

# SYMPOSIA



9

МЕЖДУНАРОДНЫЙ КОНГРЕСС ГЕРОНТОЛОГОВ  
INTERNATIONAL CONGRESS OF GERONTOLOGY  
CONGRES INTERNATIONAL DE GERONTOLOGIE  
INTERNATIONALER KONGRESS FÜR GERONTOLOGIE

КИЕВ, СССР  
ИЮЛЬ 2—7, 1972

KIEV, U.S.S.R.  
JULY 2—7, 1972

## REPORTS

Volume 2

**9th INTERNATIONAL CONGRESS OF GERONTOLOGY**

**July 2—7, 1972**

**Kiev, U.S.S.R.**

**Volume 2**

**S Y M P O S I A**

**CONDENSATIONS OF PAPERS**

The volume is compiled under the auspices  
of

D. F. CHEBOTAREV, Professor,  
member of the USSR Acad. Med. Sci.,  
*President of the Congress*

V. V. FROLKIS, Professor  
*Chairman,*  
*Program Committee*

A. Ya. MINTS, Dr. Med. Sci.,  
*Chairman,*  
*Editorial-Publishing  
Committee*

## C O N T E N T S

## B I O L O G Y

Comparative Study of  
Aging Animals

B.P.Tokin, On the Correlated Evolution of Reproduction, Ageing and Death Phenomena .....	16
Gh.H.Barrows, Comparative Study of Aging Animals .....	19
G.F.Hollander, The Value of Compara- tive Aging Studies in Animals .....	23
G.D.Berdyshev. Changes of the Trans- cription Process in Fish and Mammals During Their Aging .....	27
Control of Genetic Apparatus	
B.F.Vanyushin, A.N.Belozerky, DNA Methylation and Ageing .....	31
B.Strehler, Control of Gene Express- sion During Development and Ageing .....	33
D.Wiegel, Vitalität und Fehlerrate in Biologischen Systemen .....	37
J.Delcour, G.D.Birnie and J.Paul. Patterns of Nuclear and Cito- plasmic RNA Synthesis in Growing and Stationary Sus- pension Cultures of LS Cells .....	41
The Programming of Cell Death	
R.A.Lockshin, Cells Programmed to Die .....	42

F.A.Lints. Development, Ageing and Life-Span by <i>Drosophila Melanogaster</i> .....	46
M.M.Vilentchik. DNA Damage and Repair in Aging and Programmed Death of Cells .....	50
M.J.van Noord. Ultrastructural and Immunological Aspects of Aging Rodent Kidney .....	54
<b>C o n t r o l o f E n z y m e A c t i v i t y</b>	
I.S.Tesal. The Hormonal Control of Enzymes Involved in the Age-Mediated Degradation of Connective Tissues .....	58
E.V.Parina. Synthesis of Enzymes and Regulation of their Activity in the Young and Aging Organism .....	61
T.Sato, H.Kobayashi and H.Tauchi. Electron Microscopic Studies on the Hepatic Cells in Aging Process with Special Reference to Their Enzymatic Activity .....	64
S.Oeriu. Enzymatic Control Processes in Ageing .....	68
<b>E n e r g y T r a n s f o r m a t i o n i n C e l l s</b>	
L.Packer. Organization and Function of Mitochondria - Relevance to Cellular Aging .....	72
L.N.Bogatskaya. Age Characteristics of Energy Metabolism in the Myocardium and its Regulation .....	76
P.Angelova-Gateva. Age Features of the Energetical Processes by Hipodynamics .....	80
B.Sacktor. The Bioenergetic Properties and Ultrastructure of Mitochondria from Flight Muscle of Aging Blowflies .....	84

