### Contents Volume 10:1 March 1987

Deen Feer Commentary  Bernstein, I. S. Perceptions are nonshared environments  Bock, R. D. & Zimowski, M. F. Contributions of the biometrical approach to individual differences in personality measures  Boklage, C. E. The unmapped methodological territory between one gene and many comprises some intriguing environments  Bomsman, D. I. Absence or underestimation of shared environments  Boss, D. M. Evolutionary hypotheses and behavioral genetic methods: Hopes for a union of two disparate disciplines  Caspari, E. W. Genes and environmental factors in the determination of behavioral characters  Chess, S. Let us consider the roles of temperament and of fortitious events  Costa, P. T., Jr. & McCrae, R. R. On the need for longitudinal evidence and multiple measures in behavioral-genetic studies of adult personality  Eysenck, H. J. The myth of the shared environment and behavior allocations and Displemental approach to the shared environment and behavior allocations events.  Bosta, P. T., Jr. & McCrae, R. R. On the need for longitudinal evidence and multiple measures in behavioral-genetic studies of adult personality expended interaction requires more precise description of both environment and behavior and behavior allocations and providence results consistent with those from produce results of the pr	<b>Daniels, D.</b> Why are children in the same famil m one another?	y so	1
Kitcher, P. Précis of Vaulting Ambition: Sociobiology and the Quest for Human Nature  Open Peer Commentary  Bateson, P. Familiarity out-breeds  Harpending, H. Faulting ambition: A double standard?	tary ptions are nonshared  ski, M. F. Contributions of the a to individual differences in sumapped methodological nee gene and many comprises ironments mee or underestimation of shared mary hypotheses and behavioral oppes for a union of two disparate of the roles of temperament ents cerae, R. R. On the need for e and multiple measures in tudies of adult personality yth of the shared environment iron of gene—environment more precise description of both shavior certable genetic differences ive model of within-family  bunding genetic and nonshared its coshi, C. T. Secular change in co of G, E1, and E2 on cognitive ative genetics and hology: Shall the twain ever aticking by siblings and scientists undies, environment differences, services and individual difference individuals? That is the quest Nose, R. J. & Kaprio, J. Shared individuals? T	I. Some models ent of documenting amental effects directly ment and cultural ces or different tion of experience and tive data from Finnish. Toward a relevant ironment ashared environmental cents depend on twin research not ith those from cetics moves beyond collity effects relate to of the concept of the environmental environmental central	1 31 31 32 33 34 35 36 37 38 39 40 40 41 42 44
Beckwith, J. Criticism and realism Bernstein, I. S. Saving sociobiology: The use and abuse of logic Churchland, P. S. Leapfrog over the brain Draper, P. Testing sociobiological hypotheses ethnographically Dupré, J. Sociobiology and the problem of culture Futterman, A. & Allen, G. E. Putting sociobiology in its place Ghiselin, M. T. Species are individuals: Therefore human nature is a metaphysical delusion  72  Johnston, T. D. Amplifying sociobiology s hollow ring Lamb, M. E. Useful distinctions in human sociobiology McGrew, W. C. Enough of polemics – let's look at data! Plotkin, H. C. Rising out of the ashes Rosenberg, A. Is there really "juggling," "artifice," and "trickery" in Genes, Mind, and Culture? Salmon, M. H. Pop sociobiology and meta-ethics Saunders, P. T. & Ho, MW. "Scotch'd the snake, not killed it"	tary y out-breeds and realism g sociobiology: The use and apfrog over the brain ciobiological hypotheses y and the problem of culture n, G. E. Putting sociobiology in es are individuals: Therefore  Harpending, H. Faulting ambit standard? Johnston, T. D. Amplifying soc Lamb, M. E. Useful distinction sociobiology McGrew, W. C. Enough of pol data! 74 Plotkin, H. C. Rising out of the Rosenberg, A. Is there really " and "trickery" in Genes, Min 76 Salmon, M. H. Pop sociobiolog Saunders, P. T. & Ho, MW.	tion: A double ciobiology's hollow ring as in human  lemics — let's look at c ashes [juggling," "artifice," ad, and Culture? gy and meta-ethics "Scotch'd the snake,	78 78 79 79 80 83 83

<ul> <li>Singer, P. The hypothalamus and the impartial perspective</li> <li>Smith, E. A. Folk psychology versus pop sociobiology</li> <li>Smith, P. K. Is human sociobiology a progressive or a</li> </ul>	84 85	Stenseth, N. Bridging the sociobiological gap Symons, D. Darwin and human nature	88 89
degenerating research programme?  Sober, E. Optimist/pessimist	86 87	Author's Response Kitcher, P. Confessions of a curmudgeon	89
Foreman, N. & Stevens, R. Relationand hippocampus: Neural and belational	_		101
Open Peer Commentary  Bennett, T. Hippocampal-collicular interactions: An example of input linkages to the hippocampus  Bureš, J. & Burešová, O. Are hippocampus and superior colliculus more related to each other than to other brain structures?  Casagrande, V. A. The "reciprocal loop" model: How strong is the evidence, how useful is the model?  Dean, P. & Redgrave, P. How does the rat hippocampus see?  Ewert, JP. & Finkenstädt, Th. Modulation of tectal functions by prosencephalic loops in amphibians  Gerbrandt, L. Dependence of the hippocampal formation on other brain structures  Greene, E. Hippocampal deficits: More than meets the eye  Isaac, W. Some limited neural and behavioral comparisons of the superior colliculus and the hippocampus  Kimble, D. P. A short quiz for neuropsychologists	119 120 121 121 122 123 124 125 125	<ul> <li>Mayes, A. R. How close is the functional interdependence between hippocampus and superior colliculus?</li> <li>Mellgren, R. L. The assumptions of an interactive-modular model of the brain</li> <li>Milner, D. A. Different spatial frameworks</li> <li>Robinson, D. L. &amp; McClurkin, J. W. Using awake, behaving animals to study the brain</li> <li>Schmajuk, N. A. Real-time attention theories of hippocampal function</li> <li>Stein, B. E. Hippocampus and superior colliculus: Interdependence or independence?</li> <li>Will, B. E., Dalrymple-Alford, J. C. &amp; Di Scala, G. The heterogeneity and plasticity of cerebral structures</li> <li>Winocur, G. The hippocampus and attention</li> <li>Authors' Response</li> <li>Foreman, N. &amp; Stevens, R. Collicular-hippocampal linkage: Reflections and further considerations</li> </ul>	126 127 128 129 130 131 131 132
Continuing Commentary	153		
On Puccetti, R. The case for mental duali considerations. BBS 4:93–123.	ity: Ev	dence from split-brain data and other	153
Denenberg, V. H. Mental duality and motor decisions	153	Author's Response	
		Puccetti, R. Two paddlers or one?	154
On Rawlins, J. N. P. Associations across t store. BBS 8:479–528.	ime: T	he hippocampus as a temporary memory	154
Bureš, J., Burešová, O., and Bolhuis, J. J. Processing temporally discontiguous information is neither an exclusive nor the only function of the hippocampus	154	Author's Response Rawlins, J. N. P. Time to close the store?	156

