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Nota di contenuto	Contents ; Preface ; List of Contributors ; Chapter 1. Metal-Catalyzed Redox Activity in Neurodegenerative Disease ; 1. INTRODUCTION ; 1.1. Redox-Active Transition Metals in AD ; 1.2. Aggregation of Amyloid-B and Amyloid B Protein Precursor/Amyloid-p-Linked ROS Production 1.3. Iron in Neurodegenerative Disease 1.4. Iron-Mediated Oxidative Stress in Parkinson's Disease ; 1.5. Manganese and Parkinson's Disease ; 1.6. Antioxidant and Transition Metal Homeostasis ; 1.7. CuZnSOD Mutations and Familial Amyotrophic Lateral Sclerosis ; 2. CONCLUSIONS Chapter 2. Metals Distribution and Regionalization in the Brain 1. TRACE ELEMENT DISTRIBUTION IN NORMAL HUMAN BRAIN ; 1.1. Aluminum Iron Copper and Zinc Distribution in Normal Human Brain Sites in Relation to Age ; 1.2. Aluminum ; 1.3. Iron ; 1.4. Copper

; 1.5. Zinc

## 2. TRACE ELEMENT IMBALANCES IN NEURODEGENERATIVE DISEASES

2.1. Aluminum Iron Copper and Zinc in Alzheimer's Disease

; 2.2. Factors Affecting the Final Results ;

2.3. Aluminum Iron Copper and Zinc in Parkinson's Disease

2.4. Aluminum Iron Copper and Zinc in Western Pacific Parkinsonism-Dementia 2.5.

Aluminum Iron Copper and Zinc in Amyotrophic Lateral Sclerosis

; 3. FINAL REMARKS ; Chapter 3. The Olfactory Pathway as a Route of Entry of Metals into the Brain

; 1. INTRODUCTION

### 2. ANATOMY OF THE OLFACTORY SYSTEM

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#### Sommario/riassunto

Numerous studies have established a clear connection between neuronal oxidative stress and several neurodegenerative diseases, with consequential damages to lipids, proteins, nucleic acids, etc. In addition, several modifications indicative of oxidative stress have been described in association with neurons, neurofibrillary tangles and senile plaques in Alzheimer's disease, including advanced glycation end products and free carbonyl oxidation. Oxidative damage and antioxidant responses are now well characterized, but sources of damaging free radicals are yet to be fully understood. Evidences

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