A g i n g o f C e l l s i n V i v o a n d i n V i t r o	
L.Hayflick. Cell Ageing in Vitro and in Vivo .....	87
M.Soukupová, P.Hněvkovský, E.Holečková. Some Manifestations of Aging in Cell and Tissue Culture .....	90
D.L.Knock. Age-Related Changes in Isolated Cells of Rat Liver .....	94
Yu.Spasokukotsky, L.Parchenko. Effect of Biologically Active Agents on Cell Aging in the Body and Tissue Cultures .....	97
R o l e o f C o n n e c t i v e T i s s u e i n A g i n g	
R.E.Kavetsky. Age conditioned Alter- ations in the Connective Tissue System and Their Role in the Aging of the Organism .....	101
D.A.Hall.The Role of Cell and Matrix in Connective Tissue Ageing .....	103
F.M.Sinex. Role of Connective Tissue Changes in an Aging Organism .....	106
Z.Deyl. Role of Connective Tissue Changes in an Organism Aging .....	110
C L I N I C A L M E D I C I N E	
P r i n c i p l e s o f D r u g T h r a p y	
A.Aslan. Principles of Drug Therapy .....	II5
M.Bergener.Drug Effects and Rating- Scales:Results of a Follow-Up Study in Gerontopsychiatry .....	II9
O.V.Korkushko. Some Aspects of Drug Therapy of Geriatric Patients with Cardiovascular Pathology .....	I22
W.Modell. Pharmacologic Characteristics of the Elderly .....	I26

New Techniques in Rehabilitation	
E.J.Lorenze.	New Techniques in Rehabilitation ... I27
A.Zilli.	New Techniques in the Rehabilitation of Hemiplegia ..... I31
I.K.Shkhvatsabaya.	Methods of Control in Rehabilitation of Patients with Ischaemic Heart Disease ..... I35
Parkinsonism Treatment	
M.D.Yahr.	Treatment of Parkinson's Disease - Current Concepts ..... I37
N.N.Anosov.	Pharmacotherapy of Parkinsonism in Elderly and Old People ..... I39
J.Vignalou.	Etude de la L-Dopa chez les Parkinsoniens de Plus de 70 Ans ..... I42
A.Svanborg.	L-Dopa Treatment of Parkinson's Syndrome ..... I46
Senile Psychoses	
E.Ya.Sternberg.	Clinical and Nosological Problems of Old Age Psychosis ..... I49
S.Hirai & M.Yoshikawa.	Senile Dementia - with Special Reference to Alzheimer's Neurofibrillary Change ..... I53
A.Tröger.	On the Problems of Psychic Per- formance in Conversion Phase and Senescence ..... I57
A.Simon.	Trends in the United States in the Care of the Senile Patient ..... I61
Vascular Surgery in Old Age	
A.Senn.	Peculiarities of Vascular Surgery in Old Age..... I65
V.I.Burakovskiy, A.V.Pokrovsky.	Principles of Vascular Surgery in Elderly Patients ..... I68
M.E.DeBakey.	Surgical Treatment of Athero- sclerosis and Cerebrovascular Insuffi- ciency in the Elderly ..... I72

## SOCIAL SCIENCES

Demography of the Aged	
B.Urlanis. Evolution Laws for the Composition of Death Age(Change in Duration of Life under Different Social and Economic Structures) .....	177
P.Paillat,Le Vieillissement de la Population, Problèmes de Mesure .....	181
E.L.Rosset.Demography of Aging .....	185
N.B.Ryder,Some Methodological Notes on Senior Demography .....	188
Assessment of Health	
E.Shanas.Self-Reports of Physical Capacity of Old People:A Six Country Comparison .....	193
R.J.van Zonneveld and A.Beek.Assessment of Health.Some Results of Longitudinal Studies .....	197
Yu.I.Alabovsky.Indices for Health Evaluation Among Elderly Age Groups .....	201
Ole Svane.Determining the Needs of the Aged ...	204
A.M.Merkov. Criteria of Health of Elderly and Senile Age .....	208
The Retirement Process	
Barbara Fülgraff.The Problems of Retirement ...	212
Yu.I.Kundiev,A.O.Navakatikyan,V.A.Busunov, O.F.Maximova.Preparation for Retirement on Pension as a Problem of Labour Physiology .....	216
H.Helland. The Retirement Period and its Problems .....	220
James N.Morgan. The Retirement Process in the United States .....	224
Social Adaptation	
B.D.Petrov.Adjustment to Retirement .....	226
W.Beattie. Social Adaptation:Research Perspectives and Practice Requirements ....	229

