues in Neurology Research and Practice /

2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Neurology Research and Practice. The editors have built Issues in Neurology Research and Practice: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Neurology Research and Practice in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable,

authoritative, informed, and relevant. The content of *Issues in Neurology Research and Practice: 2011 Edition* has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More

information is available at <http://www.ScholarlyEditions.com/>.

Implementing Mobile TV  
Focal Press

The present volume was assembled in honor of Professor Alan Cowey FRS, and attempts to embrace his wide range of research interests in visual neuroscience. It is divided into four sections. The first contains a group of papers dealing with different fundamental aspects of the visual system, including the control and monitoring of eye movements. The

second is concerned with the functional organization of cortical visual areas and their role in visual perception and visually guided action. The third addresses issues concerning color and motion perception, along with broader questions of visual attention; and the effects of selective brain damage on these different aspects of visual experience. The fourth and final section of the volume deals explicitly with questions relating to visual awareness, with particular emphasis on

'blindsight', a topic on which Alan Cowey has worked extensively in recent years, both in humans and in monkeys. Interpersonal Psychoanalysis and the Enigma of Consciousness Academic Press  
Frontiers in Cognitive Neuroscience is the first book of extensive readings in an exciting new field that is built on the assumption that "the mind is what the brain does," and that seeks to understand how brain function gives rise to mental activities such as

perception, memory, and language. The editors, a cognitive scientist and a neuroscientist, have worked together to select contributions that provide the interdisciplinary foundations of this emerging field, putting them into context, both historically and with regard to current issues. Fifty-five articles are grouped in sections that cover attention, vision, auditory and somatosensory systems, memory, and higher cortical functions. They range from Gazzaniga and

Bogen's discussion of functional effects of sectioning the cerebral commissure in man and Geschwind's classic study of the organization of language in the brain, published in the 1960s, to contemporary investigations by Schiller and Logothetis on color-opponent and broad-band channels of the primate visual system and by Bekkers and Stevens on presynaptic mechanisms for long-term potentiation in the hippocampus. The editors have provided both a general

introduction and introductions to each of the five major sections. *Atoms of Mind* MIT Press Design Strategies for Reimagining the City is situated between projective geometry, optical science and architectural design. It draws together seemingly unrelated fields in a series of new digital design tools and techniques underpinned by tested prototypes. The book reveals how the relationship between architectural design and the ubiquitous urban

camera can be used to question established structures of control and ownership inherent within the visual model of the Western canon. Using key moments from the broad trajectory of historical and contemporary representational mechanisms and techniques, it describes the image's impact on city form from the inception of linear perspective geometry to the digital turn. The discussion draws upon combined fields of digital geometry, the pictorial adaptation of

human optical cues of colour brightness and shape, and modern image-capture technology (webcams, mobile phones and UAVs) to demonstrate how the permeation of contemporary urban space by digital networks calls for new architectural design tools and techniques. A series of speculative drawings and architectural interventions that apply the new design tools and techniques complete the book. Aimed at researchers, academics and upper-level students in digital design and

theory, it makes a timely contribution to the ongoing and broadly debated relationship between representation and architecture.

**Simultaneous EEG and FMRI** World Scientific

For a few decades, the puzzle of consciousness, which for centuries was analysed by philosophers, has been finding a wide interest in the scientific field, where previously it was not entitled to be a member. It has become one of the most-debated problems in the cognitive sciences. The anatomical

bases, neurophysiological correlates and elementary mechanisms underlying complex processes arising with consciousness have been compared with the psychological (perceptive, cognitive, volitive, emotional) aspects of conscious expressions, in normal and pathological conditions. Various theories, which attempt to fit systematically and coherently neural and psychological data, have been debated, proving the emergence of the phenomenon of consciousness.

Contents: Introductory Lecture: Consciousness Studies: An Overview (S Hameroff) Neuronal Bases of Consciousness: Neuroanatomy of Memory (H J Markowitsch & P Calabrese) Attentional Resolution: The Grain and Locus of Visual Awareness (P Cavanagh et al.) Perceptive, Cognitive, Volitive and Emotional Aspects of Consciousness: Visual Search: Preattentive Processing and the Guidance of Visual Attention (J M Wolfe) A

Possible Neuropsychology  
 Underlying Aberrations of  
 Conscious Experience in  
 Schizophrenia (J A  
 Gray)Consciousness and  
 Theories of Mind:What's  
 Wrong with Claims for the  
 Neurobiology of  
 Consciousness? (S P R  
 Rose)Understanding  
 Consciousness: Beyond  
 Dualism and  
 Reductionism (M  
 Velmans)Special  
 Topic:Who Gets to Explain  
 Consciousness? And Who  
 Might in the Future? (H  
 Rose)and other papers  
 Readership: Postdoctoral  
 students and researchers

