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## A PRELIMINARY REPORT OF KAYAK-ANGST AMONG THE ESKIMO OF WEST GREENLAND: A STUDY IN SENSORY DEPRIVATION\*

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RECENT years have seen the development of considerable research interest in the effects of drastic situations of temporary isolation and sensory deprivation in altering the previous and characteristic functioning of normal human behaviour. Human experiments initiated in the past decade at McGill University were developed in response to the need for understanding the dynamics of "brainwashing" in prisoners of war, as well as for the poor work performance of persons engaged in monotonous and repetitive tasks in certain military situations. Today, new social, military and technological considerations have prompted continued research. Space travel and indefinite bomb shelter confinement are two of the more serious among a number of contemporary problems calling for added knowledge concerning the impact on human functioning of exposure to lowered or minimally stimulating environments.

To the growing body of experimental and clinical data there exists an older literature of naturalistic reports and self-observations of lost explorers, prisoners in solitary, self-exiled mystics and ship-wrecked crews. Unrelated in other respects there is common ground between the experiences of these two groups. For both, the experience is culturally atypical, subjects and victims alike are predominantly of West European ancestry or origin and both report similarities in their changed psychic and somatic functioning during isolation and deprivation. Alterations in behaviour include cognitive and motor performance deterioration, perceptual distortions, somatic complaints, gross disturbances in feeling states and the occurrence of vivid imagery, sometimes in the form of bizarre delusions and hallucinations.

Sensory deprivation experiences and isolation phenomena belong to the broader field of environmental stress and, as such, research in this area is of importance to the anthropologist concerned with mental disorder. In one form or another sensory deprivation is a universal experience. It is present in such diverse events as research experiments, sleep, vision experiences, "highway hypnosis" and kayak-angst. Sensory deprivation and isolation may be culturally required, recommended, unavoidable or even individually sought out. Reactions are variable and are dependent upon the interplay of a number of factors. Experiences may be occupationally linked, as in the confused and disoriented reactions reported by aviators flying solo or in positions cut off from the rest of the crew. Creative people who seek out retreats in order to work more efficiently and productively, as well as persons on the couch in psychoanalytic treatment are also experiencing sensory deprivation, though in a mild form.

Generally speaking, however, severe and repeated experiences are probably atypical for most members of society. Frequent and mild, as well as severe but infrequent ones, are more common.

\* An earlier version of this paper was read at the Annual Meeting of the American Anthropological Association, November, 1961.

In kayak-angst the Eskimo of West Greenland provide us with an instance of a group where severe sensory deprivation reactions are culturally typical for the adult male segment of the population and forms a part of their routinized, seasonal, if not everyday, round of life.

#### BACKGROUND

Kayak-angst (kayak-phobia, kayak-dizziness) is well known throughout all districts of West Greenland. It is also known to occur among the Polar Eskimo and in East Greenland, though an intensive search of the literature, extensive correspondence, and interviews with eastern Canadian Eskimos has failed so far to document it for other Eskimo groups. Kayak-angst is scarcely mentioned in English written accounts, with the exception of brief references in Freuchen, Birket-Smith and a few others. On the other hand there is a considerable body of material in the Scandinavian languages, much of it gathered by Danish physicians. The condition was reported as early as 1806\* and in 1949 Dr. Av M Ch. Ehrstrom<sup>(7)</sup> diagnosed 24 cases in one of the northern districts. Kenneth I. Taylor, a student of anthropology with considerable kayak experience informs me (private communication) that as recently as 1959 he met three such individuals in Northwest Greenland. In 1900, Meldorf<sup>(16)</sup> estimated that 10% of all men in the Julianhaab district over the age of 18 suffered from kayak-angst. Others<sup>(17)</sup> have regarded it as the "national disease" of the West Greenland Eskimo.

Material for the present paper is based on an analysis of 13 cases out of the 60 kayak-angst individuals medically examined and interviewed by Bertelsen<sup>(3)</sup> in 1905.

#### KAYAK-ANGST SYNDROME

Typically, kayak-angst afflicts male hunters out alone on a calm, "mirroring" slightly wavy sea or lake, close to or at a distance from shore, either while paddling or sitting quietly. Under these conditions of sea, and especially with the sun directly overhead or in his eyes, there develops a lowering in the level of consciousness brought on by the absence of external reference points at a time when the hunter is involved in a visually "fixed" or staring position demanding minimal or repetitive movements. A lesser number report they are equally affected in storms, windy or rough weather. Some claim not to have attacks when in the company of others and consequently will never hunt alone. A few report attacks when others are around, though claim they are less severe at this time. On the other hand some report that the presence of others increases their anxiety. One man was afraid their kayaks might collide, particularly in storms. Another said he felt at ease only in the company of men he trusted.