J.Froimovich,V.Acle.Therapeutic Effect on the Adaptation of the Aged .....	234
A.Bigot.Patterns of Ageing:Towards a Comprehensive Framework for the Study of Adaptation in Adulthood over Time.....	238
O c c u p a t i o n a l A g i n g a n d W o r k i n g C a p a c i t y	
Leon Koyl.Matching the Older Worker to His Job and His Job to the Worker .....	242
E.Stezhenskaya.Occupational Aging and Age- Associated Working Capacity .....	246
Dj.Kozarević.Disability and Programming Preventive Measures in the Process of Aging .....	250
F.Clément.The Physical Strength Decline. Remarks About the Effect of Some In- fluent Variables .....	254
P o s i t i o n o f t h e A g e d i n F a m i l y a n d S o c i e t y	
C.C.Harris.Old Age as Social Deprivation. The deprivation theory of old age: the generic model .....	255
N.A.Vinogradov,V.L.Deryabina,I.I.Lubotskaya. Mode of Life and Health of Persons of Pensionary Age .....	259
Gordon F.Streib.Micro-Environments and the Well-Being of the Aged. ....	263
G.M.Veldkamp.Some Socio-Political Aspects of Old Age .....	266
N.Ya.Solovyev,A.E.Petrichenko.Old Age, Family and Society .....	270
E c o n o m i c I m p a c t o f A g i n g P o p u l a t i o n	
M.Ya.Sonin. Economic Problems and Aging of the Population .....	274
J.Schulz. Demographic Ageing and Social Security .....	278

Pierre Gilliland. Répercussions Economiques du Vieillissement de la Population .....	282
A.G.Vishnevsky. Economic Consequences of Aging of Labour Resources .....	286
Dwellings and Settling	
V.A.Rudeyko.Dwellings and Settling of Aged and Old People .....	289
Maurice B.Hamovitch.Housing Needs and Satisfaction of the Elderly .....	292
F.H.J.Nierstrasz.Some Aspects of the Adaptation of the Supply of Housing to the Needs of the Elderly .....	296
Cognitive Processes	
J.M.A.Munnichs. Cognitive Processes and Aging .....	300
N.Traugott. Physiological Analysis of Cognition Changes in the Aged .....	305
K.Riegel.On the Dialectics of Cognitive Changes During the Life Span .....	308
G.Rudinger. Intellectual De-Differentiation(DD)and Deficit with Age-Artifacts.....	312
INTERDISCIPLINARY SYMPOSIUM	
Biological Age and its Determination	
J.Mark Ordý,O.A.Schjeide. Biological Age and its Determination:An Interdisciplinary Study .....	315
V.Dilman. Biological Age and its Determination in the Light of Elevation Mechanism of Ageing .....	319
W.Ries. Problems Associated with Biological Age .....	323
A.A.Knoop. Cardiovascular Age and its Determination .....	327

<b>Aging in Males and Females</b>	
N.N.Sachuk. Problems of Longevity of Men and Women .....	330
J.A.MacDonell. Some Medical Aspects of Aging in Males and Females .....	336
James B.Hamilton. Aging in Males and Females, Sex Differences and Effects of Castration on Duration of Life in Humans and Cats .....	338
Edit Beregi. Morphology of Lymphnodes After Immunisation in Relation to Age and Sex .....	342
 P r e m a t u r e A g i n g	
G.Brueschke, U.J.Schmidt and F.N.Schulz. Premature Ageing and Modern Programs for Maintenance of Health and Efficiency up to Old Age .....	343
William Reichel. Premature Aging .....	344
B.A.Vartapetov, A.N.Demchenko. Premature Aging and Climacteric in Men .....	348
P.Berthaux, F.Forette, C.Sébhan, M.Laurent. Etude des Variations Spontanées de la Pression Artérielle chez les Personnes Agées .....	352
 A t h e r o s c l e r o s i s a n d A g i n g	
N.N.Gorev. Atherosclerosis and age .....	355
C.David. Atherosclerosis and the Age-Promoting Factors .....	359
H.T.Blumenthal. Autoimmune Theory of Aging and Athero-Arteriosclerosis .....	363
G.Verdonk, R.Mortelmans and D.Vandevivere. Blood Lipid Modifications with Age in Atherosclerosis, Diabetes and Obesity .....	367

## Genetic Studies in Aging

E.F.Davidenkova, I.S.Liberman. Life Span and Importance of Some Genetic Factors .....	371
George A.Sacher. Genetic and Evolutionary Factors in the Aging of Short- and Long-Lived Myomorph Rodents .....	374
V.P.Voitenko. Hederitary Polymorphism and Human Life-Span .....	377

