

- 438 The Behavioral Aspects of Safety. R. W. Anderson. *Am. Assn. Ind. Nurses J.* 14, 9-11 (April, 1966).

With the advent of interest in the field of safety and accident prevention, the health professions have been called upon increasingly to make their respective contributions. Initially, most of the responsibility for safety engineering was non-medical. Efforts were primarily directed toward reducing environmental hazards and educating people regarding safety practices. The physician was concerned with treating the injured victim after the accident. Today, however, the prevention of accidents has become a medical concern and physicians are assuming their responsibilities in the field of safety. As medical interest has grown, and as it has become evident that human behavioral factors are involved, psychiatrists, too, have endeavored to make a contribution. About 15% of all accidents appear to be fortuitous events where in the individual concerned has neither conscious nor subconscious control. It might be said that these are truly unavoidable accidents. Another ten to 15% of accidents occur in individuals wherein a permanent personality disorder may be discerned. The remaining 70% of accidents occur in individuals who are experiencing some temporary anxiety at the time of the accident. The anxiety factor is usually vague, ill-defined and related to personal worries or conflicts. The author discusses the ten to 15% group who seem to have the more permanent personality disorders. Studies in the military and in various industries have revealed that a majority of accidents tend to occur in a relatively small group. These small groups are not static, but have new persons moving in and out. The individuals making up the hard core of the accident groups seem to have the more serious, permanent personality disorders. In summary, human emotions are often involved in accidents—either as potentiating or causative factors. An increasing awareness of this fact by physicians, safety engineers and people in the ranks may be extremely useful in the promotion of safety.

- 439 Examination and Selection of Personnel for Work in Underwater Environment. C. F. Aquadro. *J. Occ. Med.* 7, 619-625 (Dec. 1965).

Procedures and criteria for selection of underwater workers have been discussed. For comparative purposes, some considerations in selection of personnel for participation in other specialized programs in the foreign environments of space and the antarctic were presented. Three types of underwater workers were defined; these frequently may have a close interrelation. Nevertheless, the same individual may not necessarily perform well in each role. Past personal and work effectiveness, motivation, and physiological and psychological capacity to perform in a stressful and relatively unknown environment are important factors in determining suitability for successful underwater work. The compatibility and continued effectiveness of the worker as a member of a group or crew is often as important as his individual capabilities. Cohesion of the group, particularly for prolonged periods in restricted quarters, is of considerable importance in effective team performance and successful accomplishment of its mission. There are 20 references.

-- Author's summary

- 440 Oculomotor Activity in Cosmonauts in Orbital Flight. I. T. Akulinichev, M. D. Emel'yanov, and D. G. Maksimov. *Federation Proc.* 25, Part II (Translation Supplement) T31-T33 (Jan. -Feb. 1966).

Electro-oculograms (EOG) were recorded from four Soviet cosmonauts (A. G. Nikolayev, P. R. Popovich, V. F. Bykovskii and V. V. Tereshkova) during orbital space flights. Analysis of the EOG revealed that none of the cosmonauts showed signs of persistently disturbed coordination of eye movements during the three to five days that they were in a state of weightlessness. Transient disturbances (asymmetry of oculomotor reactions and nystagmoid movements) were observed in two cosmonauts. The transient and slight nature of these disturbances pointed to an active process of adaptation to the unusual setting.

-- Authors' conclusions

- 441 The Concept of Susceptibility to Hearing Loss. W. D. Ward. *J. Occ. Med.* 7, 595-607 (Dec. 1965).

Susceptibility to acoustic trauma is a trait distributed normally, not dichotomously. Although a "general susceptibility" to lower-frequency sounds has been demonstrated, this general factor is weak, which implies the existence of several distinct susceptibilities. If susceptibility is to be measured by means of a fatigue test, we must use the same physical stimulus for all observers. The most efficient exposure stimulus is a broad band of noise with considerably more energy in the low frequency than in the high ones. It is not true that equal amounts of temporary threshold shift (TTS) in two persons imply equal susceptibility unless the subjects' resting thresholds at the frequency of the shift are also equal. Nor is it true that the existence of a slight hearing loss necessarily means that the ear is more susceptible than average. The two ears of a given observer may differ substantially in susceptibility, and the susceptibility may vary appreciably from test to test. However, this variability is not subject to control by manipulation of the physiological condition of the employee, as far as we know now. Therefore, the only certain way to reduce loss of hearing from noise is to require ear protection. There are 29 references.

-- Author's summary