# Contents Volume 10:2 June 1987

make sense of the world	ow b	rains make chaos in order to	161
Open Peer Commentary Babloyantz, A. Chaotic dynamics in brain activity Barnden, J. A. Chaos, symbols, and connectionism Boynton, R. M. Spatial analysis of brain function: Not the first Brown, R. Can brains make psychological sense of neurological data? Corner, M. A. & Noest, A. J. When the "chaos" is too chaotic and the "limit cycles" too limited, the mind boggles and the brain (model) flounders Earle, D. C. On the differences between cognitive and noncognitive systems Garfinkel, A. The virtues of chaos	174 174 175 175 176 177 178	Grossberg, S. Stable self-organization of sensory recognition codes: Is chaos necessary?  Levine, D. S. Is chaos the only alternative to rigidity? Perkel, D. H. Chaos in brains: Fad or insight? Rosenfeld, R., Touretzky, D. S. & the Boltzmann Group Connectionist models as neural abstractions Thom, R. Chaos can be overplayed Werner, G. Cognition as self-organizing process  Authors' Response Skarda, C. A. & Freeman, W. J. Physiology: Is there any other game in town?	179 180 180 181 182 183
Swerdlow, N. R. & Koob, G. F. Domania, and depression: Toward a	unifi	ed hypothesis of	197
cortico-striato-pallido-thalamic fun	cuon		197
Open Peer Commentary  Alheid, G. F. & Heimer, L. The "extended amygdala" as a receptor area for psychotherapeutic		Kalivas, P. W. Where have all the peptides gone? Kelley, A. E. Dopamine and mental illness: Phenomenological and anatomical considerations	218 219
drugs  Beart, P. M. Roles for glutamate and norepinephrine in limbic circuitry and psychopathology	208 208	Kolb, B., Jacobs, W. J. & Petrie, B. Searching for a technology of behavior  Le Moal, M. Toward a neurological psychiatry	220 221
Chute, D. L. Intracellular considerations in models of psychopathology Cools, A. R. The relevance of feedforward loops	209 210	Phillips, A. Unified theories of psychoses and affective disorders: Are they feasible without accurate neural models of cognition and emotion?	222
<ul><li>Fallon, J. H. The ghost in the machine: What if the midbrain output is excitatory?</li><li>Fibiger, H. C. Neural circuit models of</li></ul>	210	Soubrié, P. & Carnoy, P. Neuropsychiatry: Pitfalls of inferring functional mechanisms from observed drug effects	222
psychopathology: Dancing on the precipice of neuromythology?  Gardner, E. L. The neuropathology of schizophrenia,	212	Stevens, J. R. Psychopharmacology of psychosis: Still looking for missing links  Tassin, J. P. Dopamine and mental illness: And what about the mesocortical dopamine system?	223 224
mania, and depression: Diseases of cognitive initiation and switching?  Grace, A. A. An electrophysiologist's eye view of the	213	Wolkin, A. & Cancro, R. Madness and clarity	225
basal ganglia Gray, J. A. & Baruch, I. Don't leave the "psych" out	214	Authors' Response	
of neuropsychology  Jaskiw, G. E. & Weinberger, D. R. The prefrontal cortex-accumbens circuit: Who's in charge?	215 217	Swerdlow, N. R. & Koob, G. F. Toward a unified neuropsychiatric hypothesis	226
MacNeilage, P. F., Studdert-Kenne handedness reconsidered	edy, I	M. G. & Lindblom, B. Primate	247
Open Peer Commentary Annett, M. Handedness as chance or as species	969	Calvin, W. H. On evolutionary expectations of symmetry and toolmaking	267
characteristic  Bradshaw, J. L. But what about nonprimate asymmetries and nonmanual primate asymmetries?	263 264	Cicchetti, D. V. On viewing the evidence for primate handedness: Some biostatistical considerations Corballis, M. C. Straw monkeys	268 269
Brésard, B. & Bresson, F. Reaching or manipulation: Left or right?	265	Deuel, R. K. & Schaffer, S. P. Patterns of hand preference in monkeys	270
Bryden, M. P. & Steenhuis, R. E. Handedness is a matter of degree	266	Ettlinger, G. Primate handedness: How nice if it were really so	271

