

Fourth European Congress on Sleep Research  
Tirgu-Mures 1978

## **Sleep 1978**

**Sleep Onset, Pathology of Child, Sleep and Coma,  
Hypophyseal Secretions and Sleep, Idiopathic  
Hypersomnia, Neurophysiology, Pharmacology,  
Methodology, Psychology, Psychiatry**



**S. Karger · Basel · München · Paris · London · New York · Sydney**

{ Proceedings of the Fourth European Congress on Sleep Research,  
Tîrgu-Mureş, September 11–15, 1978

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Editors: L. Popoviciu, B. Aşgian and G. Badiu, Tîrgu-Mureş

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Tirgu-Mureş, September 11–15, 1978

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## *Preface*

The Congresses of the European Sleep Research Society have already gained a tradition being nowadays appreciated by the researchers in this field all over the world. Our Society can no more be considered as a young one since it has already an appreciable number of years from its foundation and it has already produced a remarkable activity.

As the present President of our Society, Professor Passouant, had mentioned at the third Congress in Montpellier (1976), it has been created a new science: The Hypnology. We might add to this: and The Oneirology, as well. So, as a consequence, we could say that the 'hypno-nauts' and the 'oneiro-nauts' are a kind of 'Prometheus' of Sleep and Dream, who are worthy of all our estimation because of their hard and steadfast work with implications of a pioneer's labour.

We all are studying Sleep and its Disorders for the benefit of all people who need a normal and recovering sleep as it has already been so beautifully expressed by William Shakespeare in his play 'Macbeth' as follows:

“ ..... the innocent Sleep,  
Sleep that knits up ravell'd sleeve of care,  
The death of each day's life, sore labour's bath,  
Balm of hurt minds, great nature's second course,  
Chief nourisher in life's feast, ...”

Indeed, we all still have so many unknowns to „unrevel“, but we are convinced that in the following years the numerous mysteries of the brain will be revealed and made well-known, soon.

This present volume, SLEEP — 1978, publishes in extenso the reports presented within the proceedings of the Fourth European Congress on Sleep Research, organized by the Romanian Committee (Professor L. Popoviciu and his colleagues) in collaboration with the Committee of the ESRS in Tîrgu-Mureş, between September 11—15th, 1978.

The value of the works delivered in Symposia, Round Tables, Free Oral Communications and in Poster Sessions claimed our attempt to issue all the reports of this scientific manifestation. So, this volume contains almost all the reports excepting those we haven't received yet. We express our deep regret for the fact that we are not able to publish all the reports presented in 'Sleep and Nutrition' Round Table because of the delay.

We take this opportunity to express our gratitude to all the participants for their contribution to the success of the Fourth European Congress on Sleep Research, to the Romanian Ministry of Health, to our publisher, Editura Medicală (especially to its director Professor I. Teodorescu Exarcu, and its editor in-chief, Dr. C. Lozanu) and to the Union of the Societies for Medical Sciences from Romania.

Liviu Popoviciu, Berdj Aşgian and George Badiu (Editors)

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## Abbreviations

EEG	= electroencephalogram;
EOG	= electro-oculogram;
EMG	= electromyogram;
EKG or ECG	= electrocardiogram;
REM (sleep)	= rapid eye movement (sleep);
REM	= rapid eye movements;
NREM <sub>s</sub> (sleep)	= non-rapid eye movement (sleep);
SWS	= slow wave sleep;
S <sub>1</sub>	= stage 1;
S <sub>2</sub>	= stage 2;
S <sub>3</sub>	= stage 3;
S <sub>4</sub>	= stage 4;
PS	= paradoxical sleep (SR = sommeil rapide)

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# Symposium A<sup>1</sup>

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## Physiological and Pathological Aspects of Sleep Onset

Chairman: P. L. PARMEGGIANI (Bologna)

Participants: M. BILLIARD (Montpellier)  
A. BORBÉLY (Zürich)  
E. LUGARESI (Bologna)  
I. OSWALD (Edinburgh)  
J. J. PUIZILLOUT (Marseille)  
P. SALZARULO (Paris)  
W. B. WEBB (Gainesville)

<sup>1</sup> Compound list of references at the end of this symposium.





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## Introduction

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**P. L. PARMEGGIANI**

University of Bologna, Italy

This symposium is dedicated to sleep onset, that, as any process of change, is hard to be defined in dynamical terms. Moreover, many questions are still unsettled concerning the mechanisms underlying its evolution. A few preliminary words are, therefore, justified to encompass the research fields related to this topic and to indicate the reasonably limited aims of this symposium.

The classical reviews of Kleitman (1963), Moruzzi (1972) and Jouvet (1972) contain background information concerning, respectively, the phenomenal, neurophysiological and neurochemical aspects of the mechanisms underlying sleep onset. Ethological studies pointing to the instinctive nature of the behaviour of sleep onset are thoroughly reviewed in an essay by Moruzzi (1969) and the problem of the central representation of this behaviour is approached in several investigations (Hess 1944; Akimoto et al. 1956; Sterman and Clemente 1962; Roelofs et al. 1963; Parmeggiani 1964). There is no doubt, however, that the process of sleep onset is far from being understood. More work has to be done in order to further identify its mechanisms and to analyze their function also with respect to exogenous and endogenous inputs relevant to its development.

On this basis, it may be appreciated that the contributions to this symposium deal with both factors influencing the onset of sleep and aspects of its phenomenology. In particular, Dr Puizillout examines the influence on sleep onset of vegetative inputs of brain stem mechanisms and Dr Borbély of exogenous and endogenous factors acting at higher levels of integration. Dr Webb presents metrological considerations on significant temporal variables of sleep onset, while Dr Lugaresi comments on specific changes in motor, respiratory and circulatory functions and Dr Oswald on objective and subjective psychic phenomena of sleep onset. Finally, sleep onset is analyzed by Dr Salzarulo and Dr Billiard from the ontogenetic and pathologic points of view, respectively.