in biocybernetics,  
 neurosciences, cognitive  
 sciences and psychology.  
 Keywords:Biophysics;Bioc  
 ybernetics;Neuronal  
 Bases;Psychology;Conscio  
 usness;Cognition  
*The Industrial  
 Environment - Its  
 Evaluation and Control*  
 Academic Press  
 The CNS meetings bring  
 together computational  
 neuroscientists  
 representing many  
 different fields and  
 backgrounds as well as  
 many different  
 experimental preparations  
 and theoretical

approaches. The papers  
 published here range from  
 pure experimental  
 neurobiology, to neuro-  
 ethology, mathematics,  
 physics, and engineering.  
 In all cases the research  
 described is focused on  
 understanding how  
 nervous systems  
 compute. The actual  
 subjects of the research  
 include a highly diverse  
 number of preparations,  
 modeling approaches and  
 analysis techniques.  
 Accordingly, this volume  
 reflects the breadth and  
 depth of current research  
 in computational

neuroscience taking place throughout the world.

**Selected Papers on Apodization--coherent Optical Systems** Nova Publishers

Speech is multisensory since it is perceived through several senses. Audition is the most important one as speech is mostly heard. The role of vision has long been acknowledged since many articulatory gestures can be seen on the talker's face. Sometimes speech can even be felt by touching the face. The best-known multisensory

illusion is the McGurk effect, where incongruent visual articulation changes the auditory percept. The interest in the McGurk effect arises from a major general question in multisensory research: How is information from different senses combined? Despite decades of research, a conclusive explanation for the illusion remains elusive. This is a good demonstration of the challenges in the study of multisensory integration. Speech is special in many ways. It is the main

means of human communication, and a manifestation of a unique language system. It is a signal with which all humans have a lot of experience. We are exposed to it from birth, and learn it through development in face-to-face contact with others. It is a signal that we can both perceive and produce. The role of the motor system in speech perception has been debated for a long time. Despite very active current research, it is still unclear to which extent,

and in which role, the motor system is involved in speech perception. Recent evidence shows that brain areas involved in speech production are activated during listening to speech and watching a talker's articulatory gestures. Speaking involves coordination of articulatory movements and monitoring their auditory and somatosensory consequences. How do auditory, visual, somatosensory, and motor brain areas interact during speech perception?

How do these sensorimotor interactions contribute to speech perception? It is surprising that despite a vast amount of research, the secrets of speech perception have not yet been solved. The multisensory and sensorimotor approaches provide new opportunities in solving them. Contributions to the research topic are encouraged for a wide spectrum of research on speech perception in multisensory and sensorimotor contexts,

including novel experimental findings ranging from psychophysics to brain imaging, theories and models, reviews and opinions. Detection and Identification of Rare Audio-visual Cues Oxford University Press  
In the neocortex, neurons with similar functional properties are clustered together. While incompletely understood, this feature of cortical organization is conserved across a variety of species and sensory systems. In



the visual cortex, neurons with similar receptive field properties lie close by in cortical space. The mouse has become an increasingly popular model organism to study vision. While mice lack the visual acuity of primates, there are unparalleled genetic tools available in mice that allow us to dissect the functional properties and connectivity of specific cell types. Mice use vision to perform complex behavioral tasks, like hunt, and, like primates, their visual areas are

organized hierarchically. While it is likely that mouse visual areas are specialized to aid mice in performing visual tasks, there is also evidence that visual computation is different in mice and primates. In particular, visual tuning properties are mapped differently in primates and mice and this likely has relevant functional consequences. A hallmark of primate vision is the specialization of visual areas. The primate visual system is organized hierarchically such that receptive fields

of neurons in higher visual areas become increasingly complex and specific. It is unknown to what extent a similar organization exists in mice. The functional role of mouse higher visual areas, and their homology to primate visual areas, is an active area of investigation. Understanding the differences and similarities between mice and primates is crucial to establishing the mouse as a relevant model organism for primate vision. Five previous

studies have revealed that mouse higher visual areas have distinct spatial and temporal frequency tuning properties than primary visual area, V1. However, their findings have varied widely. Similarly, previous studies have also revealed that functional properties, mainly spatial frequency tuning and coherent motion tuning, change across the visual field, but this is under-characterized. The primary aim of my thesis was to study how receptive field properties

are mapped across the mouse visual cortex and how tuning properties change across the visual field. The next is to understand how experimental conditions and experimental design choices can lead to different tuning measurements between studies. In my first project, I used a combination of widefield and 2-photon (2P) calcium imaging to investigate how spatial frequency (SF) and temporal frequency (TF) tuning properties are mapped in

the mouse visual cortex. I found evidence of functional specialization at different receptive field altitude locations in V1 and higher visual areas. Neurons in anterior V1 (lower visual field of view) have lower average TF and SF tuning than posterior V1 (upper visual field of view). I measured whether tuning gradients, gradual changes in tuning properties across a visual area or areas, in V1 and higher visual areas were consistent across cortical layers and in thalamic (dLGN) axons. In most

visual areas, gradients had the same slope with respect to altitude. Interestingly, I found TF gradients that did not change abruptly across areal borders. While TF tuning differed across cortical layers, the relationship between TF and altitude was consistent across laminar populations and in dLGN axons. Therefore, gradients in V1 and some higher visual areas likely result from input from dLGN axons. In my second project, I examined how different inclusion criteria