From present cases it is not clear how much time must elapse before the onset of symptoms. Some report anxiety on entering a kayak. One man stated all he had to do was think about it and he became upset. Ehrstrom<sup>(8)</sup> cites a case of a hunter who wet his trousers each time he set foot in a kayak. In some experimental situations<sup>(12)</sup> the onset of hallucinatory perceptions is 20 minutes. Among aviators<sup>(2)</sup> symptom appearance varies from three-quarters of an hour to 2 hours and 20 minutes after the beginning of the flight.

\* (Cited in Reference 22).

The first stage of the attack is marked by perceptual and cognitive distortions leading to an initial sense of confusion and dizziness. There is impaired judgment in estimating distances between surrounding objects. The bow of the kayak may appear blurred, far away or is seen as a double image. "Spots" appear before the eyes and the hunter may feel the kayak is unbalanced. Sweating, tickling, trembling, hot and cold sensations follow or are concurrent with initial distortions. The desire to move and squirm is counterindicated by the hunter's fear of excessive movement. Instead he sits more quietly than before and stares straight ahead in an effort at self-control. Cold sensations in the lower regions of the body represent the beginning of the delusion that the kayak is flooding with water. The thought is so convincing that hunters are surprised to discover on getting to shore that the kayak is dry. Some arrest the delusion by testing for the presence of water, while others are afraid if they move they will capsize. Various methods for breaking the trance are employed. Some row slowly away to shore, increasing their speed as their confidence builds up. Others employ their harpoon or paddle in an out-rigger style to achieve transverse stability, while some may break the glassy surface of the water. Efforts of this kind are sometimes sufficient to bring the attack under control. There are times, however, when the attack continues, anxiety is increased, paralysis ensues and distortions mount to the state of active delusions. The hunter's confidence in his ability to manage a kayak is very low at this time. Though many are ordinarily able to upright themselves after capsizing—some can achieve this with their hands alone, in fact there are 10 to 14 different ways of getting to an even keel after tipping—most hunters express fear they will drown if they capsize at this time. "Mounting" and "narrowing" sensations, that the front end of the kayak is growing in height, rising out of the water or becoming narrower and sinking at one end or the other may appear now. A more advanced stage includes conversion features and delusory ideation. Most often paralysis involves the arms alone, though one man said he could not move his entire body. Others report the kayak is too heavy to row. Some fear being attacked from beneath or behind. One hunter reported the image of a big, flat, black animal moving around his kayak.

The major phase of the attack generally terminates on reaching land or with the arrival of help. Some are able to paddle to shore themselves once help has arrived, others require active assistance. Terminal headaches, sometimes lasting a couple of days, an immediate urge to micturate, defecate, as well as nausea are common after-complaints. There is no loss of consciousness. Attacks are recurrent for most, some report them every time they go out, others have them less frequently. In a number of instances men have had to give up kayaking.

There is evidence that fatigue and emotionally upsetting experiences increase vulnerability. Seven of the present thirteen cases report that their initial attack or increases in frequency or intensity of attacks followed such experiences, the most common being either assisting an individual during a seizure or coming upon a drowned hunter.

Though major symptoms abate on removing the immediate cause, for many the experience has long-standing consequences. Men report an increase in their general level of anxiety following an attack, activating in some instances

specific fears and worries. Some fear their children will come to harm while they are away, others report becoming "stiff" on hearing unexpected or sudden sounds or became frightened when dogs come running their way. Kayak-angst individuals are generally also prone to "mountain dizziness", some reporting loss of consciousness at heights. One man had attacks in crafts other than kayaks, presumably in boats where others were present or where the opportunity for moving around existed.

Kayak-angst is not restricted to Eskimos. Europeans with kayaking experience report similar reactions. Dr. A. E. Porsild, Chief Botanist, National Museum of Canada writes (personal communication): "I myself experienced the phenomenon under such conditions—calm sea, glassy water—both in a kayak and in a small canoe, most often in fresh water lakes where the water was so clear and transparent that the bottom was visible; this gave me the impression of being 'suspended' with nothing to support or steady me. The feeling, I think, is very similar to 'mountain dizziness', which I have occasionally experienced. In each case I was able to overcome the momentary panicky condition by will-power and reasoning. When on water I found that 'breaking' the glassy surface of the water was all that was needed." Others, including Mr. John Heath, (personal communication) a mechanical engineer and a serious student of kayak construction and Peter Freuchen<sup>(9)</sup> report similar experiences.