Glezer, I. I. The riddle of Carlyle: The unsolved problem of the origin of handedness Goodale, M. A. Two hemispheres: One reaching hand Guiard, Y. Precursors to what? Theory is lacking for handedness in humans Heuer, H. Does a hand preference indicate a hemispheric specialization? Jerison, H. J. Which hand lost its cunning? Kolb, B. & Fantie, B. Reaching for the brain Lehman, R. A. W. On the other hand LeMay, M. Evolution of handedness McKeever, W. F. Primate handedness should be considered – but not "reconsidered" at this point McManus, I. C. On the one hand, on the other hand: Statistical fallacies in laterality research Michel, G. F. & Harkins, D. A. Ontogenetic considerations in the phylogenetic history and	273 275 276 276 277 278 279 280 281 281 282	adaptive significance of the bias in human handedness  Steklis, H. D. & Marchant, L. F. Primate handedness: Reaching and grasping for straws?  Tomasello, M. Why the left hand?  Vauclair, J. & Fagot, J. Visually guided reaching in adult baboons  Walker, S. Or in the hand, or in the heart?  Alternative routes to lateralization  Warren, J. M. Primate handedness: Inadequate analysis, invalid conclusions  Authors' Response  MacNeilage, P. F., Studdert-Kennedy, M. G. & Lindblom, B. Primate predatory, postural, and prehensile proclivities and professional peer pressures: Postscripts	283 284 286 287 288 288
Continuing Commentary			
On Vining, D. R., Jr. (1986) Social versus problem of human sociobiology. BBS 9:3			305
Cattell, R. B. Fitness and intelligence: The more	305	Author's Response	
concrete problem  Flinn, M. V. Resources, reproduction, and mate		Vining, D. R., Jr. Modern human sociobiology: Some further observations	308
competition in human populations  Machalek, R. Are the socially successful an	305		
intelligence cartel?	307		
On Cohen, L. J. (1981) Can human irratio 4:317-370.	nality	be experimentally demonstrated? BBS	311
Taylor, J. E. Cohen on cognitive competence: Can human rationality be philosophically demonstrated?	311	Author's Response  Cohen, L. J. What are the foundations of normative theories about human reasoning?	312
On Haber, R. N. (1983) The impending de iconic storage in visual information proces			313
Chow, S. L. Iconic memory or icon?	313		
On Fantino, E. & Abarca, N. (1985) Choic hypothesis. BBS 8:315–330.	ee, opt	imal foraging, and the delay-reduction	315
Wynne, C. Mechanisms of optimal choice	316	Authors' Response	
		Fantino, E. & Abarca, N. Delay-reduction theory: Straddling the functional-mechanism continuum	317
On Libet, B. (1985) Unconscious cerebral voluntary action. BBS 8:529–566.	initiati	ve and the role of conscious will in	318
Davis, L. H. What are W and M awarenesses of?	318	Author's Response  Libet, B. Awarenesses of wanting to move and of moving	320
On Goldberg, G. (1985) Supplementary m hypotheses. BBS 8:567–616.	otor a	rea structure and function: Review and	321
Preilowski, B. The role of corollary motor discharges, the corpus callosum, and the supplementary motor cortices in bimanual coordination	322	Author's Response Goldberg, G. Premotor systems, motor learning, and ipsilateral control: Learning to get set	323

On Hartung, J. (1985) Matrilineal inherita	nce: N	New theory and analysis. BBS 8:661-688.	329
Fox, R. Paternity uncertainty: Cause or consequence?	329		
On Humphreys, G. W. & Evett, L. J. (19) routes in word processing? An evaluation 8:689-740.	985) A on of t	re there independent lexical and nonlexical he dual-route theory of reading. BBS	331
Bridgeman, B. Is the dual-route theory possible in phonetically regular languages?	331	Authors' Response Evett, L. J. & Humphreys, G. W. Extending the	20.4
Brown, G. D. A. On the difference between the regularity and the frequency of spelling-to-sound correspondences	332	multiple-levels approach to word processing	334
Danks, J. H. Independent or interactive routes: What are the constraints?	333		

### Contents Volume 10:3 September 1987

<b>Ewert, JP.</b> Neuroethology of releatoads	sing	mechanisms: Prey-catching in	337
			001
Open Peer Commentary  Arbib, M. A. Advantages of experimentation in neuroscience  Baerends, G. P. Ethology and physiology: A happy	368	Grobstein, P. The nervous system/behavior interface: Levels of organization and levels of approach Gruberg, E. Sampling and information processing	380 381
marriage  Broom, D. M. After the sensory analysers: Problems	369	Horridge, G. A. Presumptions based on keyhole peeping	382
with concepts and terminology  Camhi, J. M. How is a toad not like a bug?	370 371	Ingle, D. Ewert's model: Some discoveries and some difficulties	383
Comer, C. M. Sensorimotor functions: What is a command, that a code may yield it?	372	Kondrashev, S. L. Neuroethology and color vision in amphibians	385
Dennett, D. Eliminate the middletoad! DiDomenico, R. & Eaton, R. C. Toward a	372	Roth, G. & Nishikawa, K. Worm detector replaced by network model-but still a bit worm-infested	385
reformulation of the command concept  Doty, R. W. Has the greedy toad lost its soul; and if so, what was it?  Ebbesson, S. O. E. Prey-catching in toads: An	374 375	Roucoux, A. & Crommelinck, M. Sensorimotor maps in the tectum Stevens, K. A. Implicit versus explicit computation Székely, G. Intelligent neurons	386 387 388
exceptional neuroethological model  Ehret, G. Networks with evolutionary potential	375 376	Author's Response	
Fentress, J. C. Ethological invariants: Boxes, rubber bands, and biological processes  Fernald, R. D. More than meets the eye  Goodale, M. A. The compleat visual system: From input to output	377 378 379	Ewert, JP. Toad's prey-catching: A complex system with heuristic value	389
Arbib, M. A. Levels of modeling of	mecl	nanisms of visually guided	
behavior			407
Open Peer Commentary  Baird, B. Biologically applied neural networks may foster the coevolution of neurobiology and cognitive		Székely, G. The computing frog Tang, Y. Q. Schema theory: A broadening viewpoint	446 446
psychology  Barnden, J. A. The centrality of instantiations	436 437	Tsotsos, J. K. Schemas: Not yet an interlingua for the brain sciences	447
Ewert, JP. Advantage of modeling in neuroscience Gunderson, K. Levels of psychological reality, Arbib's	438	van Leeuwen, C. Schemata and representational constraints	448
"schemas," and matters maybe metaphysical Johannesma, P. I. M. The biotope of Rana	439	von Seelen, W. Schema theory: A new approach? Wagemans, J. P. Schemas and bridging gaps in the	448
computatrix  Langley, P. Structure and process in schema-based	440	behavioral and brain sciences Whiting, H. T. A. Grasping schemas is (are) difficult	449 450
architectures  Lloyd, D. Cognitive modeling: Of Gedanken beasts	442	Author's Response	
and human beings  Mackworth, A. K. What is the schema for a schema?  Marshall, J. C. Eye of toad, and toe of frog?  Matsumoto, N. Recent physiological findings on the	442 443 444	Arbib, M. A. Of schemas, neural nets, and Rana computatrix	451
neuronal circuit of the frog's optic tectum	445		
Anderson, J. R. Methodologies for	study	ing human knowledge	467
Open Peer Commentary			
Arbib, M. A. Many levels: More than one is algorithmic  Clancey, W. J. Functional principles and situated	478	Goldman, A. I. Ambiguities in "the algorithmic level" Hendler, J. A flawed analogy?  Larkin, J. H. Generality and applications	484 485 486
problem solving	479 480	Levine, D. S. Connectionism and motivation are	
Clark, A. The algorithm/implementation distinction  Ericsson, K. A. The scientific induction problem: A case for case studies	480	compatible Mortensen, C. Nonverbal knowledge as algorithms Reed, A. V. Ways and means	487 487 488
Ewert, JP. The evolutionary aspect of cognitive functions	481	Reilly, R. G. Is there more than one type of mental algorithm?	489
Glaser, R. The study of cognition and instructional design: Mutual nurturance	483	Rosenbloom, P. S. Weak versus strong claims about the algorithmic level	490