can impact reported tuning properties. Neurophysiology studies require the use of inclusion criteria to identify neurons responsive to the experimental stimuli. Five recent studies used calcium imaging to measure the preferred tuning properties of layer 2/3 pyramidal neurons in mouse visual areas. These five studies used different experimental designs that employed different inclusion criteria and report different, sometimes conflicting

results. Experimental design choices and inclusion criteria both affect the subpopulation of neurons that are selected for. Here, I examined how different inclusion criteria can impact reported tuning properties, modifying inclusion criteria to select different sub-populations from the same dataset of almost 17,000 layer 2/3 neurons from the Allen Brain Observatory. The choice of inclusion criteria greatly affected the mean tuning properties of the resulting sub-populations;

indeed, the differences in mean tuning due to inclusion criteria were often of comparable magnitude to the differences between studies. In particular, the mean preferred TFs of visual areas changed markedly with inclusion criteria, such that the rank ordering of visual areas based on their TF preferences changed with the percentage of neurons included. These results demonstrate that the current understanding of the functional organization of the mouse

visual cortex obtained from previous experiments critically depends on the inclusion criteria used. Collectively, my research has advanced our understanding of visual processing in the mouse. *The Cat Primary Visual Cortex* Academic Press The Estuary as a Filter contains the proceedings of the Estuarine Research Federation's seventh biennial conference at Virginia Beach, Virginia, in late October, 1983. In five invited sessions, scientists and managers considered

the physical, geological, chemical-geochemical, and biological processes involved in the "filtering" role of estuaries and reflected on management implications of these matters. Most of their presentations and reflections are included in this book in order to demonstrate what is known and what needs to be explored further. The papers in this volume are grouped as they were presented at the conference. Thus, physical oceanographers begin the work by considering

turbulence, mixing, and circulation processes in estuaries. Geologists then examine estuarine sedimentation, including the roles of flocculation and bioturbation in accelerating this process. Chemists and geochemists describe the interactions among and effects of inputs of nutrients, metals, and organic matter into estuaries, and the fate of radionuclides in these systems. Biological and biochemical processes involving surface foam, microbes, sea grasses,

and wetlands are considered, along with carefully derived nutrient budgets of selected estuarine regions. Finally, some of the problems facing managers of estuarine ecosystems in three areas of the United States are described, along with the success story of the ongoing rehabilitation of the Thames Estuary in England. *Coherent Effects in Primary Visual Perception* Springer Nature Edgar A. Levenson is a key figure in the

development of interpersonal psychoanalysis whose ideas remain influential. Interpersonal Psychoanalysis and the Enigma of Consciousness builds on his previously published work in his key areas of expertise such as interpersonal psychoanalysis, transference and countertransference, and the philosophy of psychoanalysis, and sets his ideas into contemporary context. Combining a selection of Levenson's own writings

with extensive discussion and analysis of his work by Stern and Slomowitz, it provides an invaluable guide to how his most recent, mature ideas may be understood and applied by contemporary psychoanalysts in their own practice. This book explores how the rational algorithm of psychoanalytic engagement and the mysterious flows of consciousness interact; this has traditionally been thought of as dialectical, an unresolvable duality in psychoanalytic practice.

Analysts move back and forth between the two perspectives, rather like a gestalt leap, finding themselves listening either to the "interpersonal" or to the "intrapsychic" in what feels like a self-state leap. But the interpersonal is not in dialectical opposition to the intrapsychic; rather a manifestation of it, a subset. The chapters pick up from the themes explored in *The Purloined Self*, shifting the emphasis from the interpersonal field to the exploration of

the enigma of the flow of consciousness that underlies the therapeutic process. This is not the Freudian Unconscious nor the consciousness of awareness, but the mysterious Jamesian matrix of being. Any effort at influence provokes resistance and refusal by the patient. Permitted a "working space," the patient ultimately cures herself. How that happens is a mystery wrapped up in the greater mystery of unconscious process, which in turn is wrapped into the greatest

philosophical and neurological enigma of all—the nature of consciousness. Interpersonal Psychoanalysis and the Enigma of Consciousness will be highly engaging and readable; Levenson's witty essayist style and original perspective will make it greatly appealing and accessible to undergraduate and postgraduate students of psychoanalysis and psychoanalytic psychotherapy, as well as practitioners in these

fields. *Characterizing the Spatial and Temporal Frequency Tuning Properties in Mouse Visual Cortex with Calcium Imaging* Routledge  
This volume provides an excellent overview of the field of discourse processes, capturing both its breadth and its depth. World-renowned researchers present the latest theoretical developments and thought-provoking empirical data. In doing

so, they cover a broad range of communicative activities, including text comprehension, conversational communication, argumentation, television or media viewing, and more. A central theme across all chapters concerns the notion that coherence determines the interpretation of the communication. The various chapters illustrate the many forms that coherence can take, and explore its role in different communicative settings.