#### RESPONSE VARIATIONS TO ISOLATION AND SENSORY DEPRIVATION

The naturalistic literature<sup>(15)</sup> and experimental data<sup>(20)</sup> of persons exposed to a variety of isolating and sensory depriving experiences indicates that, while some degree of psychophysiological disequilibrium often occurs and conceivably may happen to a range of persons cross-cutting culture and background, reactions are variable and are dependent upon a number of considerations and factors. In fact, Gladwin<sup>(10)</sup> cites the Truk as an example of a people who despite long sea voyages where crews become lost, suffering all the privations of stress and isolation, do not, with the possible exception of some toxic hallucinations, succumb to the hallucinatory reactions and schizophrenic-like symptoms noted for many West Europeans who have been isolated in polar regions and on small boats at sea. Emotional shallowness, the lack of a clearly formulated concern for self or the future and the psychological unimportance of time are factors to which Gladwin calls attention as helping the Truk withstand the despair of being lost. Between the Truk and the experiences of many Europeans there are a number of differences, which in addition to the factors mentioned by Gladwin, would bear on the different outcomes. Some previous experience under the same or equivalent situations and knowing something of what to expect (predictability) as well as knowing what to do and not do represent two important sets of differences between the Truk and most Europeans to whom this type of experience is atypical. Another factor (which Gladwin mentions briefly) lies in the relationship among crew members. In Truk the general pattern is to form boat crews around close relatives. "This aids in the assignment of roles in routine operations and also contributes to the control of disruptive emotional forces in time of crisis". Where a group of more-or-less strangers (at least strangers under stress, as is the case with many European examples) are suddenly thrown together, some time is required before a functioning small group society can be expected to emerge. Here time is of the essence for, as the literature shows,

giving in to symptoms during the initial phase of the stress experience is one of the most important factors in the failure to survive. The importance of a functioning system of controls in abetting small group survival probably cannot be overemphasized. In this connection the successful small boat voyage under the disciplined command of Captain William Bligh of 18 sailors to the island of Timor after the mutiny aboard H.M.S. The Bounty, a distance of 4,000 miles, immediately comes to mind.

People alone are in a different and more difficult position. Again, however, survival is often abetted by previous experience and in possessing the psychological capacity to fight off initial disrupting symptoms. Lilly<sup>(15)</sup> finds two types of hallucinations present among solitary and pairs of European sailors: a "saviour" type whose inner conviction of survival is thoroughly projected, and a "destroyer" type. The latter, convinced of ultimate disaster and so completely upset by the experience attempt to implement destruction by engaging in suicidal or homicidal behaviour.

One of the characteristics of kayak-angst is its cultural familiarity. In this respect the Eskimo differ from all others facing a similar or equivalent experience for the first time or who have only been exposed infrequently. Among those who are exposed to repeated experiences the Eskimo may be best compared to jet pilots, the majority of which are able to overcome their reactions or appreciably reduce their anxiety once the experience has been explained to them.<sup>(2)</sup> Among the Eskimo, despite its cultural familiarity, predictability and prior exposure, kayak-angst reactions persist in most cases, increase in intensity and/or frequency and terminate only in drowning or in the need to abandon hunting altogether. Defensive strategies are limited; are mainly in the nature of rescue operations and essentially afford little relief.

The Eskimo tendency to "give up" in the face of the psychophysiological, but familiar kayak-angst-producing environment, is paralleled by similar responses to other circumstances and events also perceived by the Eskimo as intensely stressful. Here, we are postulating that one general type of Eskimo response and adaptation to stress is characterized by withdrawal, a condition which signalizes psychological retreat in the face of external reality. What seems to occur is an exhaustion of inner resources and, at times, an incapacity to utilize available defences (cultural, psychological, technological) in dealing with the outside threat.

There are many factors in Eskimo life and culture which deserve examination in terms of this tendency to withdraw. In the present paper we will examine only some and hint at others. All formulations are tentative.

#### CULTURE, STRESS AND KAYAK-ANGST

The first stress situation to be examined is Eskimo suicide. Suicide represents a total withdrawal from an existing state of being. Stress or pressure to unalterably change one's existing state is implicit wherever suicidal behaviour results.