## Hypothalamus in Aging

A.V.Everitt. The Hypothalamus, Food Intake and Aging .....	381
B.V.Aleshin. Age Changes of the Neuro- Endocrine Interrelations .....	385
J.Meites. Hypothalamo-Pituitary-Ovarian Function in Old Female Rats .....	388
H.Reisner und K.Summer. Hypothalamus im Alter .....	391

## Hormones Metabolism

Robert I.Gregerman. Mechanisms of Age- Related Alterations of Hormone Action and Metabolism; Adrenal and Thyroid Hormones .....	392
M.Serio, G.Fiorelli and G.Forti. Hormones Metabolism in Old Age .....	396
D.C.Adelman, G.S.Roth, G.Stein, C.Freeman, B.S.Cohen, S.L.Rotenberg, A.Adelman and D.Englander. Age-Dependent Hormonal Regulation of Mammalian Gene Expression .....	400
N.V.Scechnikova. Age and Adrenal Cortex Steroid Hormones .....	403

## Age Peculiarities of Regulation

I.V.Munavov. Regulation - Trophic Effects of Muscular Activity and Aging .....	407
R.Motylyanskaya, V.Artamonov, L.Yerusalimsky. Age Peculiarities of Intra-systemic Regulation of the Circulation During Adaptation to Muscular Exercise .....	411
Henry Blackburn. The Inter-Relations of Age and Other Risk Factors in Prediction of Coronary Disease and Death.....	414
Dr.Mateeff. Age Peculiarities of Functional Systems Regulation in Exercises .....	416

## Psychology of the Age

E.Beverfelt. Shifts in the Psychology of the Aged .....	421
B.G.Ananiev. Psychophysiological Evolution of the Adult Man and Gerontogenesis ...	425

## Learning and Memory

A.R.Luria. Memory Disorders in Pathological States of the Brain .....	429
S.Pacaud. Y-a-t-il une Modification dans le Pouvoir de Facilitation Associative, Inhérent à Certaines Relations Logiques, chez les Sujets Agés par Rapport aux Jeunes .....	431
J.Helander. On Age and Learning, Some Interdisciplinary Notes .....	434

## Accidents Among the Aged

M.Rodstein. Accidents Among the Aged: Causes and Prevention .....	438
---	-----

J.Fleetwood. Geriatric Accidents, A Preventable Pandemic .....	442
G.D.Shushkov. Traumatic Shock in Elderly and old Patients .....	444
M e d i c a l I n s t i t u t i o n a l C a r e	
Z.G.Revutskaya. Hospital Service for Chronics .....	447
G.Reader. Medicare. Types of Geriatric Institutions .....	450
M.Cheong. Principles of Hospital and Out-Patient Care for the Aged .....	451
J.-P.Junod. Hospital Services in Geriatrics .....	455
A u t h o r 's I n d e x .....	459

**9th INTERNATIONAL CONGRESS OF GERONTOLOGY**

**July 2—7, 1972**

**Kiev, U.S.S.R.**

**Volume 2**

**S Y M P O S I A**

**CONDENSATIONS OF PAPERS**

The volume is compiled under the auspices  
of

D. F. CHEBOTAREV, Professor,  
member of the USSR Acad. Med. Sci.,  
*President of the Congress*

V. V. FROLKIS, Professor  
*Chairman,*

*Program Committee*

A. Ya. MINTS, Dr. Med. Sci.,  
*Chairman,*

*Editorial-Publishing  
Committee*

## C O N T E N T S

## B I O L O G Y

Comparative Study of  
Aging Animals

B.P.Tokin, On the Correlated Evolution of Reproduction, Ageing and Death Phenomena .....	16
Gh.H.Barrows, Comparative Study of Aging Animals .....	19
G.F.Hollander, The Value of Compara- tive Aging Studies in Animals .....	23
G.D.Berdyshev. Changes of the Trans- cription Process in Fish and Mammals During Their Aging .....	27
Control of Genetic Apparatus	
B.F.Vanyushin, A.N.Belozersky, DNA Methylation and Ageing .....	31
B.Strehler, Control of Gene Express- sion During Development and Ageing .....	33
D.Wiegel, Vitalität und Fehlerrate in Biologischen Systemen .....	37
J.Delcour, G.D.Birnie and J.Paul. Patterns of Nuclear and Cito- plasmic RNA Synthesis in Growing and Stationary Sus- pension Cultures of LS Cells .....	41
The Programming of Cell Death	
R.A.Lockshin, Cells Programmed to Die .....	42