Seifert, C. & Norman, D. A. Levels of research Smolensky, P. Connectionism and implementation Stabler, E. P., Jr. Interactive instructional systems and models of human problem solving Stenning, K. Applying Marr to memory	490 492 493 494	Townsend, J. T. Learning is critical, not implementation versus algorithm  Van Kleeck, M. Underestimating the importance of the implementational level	497 497
Taylor, M. M. & Pigeau, R. A. What is the algorithmic level?  Touretzky, D. S. Connectionist models are also algorithmic	495 496	Author's Response  Anderson, J. R. Implementations, algorithms, and more	498
Continuing Commentary			
On Jensen, A. R. (1985) The nature of the tests: Spearman's hypothesis. BBS 8:193	black- -263.	-white difference on various psychometric	507
Brody, N. Jensen, Gottfredson, and the black-white difference in intelligence test scores Corballis, M. C. Factoring intelligence: A longitudinal approach Gottfredson, L. S. The practical significance of black-white differences in intelligence Shockley, W. Jensen's data on Spearman's hypothesis: No artifact	507 508 510 512	Author's Response  Jensen, A. R. Further evidence for Spearman's hypothesis concerning back—white differences on psychometric tests	512
On Spanos, N. P. Hypnotic behavior: A so analgesia, and "trance logic." BBS 9:449		sychological interpretation of amnesia,	519
Gorassini, D. R. Phenomenal awareness and self- presentation  Kirmayer, L. J. Hypnosis and the limits of social-	519	Wallace, B. The nonstate explanation of hypnosis: Stronger evidence is required	524
psychological reductionism  Krippner, S. Can state and nonstate theorists collaborate?  Stam, H. J. On attending to the data: The limiting conditions of hypnotic phenomena	<ul><li>521</li><li>521</li><li>522</li></ul>	Author's Response Spanos, N. P. Hypnosis research: Paradigms in conflict	525
On Hoffman, R. E. Verbal hallucinations a schizophrenia. BBS 9:503-548.	and lar	nguage production processes in	531
Harvey, P. D. Some information-processing models suggest possible connections between hallucinations and discourse failures  Hemsley, D. R. Hallucinations: Unintended or	532	Author's Response  Hoffman, R. E. Cognitive models of verbal hallucinations in schizophrenia	534
unexpected?  Kay, S. R. Are verbal hallucinations secondary to disordered thinking?	532 534		

### Contents Volume 10:4 December 1987

Rao, K. R. & Palmer, J. The anoma criticism	aly ca	lled psi: Recent research and	539
Alcock, J. E. Parapsychology: Science soul?	ce of	the anomalous or search for the	<b>55</b> 3
Open Peer Commentary		Distinguishing fact from fiction on both sides of a	
Adamenko, V. G. The evolution of science and		scientific controversy	592
"principles of impossibility"	566	Hyman, R. Parapsychology: The science of ostensible anomalies	593
Akers, C. Parapsychology is science, but its findings are inconclusive	566	Josephson, B. D. Skepticism and psi: A personal view	594
Alcock, J. E. Where is the "anomaly" called psi?	568	Krippner, S. Never say never again: Rapprochement	
Bauslaugh, G. Psi and the unwilling suspension of		may be nearer than you think!	595
belief	569	Mackenzie, B. Parapsychology's critics: A link with the	507
de Beauregard, O. C. According to "physical		past? Nadon, R. & Kihlstrom, J. F. Hypnosis, psi, and the	597
irreversibility," the "paranormal" is not de jure suppressed, but is de facto repressed	569	psychology of anomalous experience	597
Beloff, J. In what respect is psi anomalous?	570	Navon, D. On rustles, wolf interpretations, and other	
Benassi, V. A. Believers, nonbelievers, and the		wild speculations	599
parapsychology debate	570	Nelson, R. D. & Radin, D. I. When immovable	
Beyerstein, B. L. Neurosciennee and psi-ence	571 570	objections meet irresistible evidence: A case of selective reporting	600
Blackmore, S. J. Parapsychology's choice Braude, S. E. How to dismiss evidence without really	572	Palmer, J. Are the conventional explanations of	000
trying	573	anomalies adequate?	601
Broch, H. Struggle for reason	574	Parker, A. Psi in search of consensus	602
Broughton, R. S. Parapsychology on the couch	575	Pinch, T. Some suggestions from sociology of science	000
Bunge, M. Why parapsychology cannot become a	F70	to advance the psi debate  Railton, P. Psi: Anomalous correlation or anomalous	603
science Child, I. L. Observation versus theory in	576	explanation?	605
parapsychology	577	Sanders, J. T. Are there any "communications	
Cicchetti, D. V. Differentiating between the statistical		anomalies"?	607
and substantive significance of ESP phenomena:		Schmidt, H. Alcock's critique of Schmidt's	600
Delta, kappa, psi, phi, or it's not all Greek to me	577	experiments  Spanos, N. P. & de Groot, H. Psi: Repeatability,	609
Dawes, R. M. Random generators, ganzfelds, analysis, and theory	581	falsifiability, and science	609
Donderi, D. C. Orthodoxy and excommunication in	001	Stanford, R. G. The status of parapsychology	610
science	582	Tart, C. T. Is searching for a soul inherently	
Dybvig, M. Parapsychology as a search for the soul:		unscientific?	612
Psi anomalies and dualist research programs	583	<b>Tobacyk</b> , <b>J.</b> The psi controversy as a crystallization of the conflict between the mechanistic and the	
Eysenck, H. J. Anomalous phenomena and orthodox science	584	transcendental worldviews	613
Feder, K. L. Anthropology and psi	585	Truzzi, M. Anomaly versus artifact, or anomalous	
Flew, A. Factual impossibility and concomitant variations	586	artifact?	614
Gardner, M. Evidence of the paranormal: A skeptic's		Utts, J. Psi, statistics and society	615
reactions	587	Vassy, Z. Distance, ESP, and ideology Wolins, L. Science and rationality	616 617
Gergen, M. The case of the undetermined theory Gilmore, J. B. Axioms in science, classical statistics,	588	Woodward, W. R. Are scientists materialistic monists?	
and parapsychological research	588		
Glymour, C. ESP and the Big Stuff	590	Authors' Responses	
Hansel, C. E. M. Experimental evidence for		Palmer, J. & Rao, K. R. Where lies the bias?	618
paranormal phenomena	590	Alcock, J. E. A to-do about dualism or a duel about	607
Hövelmann, G. H. "Please wait to be tolerated":		data?	627
Macphail, E. M. The comparative p	sych	ology of intelligence	645
Open Peer Commentary		Bickerton, D. The supremacy of syntax	658
Anderson, R. E. Intelligence and human language	657	Bitterman, M. E. Evidence of divergence in vertebrate learning	659
Barlow, H. B. Efficiency, versatility, cognitive maps,	50.	Borkowski, J. G. Within-species variations in g: The	-50
and language	657	case of Homo sapiens	660