Asen Balikci,<sup>(1)</sup> a Canadian anthropologist with field experience among the remaining primitive Canadian Eskimo, has recently published an analysis of suicidal behaviour among the Netsilik Eskimo which is of considerable interest and importance. During field trips in 1959 and 1960 at Pelly Bay, District of Keewatin, Balikci collected data on 50 cases of suicidal attempts, successful

and unsuccessful, distributed over the past 50 years. Of the fifty, 35 represent successful efforts, 4 attempted suicide, the remaining 11 seriously expressed their intentions of killing themselves. The Pelly Bay suicide rate is more than 30 times that of the 15.6 per 100,000 living in the United States during 1930, a figure considered by Dublin and Bunzel as occupying a middle position among the rates for countries for which records are available. Though it is difficult to make direct comparisons, as Balikci is aware, these figures do indicate a high rate of suicide in this region. The suicide rate for this area, however, is less important than the main motives for suicide as provided by informants. Of the 50 cases about 20 individuals reached the decision to commit suicide following a disaster to a near relative, usually a descendant. Sixteen others took their lives as a result of a disaster occurring to themselves, usually some form of illness. In six cases the decision was reached as a result of marital difficulties. Informants were specific that only four persons took their lives as a direct result of uselessness due to old age. The motives ascribed for suicide, plus the ages of the individuals involved—one ten-year-old boy, five young adults between 15 and 20, 24 adults from 20 to 55 years of age, six individuals over 55 and under 60, the remainder over 60—makes these cases generally inexplicable in terms of the three factors classically considered responsible for Eskimo suicide, namely, ecology, Eskimo conceptions of life and death and religion.

What the present cases do reveal, however, is the tendency for suicide to be contemplated at points in an individual's life when his actual or perceived relatedness to significant others is terminated. This accounts for the large number of suicides among ostensibly physically healthy young and adult people following upon the death of a member of their immediate family. In the loosely organized Netsilik society (true also for a number of other Eskimo groups), the nuclear family is the single most important domestic unit and when members of this group die there are not always ready substitutes at hand. This does not mean to say the individual is now alone. It does mean to say, however, that survival may now be somewhat less certain and secure where one has to depend upon other social groupings. It is in this connection that male difficulties in relation to women become stressful. To be without a wife or uncertain about retaining her may disrupt the nuclear family or prevent one from developing. A number of writers<sup>(4, 18, 21)</sup> note that fights over women represent one of the main motives for male homicide. Suicide, it would appear, represents an alternative response.

Self-withdrawal, either in the form of *qivigtog* behaviour (becoming a hermit) or suicide, may follow not only where there has been actual loss by death of significant others, but also where the community indicates to the individual that his continued participation in the group is undesired, that is, where they withdraw their relationship to him. This may take a number of forms. In a case cited by Freuchen<sup>(9)</sup> a young man became a hermit as a result of the following sequence of events: he openly expressed his emotional discomfort at being separated from his wife while away hunting. For this he was severely ridiculed by other men who told him "either to stay at home and sew and care for the lamps or employ his mouth for the talk of men". However, he persisted, and another hunter, on losing his own wife, thought it would be amusing to take this woman away from him and see if he would fight for her. The group dissuaded a fight, preferring not to risk the life of the experienced hunter for the young

man. He was told if he wanted her back to try other means. "Instead, he did nothing but sit upon a stone for three days and cry like a baby. Even his wife said to the other women that he had left his dignity behind . . . When the young man saw her laugh and chide him for his weaknesses, he determined to live no longer with his people; he went inland and became a *qivitoq*—a ghost who may never return home". Rasmussen<sup>(19)</sup> cites a case where verbal rejection of a foster-son by his foster-father culminated in the immediate suicide of the young man. The young man was upbraided by his foster-father as follows: "I wish you were dead! You are not worth the food you eat. And the young man took the words so deeply to heart that he declared he would not eat again. To make his suffering as brief as possible the same night he lay down stark naked in the bare snow and was frozen to death". De Poncins<sup>(6)</sup> cites an instance of suicide in an older man immediately following pointed criticism by some of the younger hunters of his ineffectual hunting ability.

The psychophysiological disequilibrium that characterizes kayak-angst may be compared to an episodic illness. Eskimo theories, concepts of illness and treatment procedures are unelaborated. Traditionally, illness is seen as resulting from one or two major causes: the loss of soul or the intrusion of a foreign object. The fragility of traditional Eskimo medical systems may be seen in the relative ease with which Western medicine has been adopted in areas of acculturation. In her monograph on folk-medicines in the Lower Kuskokwim River and Nunivak-Nelson Island areas of Alaska, Lantis<sup>(14)</sup> notes: "The new medicine—modern rational medicine, professionally administered—has been accepted remarkably well, especially in view of the Kuskokwim Eskimos' resentment against the Whites for bringing devastating new diseases. . . . There was neither an organized system of ideas as a basis for doctoring nor an organized profession of curers to oppose the new practitioners and their germ theory". Among the Northern Alaskan Eskimo, Norman A. Chance<sup>(5)</sup> notes that the "lack of a traditional medical system was even more pronounced. In this area particularly, emphasis has always been placed on keeping well rather than on getting well".

