

Seventy-Five Years Ago in January 1938

Defining aviation personalities...a foreshadowing? (Captain, Medical Corps, U.S. Army): "Evaluation of an integrate personality does not preclude recognition of the dominant tendencies. The further the deviation is from a socially acceptable normal, the easier the type is recognized. It is in the normal group, that is, in the group of individuals who are intellectually, socially, and financially adequate that difficulty is encountered in expressing the dominant personality traits in words that give a true picture yet do not malign or convey a false degree. To represent a smaller group of normals, but who present a series of characteristics in common, the term 'Egophile' has been chosen.

"The Egophile is primarily an Egoist, but a chain of secondary characteristics is invariably brought to light. Of at least normal intellectual endowment, he sedulously seeks knowledge in one or more fields from motives of self-advancement, until his attainments are real. Secondary position is intolerable, and no effort is too great to avoid such a position. Memory is exact; recitation and recollection are tedious in detail. However, some paramnesia is indulged in to cover episodes derogatory to the ego. Close friendships are avoided, though the circle of acquaintance is large and employed to the individual's benefit. That close friends are not made is due to a constant and barricading sense of mistrust and unsureness as to the motives of the individual cultivated. The Egophile trusts only himself, his own abilities, and his own counsel. And, when by performance or committed acts, he falls in his own esteem, a complex is born. He is complex ridden and for this reason may give vent to some bizarreness of conduct. These complexes, by the strong emotional nature of the Egophile, are particularly dynamic, and complex indicators are numerous. If he fails to progress satisfactorily, he becomes more and more suspicious of the presence of some outside influence, even to a point of systematizing to excuse his failure. His sex life is troublesome, unsatisfactory, and unsatisfying, because he is always striving for the ultimate. Unnatural sex practices, for this reason, are toyed with, and in themselves become additional complexes. Alcohol is not necessary, as he takes to sublimation and projection for problem solving; but if indulged in, it often brings out a disagreeable, intolerant, cantankerous, and elementary asocial disposition.

"In all, these individuals form a definite problem for the Flight Surgeon of an Air Corps post. While few in number, their outspoken nature, suspicious and antagonistic attitude, and domestic difficulties keep them under the official eye. While their performance is always satisfactory or better, their poor temperamental assimilability should influence the Flight Surgeon to weigh an applicant for training who exhibits these trends most carefully, and not to be too strongly influenced by his accomplishments. The Egophile represents a mild but definite psychological arrest of development as [sic] the Narcissistic level. That he is not a Constitutional Psychopathic State is demonstrated by his complete adjustment at a high level, and his fully recognized duty to the social group" (3).

Fifty Years Ago in January 1963

Obesity could be an issue in aviation (RCAF-Air Defence Command, Ottawa, Canada): "Obesity is like fatigue: everyone knows what it is, but, no one can define it. One generation finds obesity pleasing; another finds aesthetic pleasure in slenderness. In many countries which have low food productions and low income the fat man is revered; he has more than enough to keep from starving, therefore he is healthy, wealthy and wise.

"In our society, to quote Ancel Keys, 'it is widely believed that obesity is the bodily evidence of self indulgence, hence at least faintly immoral and inviting retribution. Conversely, the reduction of obesity and the avoidance of the temptation of gluttony implies self-denial which ought to bring rewards, appropriately including good health. This moral attitude is reinforced by aesthetic considerations; obesity is unsightly...

"We submit that obesity and overweight from a 'standard' table have little or no relationship. The belief that overweight has a relationship to dysbarism does not seem to be borne out by some careful studies. Pathologists in describing cases of fatal dysbarism appear to have been somewhat lax in defining the term 'obesity.' The apparent association of obesity and fatal dysbarism does not seem to be proven but this

association has been eagerly pounced upon, and forceable [sic] reduction of weight has been practiced on aircrew. The dangers of fat embolism would seem to be enhanced by a reduced, inadequate dietary regime as practiced by many individuals. The relationship of alcohol consumption and dysbarism should be investigated, these two factors may well be correlated. We most strongly suggest that pathologists define obesity for us in terms of adipose organ fat and fat infiltration of other tissues. It has not been possible for those looking at the outside of the body to produce a definition. The pathologist, with the whole body and the history of the subject, is better equipped to provide the answer" (4).

Twenty-Five Years Ago in January 1988

Combating that old nemesis G (Crew Technology Division, USAF School of Aerospace Medicine, Brooks Air Force Base, TX): "Maintaining vision and consciousness at high sustained +Gz requires a total body effort for most people, and is very fatiguing. Currently, the only pieces of operational G-protective equipment are the anti-G suit and anti-G valve which provide relaxed G-tolerance protection to about 5.5 G. Protection above 5.5 G requires the anti-G straining maneuver (AGSM). Assisted positive pressure breathing (APPB) has been shown to augment sustained +Gz tolerance and reduce the amount of straining necessary to maintain a specific +Gz level. Moreover the supinating seat has been shown to double relaxed G tolerance at a back angle of 75° from the vertical when compared to relaxed tolerance at a 13° or 30° position. Problems of cockpit engineering, escape, head-rest angle, restricted rear visibility, and pilot acceptance of a high angle supinated seat may preclude the use of a seat with sufficient back angle to provide 'no strain' G protection. Thus, the addition of APPB to a limited protective seat may provide adequate and acceptable G tolerance" (1).

Aviation can learn from race cars (Wright State University, Department of Community Medicine, Dayton, OH): "General aviation crashworthiness can potentially benefit from certain advances being accomplished by the automobile industry. Progressive improvements in crash protection technology, as documented by a dramatic reduction in crash injuries and fatalities at the Indianapolis Motor Speedway, reflect improved crashworthiness. The speeds of survivable general aviation aircraft impacts are in the range of the Indianapolis Motor Speedway crashes (200-220 mph). This paper relates the declining crash death rates at Indy by decade versus the increase in speeds. The continuous rise in speeds has prompted the development of new crashworthy designs and driver protection equipment. Crashworthiness improvements include crushable surrounding structures, high-grade restraint systems, protective head gear, fire resistant clothing, break-away structural components, and a 'protective cocoon' concept. Adaptation of selected advances in crashworthiness design and operations accomplished at the Indianapolis Motor Speedway to the next generation of general aviation aircraft should provide significant dividends in survival of air crashes" (2).

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