Dewsbury, D. A. Animal intelligence: A construct		Menzel, E. W., Jr. Is a Darwinian taxonomy of animal	
neither defined nor measured	661	learning possible?	673
Elepfandt, A. Comparative cognition: Inadequate	663	Menzel, R. Proto-, pre-, and pro-intelligence: Little	C7.4
approach, precipitate conclusions	661	evidence but a necessary assumption	674
Eysenck, H. J. The several meanings of intelligence	663	Nagoshi, C. T. The epistemology of intelligence: Contextual variables, tautologies, and external	
Fantino, E. Chimps and dolphins: Intellectual bedfellows of the goldfish?	663	referents	675
Fetterman, J. G. & Killeen, P. R. Artifactual	000	Papini, M. R. The quest for divergent mechanisms in	0.0
intelligence	664	vertebrate learning	676
Fischler, I. Cognitive science and comparative		Roitblat, H. L. Metacomparative psychology	677
intelligence	665	Sherry, D. F. Natural selection and intelligence	678
Goldman-Rakic, P. S. & Preuss, T. M. Wither		Shettleworth, S. J. Intelligence: More than a matter of	
comparative psychology?	666	associations	679
Greenberg, G. Comparative psychology, cognition,	CC7	Sternberg, R. J. Difficulties in comparing intelligence	670
and levels  Griffin, D. R. Phylogenetically widespread "facts-of-	667	across species  Thomas, R. K. Overcoming contextual variables,	679
life"	667	negative results, and Macphail's null hypothesis	680
Hodos, W. Animal general intelligence: An idea ahead	001	negative results, and macphan's nun hypothesis	000
of its time	668	Editorial Commentary	681
Humphreys, L. G. Psychometric considerations in the		Editorial Commentary	001
evaluation of intraspecies differences in intelligence	668	Author's Response	
Johnston, T. D. Logical and ecological inadequacies in			
Macphail's account of intelligence and learning	669	Macphail, E. M. Comparing intelligences: Not easy but not impossible	681
Jolly, A. Boiling down intelligence	671	but not impossible	001
Kalat, J. W. Species differences in intelligence: Which null hypothesis?	671	Late Commentaries	
Kaplan, S. Associative learning and the cognitive map:	0/1	Delius, J. D. Clever pigeons and another hypothesis	688
Differences in intelligence as expression of a		Güntürkün, O. Brain differences determine different	000
common learning mechanism	672	limits of intelligence	689
Kupfermann, I. Bony argument	673	Mackintosh, N. J. From null hypothesis to null dogma	689
Sperber, D. & Wilson, D. Précis of	Rele	pance: Communication and	
Cognition	21000		697
Cognition		•	097
Open Peer Commentary		Macnamara, J. Logical competence	724
Adler I. E. Comparisons with Grice	710		
Adler, J. E. Comparisons with Grice Bach, K. & Harnish, R. M. Relevant questions	710 711	Millikan, R. G. What Peter thinks when he hears Mary speak	725
Adler, J. E. Comparisons with Grice Bach, K. & Harnish, R. M. Relevant questions Blakemore, D. Linguistic constraints on pragmatic	710 711	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for	
Bach, K. & Harnish, R. M. Relevant questions Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic	711	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance	726
Bach, K. & Harnish, R. M. Relevant questions Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics	711 712	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> </ul>	726 727
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> </ul>	711 712 713	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> </ul>	726
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> </ul>	711 712	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic</li> </ul>	726 727 729
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the</li> </ul>	711 712 713 714	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> </ul>	726 727
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> </ul>	711 712 713 714 715	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic</li> </ul>	726 727 729 729
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> </ul>	711 712 713 714	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of</li> </ul>	726 727 729
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge,</li> </ul>	711 712 713 714 715 716	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of language?</li> <li>Seuren, P. A. M. How relevant?</li> <li>Smith, C. S. The information needed for inference</li> </ul>	726 727 729 729 730
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> </ul>	711 712 713 714 715	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use"	726 727 729 729 730 731 733 734
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> </ul>	711 712 713 714 715 716	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of language?</li> <li>Seuren, P. A. M. How relevant?</li> <li>Smith, C. S. The information needed for inference</li> </ul>	726 727 729 729 730 731 733
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for</li> </ul>	711 712 713 714 715 716 717 718	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of language?</li> <li>Seuren, P. A. M. How relevant?</li> <li>Smith, C. S. The information needed for inference</li> <li>Smith, N. V. On interpreting "interpretive use"</li> <li>Wilks, Y. Relevance must be to someone</li> </ul>	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> </ul>	711 712 713 714 715 716 717	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use"	726 727 729 729 730 731 733 734
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and</li> </ul>	711 712 713 714 715 716 717 718 719	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of language?</li> <li>Seuren, P. A. M. How relevant?</li> <li>Smith, C. S. The information needed for inference</li> <li>Smith, N. V. On interpreting "interpretive use"</li> <li>Wilks, Y. Relevance must be to someone</li> <li>Editorial Commentary</li> </ul>	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> </ul>	711 712 713 714 715 716 717 718 719 720	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> </ul>	711 712 713 714 715 716 717 718 719 720 721	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of language?</li> <li>Seuren, P. A. M. How relevant?</li> <li>Smith, C. S. The information needed for inference</li> <li>Smith, N. V. On interpreting "interpretive use"</li> <li>Wilks, Y. Relevance must be to someone</li> <li>Editorial Commentary</li> </ul>	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> </ul>	711 712 713 714 715 716 717 718 719 720	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> </ul>	711 712 713 714 715 716 717 718 719 720 721	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> <li>Continuing Commentary</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722 723	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of language?</li> <li>Seuren, P. A. M. How relevant?</li> <li>Smith, C. S. The information needed for inference</li> <li>Smith, N. V. On interpreting "interpretive use"</li> <li>Wilks, Y. Relevance must be to someone</li> <li>Editorial Commentary</li> <li>Authors' Response</li> <li>Sperber, D. &amp; Wilson, D. Presumptions of relevance</li> </ul>	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> <li>Continuing Commentary</li> <li>On Sayre, K. M. (1986) Intentionality and</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722 723	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of language?</li> <li>Seuren, P. A. M. How relevant?</li> <li>Smith, C. S. The information needed for inference</li> <li>Smith, N. V. On interpreting "interpretive use"</li> <li>Wilks, Y. Relevance must be to someone</li> <li>Editorial Commentary</li> <li>Authors' Response</li> <li>Sperber, D. &amp; Wilson, D. Presumptions of relevance</li> </ul>	726 727 729 729 730 731 733 734 735 <b>736</b>
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> <li>Continuing Commentary</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722 723	<ul> <li>Millikan, R. G. What Peter thinks when he hears Mary speak</li> <li>Morgan, J. L. &amp; Green, G. M. On the search for relevance</li> <li>Pettit, P. Inference and information</li> <li>Reboul, A. The relevance of Relevance for fiction</li> <li>Recanati, F. Literalness and other pragmatic principles</li> <li>Russell, S. J. Rationality as an explanation of language?</li> <li>Seuren, P. A. M. How relevant?</li> <li>Smith, C. S. The information needed for inference</li> <li>Smith, N. V. On interpreting "interpretive use"</li> <li>Wilks, Y. Relevance must be to someone</li> <li>Editorial Commentary</li> <li>Authors' Response</li> <li>Sperber, D. &amp; Wilson, D. Presumptions of relevance</li> </ul>	726 727 729 729 730 731 733 734 735
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> <li>Continuing Commentary</li> <li>On Sayre, K. M. (1986) Intentionality and for cognitive science. BBS 9:121-166.</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722 723	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response Sperber, D. & Wilson, D. Presumptions of relevance	726 727 729 729 730 731 733 734 735 <b>736</b>
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> <li>Continuing Commentary</li> <li>On Sayre, K. M. (1986) Intentionality and for cognitive science. BBS 9:121-166.</li> <li>Bourbon, W. T. A case of different intentions</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722 723 inform	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response Sperber, D. & Wilson, D. Presumptions of relevance	726 727 729 729 730 731 733 734 735 <b>736</b>
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> <li>Continuing Commentary</li> <li>On Sayre, K. M. (1986) Intentionality and for cognitive science. BBS 9:121-166.</li> <li>Bourbon, W. T. A case of different intentions concerning intentionality</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722 723	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response Sperber, D. & Wilson, D. Presumptions of relevance	726 727 729 729 730 731 733 734 735 <b>736</b>
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> <li>Continuing Commentary</li> <li>On Sayre, K. M. (1986) Intentionality and for cognitive science. BBS 9:121-166.</li> <li>Bourbon, W. T. A case of different intentions</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722 723 inform	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response Sperber, D. & Wilson, D. Presumptions of relevance  nation processing: An alternative model  Puccetti, R. Intentionality in the visual cortex? Van Gulick, R. Information and the holism of intentional content	726 727 729 729 730 731 733 734 735 <b>736</b> 755 758
<ul> <li>Bach, K. &amp; Harnish, R. M. Relevant questions</li> <li>Blakemore, D. Linguistic constraints on pragmatic interpretation: A reassessment of linguistic semantics</li> <li>Carston, R. Being explicit</li> <li>Clark, H. H. Relevance to what?</li> <li>Cutler, A. The task of the speaker and the task of the hearer</li> <li>Davies, M. Relevance and mutual knowledge</li> <li>Gerrig, R. J. Relevance theory, mutual knowledge, and accidental irrelevance</li> <li>Gibbs, R. W., Jr. The relevance of Relevance for psychological theory</li> <li>Haegeman, L. Relevance theory and the scope of the grammar</li> <li>Hinkelman, E. Relevance: Computation and coherence</li> <li>Kempson, R. Grammars as input systems</li> <li>Levinson, S. C. Implicature explicated?</li> <li>McCawley, J. D. The multidimensionality of pragmatics</li> <li>Continuing Commentary</li> <li>On Sayre, K. M. (1986) Intentionality and for cognitive science. BBS 9:121-166.</li> <li>Bourbon, W. T. A case of different intentions concerning intentionality</li> <li>Fields, C. &amp; Dietrich, E. Intentionality is a red</li> </ul>	711 712 713 714 715 716 717 718 719 720 721 722 723 inform	Millikan, R. G. What Peter thinks when he hears Mary speak Morgan, J. L. & Green, G. M. On the search for relevance Pettit, P. Inference and information Reboul, A. The relevance of Relevance for fiction Recanati, F. Literalness and other pragmatic principles Russell, S. J. Rationality as an explanation of language? Seuren, P. A. M. How relevant? Smith, C. S. The information needed for inference Smith, N. V. On interpreting "interpretive use" Wilks, Y. Relevance must be to someone  Editorial Commentary  Authors' Response Sperber, D. & Wilson, D. Presumptions of relevance  mation processing: An alternative model  Puccetti, R. Intentionality in the visual cortex? Van Gulick, R. Information and the holism of	726 727 729 729 730 731 733 734 735 <b>736</b> 755 758

