

Contents

Contributing Authors	xi
Preface	xix
 I. DYNAMIC ASPECTS OF BRAIN FUNCTION	
1. Plasticity and Epilepsy: An Outline of the Problem	1
<i>H. Stefan</i>	
2. Epilepsy as a Dynamic Disorder: A Clinical Perspective	7
<i>F. Andermann</i>	
3. From Mirror Focus to Secondary Epileptogenesis in Man: An Historical Review	11
<i>F. Morrell and L. deToledo-Morrell</i>	
4. Neuronal Dysfunction, Epilepsy, and Postlesional Brain Plasticity	25
<i>O. W. Witte and H.-J. Freund</i>	
5. Cerebral Reorganization in Man After Acquired Lesions	37
<i>R. J. Seitz and N. P. Azari</i>	
6. Functional Imaging of Plastic Changes in the Human Brain	49
<i>U. Ribary, J. Cappell, A. Mogilner, M. Hund-Georgiadis, E. Kronberg, and R. Llinás</i>	
7. Some Mechanisms of Increased Epileptogenesis in the Immature Brain	57
<i>P. Mareš</i>	
8. Molecular Mechanisms of Seizure-induced Cerebral Plasticity	61
<i>A. Represa</i>	
9. Malformative and Neoplastic Glioneuronal Lesions in Patients with Chronic Pharmacoresistant Epilepsies	69
<i>H. K. Wolf and O. D. Wiestler</i>	
10. Novel Magnetic Resonance Imaging Methods for Quantifying Changes in the Cortical Ribbon in Patients with Epilepsy	81
<i>S. M. Sisodiya, S. Free, D. R. Fish, and S. D. Shorvon</i>	
11. Functional Imaging of Cerebral Maturation and Cognition	89
<i>C. Chiron, I. Jambaque, P. Plouin, and O. Dulac</i>	
12. Epilepsy as a Dynamic Disease of Brain Systems	97
<i>F.H. Lopes da Silva and J.-P.M. Pijn</i>	

II. DEVELOPMENT AND PROPAGATION OF THE EPILEPTIC PROCESS

13. Kindling: Clinical Relevance for Epileptogenicity in Humans 105
J. Majkowski
14. Occipitotemporal Relations: Evidence for Secondary Epileptogenesis 115
A. Palmmini, F. Andermann, F. Dubeau, J. Costa da Costa, M. E. Calcagnotto, P. Gloor, A. Olivier, E. Paglioli, and E. Paglioli-Neto
15. Migration of Epileptic Foci in Children 131
H. Oguni, K. Hayashi, and M. Osawa
16. Migraine Aura, Seizures, and Temporal Lobe Epilepsy 145
Y. M. Hart and F. Andermann
17. Dual Pathology and Its Clinical Relevance 153
F. Cendes, L. M. Li, F. Andermann, C. Watson, D. R. Fish, S. D. Shorvon, F. Dubeau, and D. L. Arnold

III. FUNCTIONAL CHANGES RELATED TO MATURATION AND TREATMENT

18. The Running Down Phenomenon in Temporal Lobe Epilepsy 165
V. Salanova, T. Rasmussen, and F. Andermann
19. Return of Generalized Seizures and Discharges After Callosotomy 171
R. M. Pressler, C. D. Binnie, R. D. C. Elwes, and C. E. Polkey
20. Periictal Speech as Function of the Age of Cerebral Damage 183
S. von Manitius-Robeck, E. Pauli, and H. Stefan
21. Postoperative Motor Deficits and Recovery After Cortical Resections 189
F. Chassoux, B. Devaux, E. Landré, J. P. Chodkiewicz, J. Talairach, and P. Chauvel
22. Modes of Reorganization of the Sensorimotor System in Children with Infantile Hemiplegia and After Hemispherectomy 201
H. Holthausen and K. Strobl
23. Cerebral Representation of Odor Perception 221
G. Kobal and B. Kettenmann
24. Neuronal Networks Subserving Preoperative and Postoperative Acoustic Signal Processing: Test of Plasticity Using a Rhyme Test 231
M. Spreng
25. Plasticity Associated with Cerebral Resections 241
H. T. Chugani and R.-A. Müller
26. Aging Limits Plasticity of Episodic Memory Functions in Response to Left Temporal Lobe Damage in Patients with Epilepsy 251
H. Jokeit and H. J. Markowitsch

27.	Multiple Subpial Transection	259
	<i>F. Morrell, A. M. Kanner, L. deToledo-Morrell, T. Hoeppner, and W. W. Whisler</i>	
28.	Prediction of Memory Reserve Capacity	271
	<i>C. A. Helmstaedter</i>	
29.	Control of Cortical Excitability in Epilepsy	281
	<i>B. Kotchoubey, U. Strehl, S. Holzapfel, D. Schneider, V. Blankenhorn, and N. Birbaumer</i>	
30.	Motor Excitability Changes Under Antiepileptic Drugs	291
	<i>U. Ziemann, S. Lönnecker, B. J. Steinhoff, and W. Paulus</i>	
31.	Radiosurgery in Epilepsy and Neuronal Plasticity	299
	<i>J. L. Barcia-Salorio</i>	
32.	Early Brain Pathology and Its Relation to Cognitive Impairment: The Role of Quantitative Magnetic Resonance Techniques	307
	<i>D. G. Gadian, M. Mishkin, and F. Vargha-Khadem</i>	
33.	The Role of New Antiepileptic Drugs	317
	<i>E. Ben-Menachem</i>	

IV. PERSPECTIVES ON FUTURE APPROACHES: BRIEF COMMUNICATIONS

34.	Pathologic Aspects of Cortical Dysplasia in Patients with Pharmacoresistant Epilepsies	323
	<i>A. Bornemann, H. Schulemann, M. Buchfelder, and H. Stefan</i>	
35.	Endogenous Phosphorylation of Distinct Gamma-aminobutyric Acid Type A Receptor Polypeptides: A Possible Mechanism Involved in the Inhibition of Epileptogenicity	329
	<i>M. Bureau, J. Laschet, F. Minier, B. Evrard, G. Dandrifosse, and P. Chauvel</i>	
36.	Chemical Shift Imaging Spectroscopy Findings Before and After Stereotactic Radiotherapy in Temporal Lobe Epilepsy	339
	<i>K. E. W. Eberhardt, H. Stefan, G. G. Grabenbauer, I. Schäfer, B. Tomandl, W. J. Huk, P. Kreisler, and M. Käferlein</i>	
37.	Expression of Inducible Transcription Factors After Experimental Limbic Seizures	347
	<i>P. Gass</i>	
38.	Ontogenesis and Treatment Efficacy: Prevention of Seizures in the Immature Brain	357
	<i>H. Kubová</i>	
39.	Plasticity of Right Parietal Lobe Functioning in Focal Cortical Dysplasia . . .	363
	<i>R. G. Morris, J. D. Feigenbaum, C. D. Binnie, R. D. C. Elwes, and C. E. Polkey</i>	

40.	Neuropsychologic Findings Depending on the Type of the Resection in Temporal Lobe Epilepsy	371
	<i>E. Pauli, S. Pickel, H. Schulemann, M. Buchfelder, and H. Stefan</i>	
41.	Plasticity and Epilepsy: Dynamic Effects of Brain Function Effects of Temporal Lobe Resection on Cognitive Function	379
	<i>C. E. Polkey</i>	
42.	Distant Functional and Metabolic Disturbances in Focal Epilepsy	383
	<i>O. W. Witte and C. Bruehl</i>	
	Subject Index	389