## L-1 Modern Life and Problems on Physiological Anthropology

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There are many features of the present day. One of the most remarkable feature is science and technology. The subjects of the Physiological Anthropology are concerned with the entire spectrum of human life, therefore it is necessary in practice and methodology to apply the modern science and technology for human better life. According to the advance of science, the application field of technology has been changed from power, mechanics to intelligent, and the next stage of application may be Recently many game machines human senses. which offer us virtual experiences are produced for entertainment. These machines may be called sense machines. The technology of virtual experience is important for the advance of interface. The study of virtual reality has been carried out for these ten years mainly in the field of computer engineering, however for the advance of this study, the knowledge of human sense organ, that is, the approach of physiological anthropology is necessary. In this paper, also the problems of aged society which is forecasted certainly in Japan in near future are discussed. It may be considered that the aged society is desirable, because the long life is desired from ancient times in any country. However the functional deteriorating cannot be avoid with age. From the viewpoint of physiological anthropology, the science and technology should be applied for the viewpoint of physiological anthropology, the science and technology should be applied for the aged and handicapped persons. In the future, the importance of the physiological study will increase.

SI-1 Life under the Reverse of the Night and Day: The rectal temperature rhythm and polygraphic sleep in the day time of permanent night workers

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Five permanent night workers and five day time workers were compared with regard to their polygraphic sleep and rectal temperature rhythm. The diurnal pattern of all the day time workers showed that the rectal temperature rhythm was higher during the day, while for all but one of the night workers this diurnal pattern showed multiplication patterns associated with low amplitude. The average rectal temperature was estimated by a leastsquares spectrum method. The most suitable period was circadian in the five day time workers, while it was circasubdian in the five night workers. The sleep of day time for night workers and the sleep of night for the day time workers significantantly differed with respect to total sleep time, sleep efficiency, total st.2 sleep and total REM sleep. However, no significant differencies were observed in slow wave sleep time, sleep latency and REM sleep latency. The resalts in this study suggest that the sleep disturbances found in the permanent night workers seem to be mainly related the changes in rectal temperature rhythm.

## SI-2 Safety Assessment of Sounds Exposed in Daily Human Behaviors

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Sounds have been known, under certain circumstances, to affect human health including the permanent or temporal effects on anditory, neuroendocrine or cardiovascular system or the psychological annoyances directly evoked as well an via behavioral disturbances.

With respect to the main theme of this symposium on Safety Assessment of Human Behaviors, the possibilities of these various kinds of effects on humans in daily life were reviewed especially from the aspects of exposure assessment, which has not been well developed yet, though.

Usual individual exposures to sounds can be