

## Reviews

### The influence of environment on sleep

O. Benoit: Introduction

D.S. Minors and J.M. Waterhouse: The sleep-wakefulness rhythm, exogenous and endogenous factors (in man)

T. Åkerstedt: Work schedules and sleep

J. Foret: To what extent can sleep be influenced by diurnal activity?

A. Muzet, J.-P. Libert and V. Candas: Ambient temperature and human sleep

M. Vallet and J. Mouret: Sleep disturbance due to transportation noise: ear plugs vs oral drugs

O. Benoit: Homeostatic and adaptive roles of human sleep

### Editorial

There can be little doubt that the environment, with its manifold physical, chemical, and what may generally be referred to as social factors, exerts a profound influence on the behavior, well-being, health, and chance of survival of all living organisms. In many instances, changes in environmental conditions account, in large part, for adaptive measures taken, not only by single individuals, but also by whole groups and even the entire population of a given species. Among the many functions (of higher animals in particular) that react with overt disturbances and/or adaptive reorganizations to changes in the environment, sleep is one of the more sensitive ones. Thus it is surprising that sleep is rather infrequently mentioned as a 'target function' of environmental factors. In fact, in comparison with the enormous amount of research done on many other bodily functions, there is a paucity of research into the many aspects of the impact of external factors on the sleep pattern, both in man and infra-human species. Much of what we know derives from anecdotal evidence, and it is only recently that sleep researchers have started to become involved in this important practical aspect of hypnology. Also, it has been only of late that the Commission of European Communities, sensitized towards the effect of environment on man's sleep and thus, on his health and well-being, has established a fund to support studies on the effect of noise on sleep. Actually, the influence of 'acoustic pollution' has been investigated by a number of laboratories. It is fairly safe to state that (acoustic) noise, in particular if it is rather intense, non-monotonous, and non-habituating, hinders the process of falling asleep and tends to interrupt sleep. Much less is known about the 'hynophobic' effect of stimulation of other sensory modalities. Furthermore, the temporal structure of our social and professional environment, (as determined, for instance, by particular work-schedules, or fast longitudinal displacements over many time zones), can gravely affect our sleep patterns. And, last but not least, the stress of having to compete in an often hostile educational, professional or political environment, and the pressures of daily life (be they real or imagined) are bound to interfere with normal sleep patterns. The disturbances of sleep, in particular if they continue over longer periods of time, will take their toll on our well-being and on our mental and bodily health. One feels sleepy, one loses drive and motivation, and quantity and quality of performance in our daily tasks will drop. Anxiety is likely to set in.

Odile Benoit of the University Pierre et Marie Curie in Paris, is a well-known investigator in this area of sleep research and she kindly agreed to organize the present multi-author review and invite the series of papers by some of the world's authorities on the impact of the environment on sleep. We are very grateful to Dr. Benoit for having taken on this formidable task.

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