On Holender, D. (1986) Semantic activation listening, parafoveal vision, and visual n			765
Groeger, J. A. On not knowing the meanings of words we can detect: Crucial qualitative differences Kurian, G. Preconscious semantic processing: Why	765	Wilding, J. M. Semantic effects without awareness: Dichotic listening and dichoptic viewing	767
and how?  Segui, J. & Beauvillain, C. Why limit the availability	766	Author's Response	
of a prime-word in the study of automatic contextual facilitation?	766	Holender, D. Semantic activation without conscious identification: Can progress be made?	768
On Spanos, N. P. (1986) Hypnotic behavior amnesia, analgesia, and "trance logic."			773
Chertok, L. Hypnotic state: An interminable controversy	773	<b>Spiegel, D.</b> Seeing through social influence: Hypnotic hallucinations are opaque	775
Glicksohn, J. Hypnotic behaviour revisited: A trait- context interaction	774	Author's Response	
Navon, D. A puzzle about hypnosis that grandma may still have	775	Spanos, N. P. Hypnotic behavior: Special process accounts are still not required	776
On Libet, B. (1985) Unconscious cerebral voluntary action. BBS 8:529-566.	initiat	ive and the role of conscious will in	781
Deecke, L. The natural explanation for the two		Author's Response	
components of the readiness potential  Hoffman, R. E. & Kravitz, R. E. Feedforward action regulation and the experience of will	781 782	Libet, B. Are the mental experiences of will and self- control significant for the performance of a voluntary act?	783
On Tulving, E. (1984) Précis of Elements	of epis	odic memory. BBS 7:223-268	786
Watkins, M. J. Ecphoria excelsa	787	Author's Response Tulving, E. No eternal truth in GAPS	<b>7</b> 87
On Vining, D. R. (1986) Social versus repproblem of human sociobiology. BBS 9:			788
Symons, D. Reproductive success and adaption	788	Author's Response	
		Vining, D. R. Relative fitness is enough	789