In the face of limited medical therapy, keeping well is an important component of the value of self-reliance and a necessary prerequisite for survival. Beyond this, Eskimo concepts of the adult ideal enjoin the individual from giving direct verbal expression to feelings of discomfort. In the face of this cultural injunction, other modes of expression, symbolic and indirect, are resorted to when inner pressures become intense. In a previous publication, I<sup>(11)</sup> analyzed *pibloktoq* behaviour as an expression of control over, denial of, and compensation for, feelings of anxiety, helplessness and pain which the individual experiences during trauma but which he also feels he must publicly deny. Chance,<sup>(5)</sup> in the study cited, administered the Cornell Medical Index to a small, isolated group of Alaskan Eskimos living along the Arctic coast and found that expressions of anxiety which might reflect a lack of self-reliance are repressed. "The comment, 'I was worried', is a confession made only to close friends and is frequently followed by a qualifying phrase, 'But I didn't show it.'" Under acculturation the behaviour "but I didn't show it" may easily become a medical liability. At the Mountain Sanatorium, a tubercular institution at Hamilton, Canada, where in 1959 nearly 200 eastern Arctic Eskimos were under treatment, I learned how infrequently Eskimo patients will complain of hurting. While this made them, in the eyes of the personnel, "ideal" patients,



the staff, nevertheless, was alerted that if a patient complained of pain "anywhere, take him seriously for he might be dying".

Let us now return to kayak-angst. On the basis of the naturalistic literature, experimental data and kayaking experience of Europeans, some degree of psychophysiological disequilibrium may be expected to occur under the type of physical environment and conditions described in this paper. The progressive nature of Eskimo reactions, especially in view of their familiarity with the condition and their repeated exposure, seems outstanding. Further, there is no indication that kayak-angst is peculiar to young and inexperienced men or those suffering from any noticeable defects. On the contrary, present cases are all described as skilled and otherwise healthy hunters. The 1900 figure of 10% affliction of all men over 18 in the Julianhaab district may well be underestimated, as both Meldorf and Freuchen comment on the Eskimo reluctance to talk about kayak-angst.

In so far as kayak-angst reactions represent a "giving into" symptoms, this is consonant with the more general Eskimo pattern of withdrawing, or self-removal, in the face of specific types of stress. During kayak-angst the hunter experiences disequilibrium at a time when he is alone and in a dangerous setting. Eskimo "fatalism" in the face of illness, keeping feelings of pain and fear to oneself, responses to "nonrelatedness", and the absence of any reassuring explanation or theory of what is happening are factors which suggest themselves as compounding and exacerbating the condition. This analysis would be helped immeasurably if we knew how the group and the individual evaluated the victim. Perhaps additional data will clarify this point. There are no present-day figures for kayak-angst, though we know the condition continues. Increased opportunities for occupation conversion and the lesser use presently being made of the kayak are factors which will decrease its incidence. The factors cited in this paper as compounding Eskimo reactions in kayaks may not be the only ones, nor may they be the necessary ones. However, at this point they seem significant.

#### SUMMARY

Among the Eskimo kayak hunting under specific conditions of sea and weather represents a sensory deprivation and isolation environment. In the absence of external reference points at a time when the solitary hunter is involved in a visually "fixed" or staring position demanding minimal or repetitive body movements there develops in the kayakman a lowering in the level of consciousness. The psychophysiological disequilibrium that follows is not unique to the Eskimo. It can occur in a variety of persons under similar or equivalent conditions. The severity of Eskimo responses appear as outstanding, especially in view of their familiarity with the experience and their repeated exposure. Drowning or giving up hunting are the only effective alternatives to the unremitting anxiety and symptoms. The present paper examines kayak-angst reactions in terms of the more general Eskimo tendency to withdraw in the face of specific types of stress. Responses to illness, keeping feelings of pain, discomfort and fear to oneself (the double-edge nature of individual self-reliance), "nonrelatedness", and the absence of an adequate theory or explanation of what is happening (limited medical system or defensive strategies), suggest themselves as cultural factors exacerbating the condition.

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