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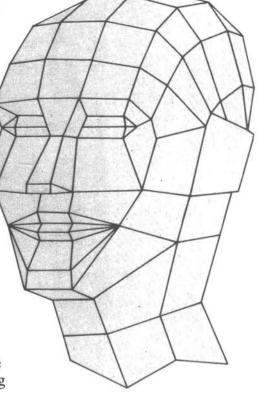
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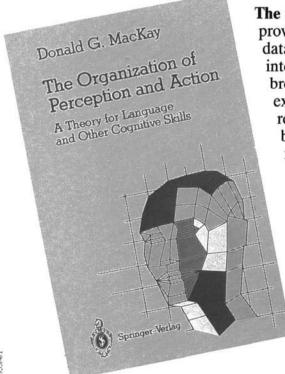
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#### CONTENTS .

#### Introduction

Psychophysical and Cognitive Aspects of Categorical Perception: A Critical Overview Stevan Harnad

Psychophysical Foundations of Categorical Perception

Categorical Perception: Some Psychophysical Models Richard E. Pastore Beyond the Categorical/Continuous Distinction: A Psychophysical Approach to Processing Modes Neil A. Macmillan

Netl A. Macmutan
Categorical Perception of Speech
Phonetic Category Boundaries Are Flexible Bruno H. Repp & Alvin H. Liberman
Auditory, Articulatory and Learning Explanations of Categorical Perception in Speech Stuart Rosen & Peter Howell

On Infant Speech Perception and the Acquisition of Language Peter D. Eimas, Joanne L. Miller,

b Peter W. Jusczyk

Models for Speech CP

Neural Models of Speech Perception: A Case History Robert E. Remez

On the Categorization of Speech Sounds Randy L. Diehl & Keith R. Kluender Categorical Partition: A Fuzzy-Logical Model of Categorization Behavior Dominic W. Massaro CP in Other Modalities and Other Species

Perceptual Categories in Vision and Audition Marc H. Bornstein Categorical Perception of Sound Signals: Facts and Hypotheses from Animal Studies Guenther Ehret

A Naturalistic View of Categorical Perception Charles T. Snowdon The Special-Mechanisms Debate in Speech Perception: Nonhuman Species and Nonspeech

Signals Patricia K. Kuhl
Brain Mechanisms in Categorical Perception Martha Wilson

#### Psychophysical Indices of CP

Electrophysiological Indices of Categorical Perception for Speech Dennis L. Molfese Evoked Potentials and Colour-Defined Categories D. M. Regan

#### Higher-Order Categories

Categorization Processes and Categorical Perception Douglas L. Medin & Lawrence W. Barsalou Developmental Changes in Category Structure Frank C. Keil & Michael H. Kelly Spatial Categories: The Perception and Conceptualization of Spatial Relations  $\it Ellen~\it Bialystok~\it to$ David R. Olson

#### Cognitive Foundations

Category Induction and Representation Stevan Harnad

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Notes to commentators. The purpose of the Open Peer Commentary service is to provide a concentrated constructive interaction between authors and commentators on a topic judged to be of broad significance to the biobehavioral science community. Commentators should provide substantive criticism, interpretation, and elaboration as well as any pertinent complementary or supplementary material, such as illustrations; all original data will be refereed in order to assure the archival validity of BBS commentaries. Commentaries and articles should be free of hyperbole and remarks ad hominem.

Style and format for articles and commentaries. Articles must not exceed 14,000 words (and should ordinarily be

considerably shorter); commentaries should not exceed 1,000 words. Spelling, capitalization, and punctuation should be consistent within each article and commentary and should follow the style recommended in the latest edition of A Manual of Style, The University of Chicago Press. It may be helpful to examine a recent issue of BBS. A title should be given for each article and commentary. An auxiliary short title of 50 or fewer characters should be given for any article whose title exceeds that length. Each commentary must have a distinctive, representative commentary title. The contributor's name should be given in the form preferred for publication; the affiliation should include the full institutional address. Two abstracts, one of 100 and one of 250 words should be submitted with every article. The shorter abstract will appear one issue in advance of the article; the longer one will be circulated to potential commentators and will appear with the printed article. A list of 5-10 keywords should precede the text of the article. Tables and figures (i.e., photographs, graphs, charts, or other artwork) should be numbered consecutively in a separate series. Every table and figure should have a title or caption and at least one reference in the text to indicate its appropriate location. Notes, acknowledgments, appendices, and references should be grouped at the end of the article or commentary. Bibliographic citations in the text must include the author's last name and the date of publication and may include page references. Complete bibliographic information for each citation should be included in the list of references. Examples of correct style for bibliographic citations are: Brown (1973); (Brown 1973); (Brown 1973; 1978); (Brown 1973; Jones 1976); (Brown & Jones 1978); (Brown et al. 1979). References should be typed in alphabetical order in the style of the following examples. Journal titles must not be abbreviated.

Kupfermann, I. & Weiss, K. (1978) The command neuron concept. Behavioral and Brain Sciences 1:3-39

Dunn, J. (1976) How far do early differences in mother-child relations affect later developments? In: *Growing points in ethology*, ed. P. P. G. Bateson & R.A.Hinde. Cambridge University Press.

Bateson, P. P. G. & Hinde, R. A., eds. (1976) Growing points in ethology. Cambridge University Press.

Preparation of the manuscript. The entire manuscript, including notes and references, must be typed double-spaced on 8½ by 11 inch or A4 paper, with margins set to 70 characters per line and 25 lines per page, and should not exceed 50 pages. Pages should be numbered consecutively. It will be necessary to return manuscripts for retyping if they do not conform to this standard.

Each table and figure should be submitted on a separate page, not interspersed with the text. Tables should be typed to conform to BBS style. Figures must be ready for photographic reproduction; they cannot be redrawn by the printer. Charts, graphs, or other artwork should be done in black ink on white paper and and should be drawn to occupy a standard area of 8½ by 11 or 8½ by 5½ inches before reducing. Photographs should be glossy black-and-white prints; 8 by 10 inch enlargements are preferred. All labels and details on figures should be clearly printed and large enough to remain legible even after a reduction to half size. It is recommended that labels be done in transfer type of a sans-serif face such as Helvetica.

Authors are requested to submit their original manuscript with **eight copies** for refereeing, and commentators their original plus **two copies**, to: Stevan Harnad, Editor, Behavioral and Brain Sciences, 20 Nassau Street, Suite 240, Princeton, NJ 08542. In case of doubt as to appropriateness for BBS commentary, authors should write to the editor before submitting eight copies.

It would expedite processing considerably if the (article or commentary) manuscript were also accompanied by floppy disk(s) (IBM-compatible, please indicate word processor software used) containing the full text. ASCII (text only) files are optimal. Text can also be sent by electronic mail to: "harnad@mind.princeton.edu" but the hard copies are still needed too.

**Editing.** The publisher reserves the right to edit and proof all accepted articles and commentaries. Authors of articles will be given the opportunity to review the copyedited manuscript and page proofs. Commentators will be asked to review copyediting only when changes have been substantial; commentators will not see proofs. Both authors and commentators should notify the editorial office of all corrections within 48 hours or approval will be assumed.

Authors of target articles receive 50 offprints of the entire treatment, and can purchase additional copies. Commentators will also be given an opportunity to purchase offprints of the entire treatment.

<sup>\*</sup>Individuals interested in serving as BBS Associates are asked to write to the editor.

### **Behavioral and Brain Sciences**

### To appear in Volume 11, Number 1 (1988)

Offprints of the following forthcoming BBS treatments can be purchased for educational purposes if they are ordered well in advance. For ordering information, please write to Journals Department, Cambridge University Press, 32 East 57th Street, New York, NY 10022.

# On the proper treatment of connectionism Paul Smolensky, *University of Colorado*

A version of the connectionist approach to cognitive modeling is formulated as a set of hypotheses that confront a number of attacks and challenges, including the charges that connectionist models are concerned merely with implementation details, that they are invalid because they are not neurally faithful, that connectionist computation cannot possibly offer anything new, and that connectionist models offer an inadequate kind of explanation. The challenges addressed concern the role in a connectionist framework for rules, productions, logic, rationality, constituents of mental states, and conceptual schemata or frames.

With Commentary from B Chandrasekaran; HL Dreyfus; WJ Freeman; DR Hofstadter; G Lakoff; WG Lehnert; WG Lycan; J McCarthy; RJ Nelson; S Pinker & A Prince; GC Quarton; W Schneider; RN Shepard; SP Stitch; and others.

## A framework for the functional analysis of behaviour Alasdair I. Houston & John M. McNamara, University of Oxford and Duke University

An action may make a direct contribution to reproductive success or an indirect one, by changing the animal's state. A reward function characterises the relation between the animal's state at the end of a period of time and its future reproductive success. Dynamic programming reveals the optimal action as a function of state and time and yields a measure of the cost in future reproductive success of a suboptimal action. These costs allow comparisons between eating and drinking or eating and hiding from predators and they allow robust conclusions to be drawn.

With Commentary from R McN Alexander; T Caraco; MS Dawkins; E Fantino; GM Heyman; AW Logue & G King; M Mangel; DJ Navarick; LD Partridge; DF Sherry; A Sih; NC Stenseth; W Timberlake; K Westerterp; and others.

# Implications of the "initial brain" concept for brain evolution in Cetacea Ilya I. Glezer, Myron S. Jacobs & Peter J. Morgane, The City University of New York Medical School, New York University College of Dentistry and Worcester Foundation for Experimental Biology

Living basal Insectivora and certain Chiroptera are not the only models of the "initial" ancestral group of mammals. The Cetacea too have retained many features of the archetypic neocortex. Columnar modification and multiplication is a mechanism of neocortical evolution that has resulted in four modes of neocortical organization in extant mammals. Cetacea are included in the mode we define as "conservative-progressive."

With Commentary from CBG Campbell; JF Eisenberg; D Falk; GM Innocenti; EJ Neafsey; B Rensch; SH Ridgway; J Shoshani; BE Stein; HD Steklis; F Valverde; W Wilczynski; J Wind; K Zilles & G Rehkämper; and others

#### Among the articles to appear in forthcoming issues of BBS:

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E Donchin, "Is the P300 component a manifestation of context updating?"

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The Pitt Building, Trumpington Street, Cambridge CB2 1RP 32 East 57 Street, New York, N.Y. 10022 10 Stamford Road, Oakleigh, Melbourne 3166, Australia

Printed in the United States of America by Capital City Press, Montpelier, Vermont