LONG TERM PSYCHOLOGICAL AND PHYSICAL EFFECTS OF THE POW EXPERIENCE: A REVIEW OF THE LITERATURE

Julius Segal

Naval Health Research Center

Prepared for:

Office of the Surgeon General (Army)

January 1974

LONG-TERM PSYCHOLOGICAL AND PHYSICAL EFFECTS OF THE POW EXPERIENCE: A REVIEW OF THE LITERATURE

J. SEGAL

REPORT NO. 74-2

NAVAL HEALTH RESEARCH CENTER

SAN DIEGO, CALIFORNIA 92152

BUREAU OF MEDICINE AND SURGERY DEPARTMENT OF THE NAVY

WASHINGTON, D.C. 20390

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1 REPORT NUMBER 74-2	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4 TITLE (and Subtitle) Long term psychological and physical effects of the POW Experience: A review of the literature.		5. TYPE OF REPORT & PERIOD COVERED Interim 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Julius Segal		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Center for Prisoner of War Studies Navy Medical Neuropsychiatric Research Unit San Diego, CA 92152		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS Navy 18-4 [illegible] Army 7401
11. CONTROLLING OFFICE NAME AND ADDRESS Bureau of Medicine and Surgery Dept. of the Navy, Washington, DC 20372		12. REPORT DATE January 1974 13. NUMBER OF PAGES [illegible]
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) Office of the Surgeon General Department of the Army Washington, DC 20314		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Psychological effects	Incarceration	Aggression
Physical effects	Survivors	Psychosomatic symptoms
Concentration camp	Psychopathology	Adaptation
Prisoners of war	Psychiatric symptoms	
Stress	Depression	

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The problem of what psychological and physical effects can be expected to remain or to appear over time as a result of the captivity experience is addressed. A review of the existing literature is presented in order to delineate the major findings which seem to be relevant in dealing with the long-term effects to be expected among prisoners of war returned from Southeast Asia. The cumulative weight of the findings, largely gathered from existing follow-up studies of concentration camp survivors, indicated that

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-014-6601

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

the extraordinary stresses of incarceration are related to a heightened vulnerability to physical and psychological problems over time. The need for more comprehensive and definitive long-term, follow-up studies of former U. S. prisoner populations is discussed.

LONG-TERM PSYCHOLOGICAL AND PHYSICAL EFFECTS OF THE POW EXPERIENCE: A REVIEW OF THE LITERATURE

JULIUS SEGAL, PH.D.*

CENTER FOR POW STUDIES
NAVAL HEALTH RESEARCH CENTER
SAN DIEGO, CALIFORNIA

Report No. 74-2, supported by the Department of the Navy under work request No. 18-4-0005 dated 29 June 1973 and by the Department of the Army under Military Interdepartmental Purchase request no. 7401, dated 17 August 1973. Opinions expressed are those of the author and are not to be construed as official or as necessarily reflecting the official views or endorsements of the Departments of the Army and the Navy.

*Dr. Segal is a member of the staff of the National Institute of Mental Health and is serving as a consultant and writer on literature review projects undertaken by the Center for POW Studies.

LONG-TERM PSYCHOLOGICAL AND PHYSICAL EFFECTS OF THE POW EXPERIENCE:

A REVIEW OF THE LITERATURE

ABSTRACT: The problem of what psychological and physical effects can be expected to remain or to appear over time as a result of a prolonged captivity experience is addressed. A review of the existing literature is presented to delineate major findings which appear relevant in dealing with the long-term effects to be expected among prisoners of war returned from Southeast Asia. The cumulative weight of the findings, largely gathered from existing follow-up studies of concentration camp survivors, indicated that the extraordinary stresses of incarceration are related to a heightened vulnerability to physical and psychological problems over time. The need for more comprehensive and definitive long-term follow-up studies of former United States prisoner of war populations is discussed.

Although the medical and psychological literature includes a variety of studies designed to assess prison populations soon after their release, considerably fewer follow-up studies of former prisoners of war (POWs) have been completed. Like any long-term, longitudinal studies, such analyses are not only difficult to accomplish technically, but they are costly in terms both of time and money. Nevertheless, despite the relative paucity of available data, it is important to focus on the issue of long-term effects - an issue that, in human terms, is as important as any that now surrounds the POWs returned from captivity in Southeast Asia. The problem may be simply stated: *What psychological and physical effects can be expected to remain or to appear over time as a result of the captivity experience?*

Although the focused public attention given the status of the American POW has continued for a time immediately after their return, it is questionable whether the years following repatriation will be marked by comparably intense attitudes. Indeed, it is not unlikely that the men, recently so much the cente:

of the Nation's consciousness, will soon lose their identity as POWs. It is important now, therefore, to consider the potential sequelae of their experience, and thus to anticipate potential treatment and rehabilitation needs over time.

This paper is not intended as a fully comprehensive theoretical review of the effects, both physical and psychological, of any and all incarceration experiences. Its focus is more specific: the review is intended to incorporate from the existing literature those major and typical findings which appear to be relevant in dealing with long-term effects to be expected among prisoners of war returned from Southeast Asia. The references utilized may not be complete, therefore, by standards other than those suggested by the circumscribed focus of this paper.

The Distinction Between Physical and Psychological Stresses

In considering both the short- and long-term effects of incarceration, it must be acknowledged at the outset that the dichotomy drawn by many between physical and psychological phenomena is often an arbitrary one. Contemporary concepts of human behavior are based increasingly on the awareness that earlier distinctions between body and mind - between soma and psyche - are of little practical relevance. A given psychological stress, such as the overhanging threat of death, may result in either psychological or physical symptoms (for example, either anxiety or hypertension), or both. Similarly, physical stresses such as hunger or beatings may result not only in physical complaints such as weakness and weight loss, but also in psychological problems such as depression and apathy.

The issue of body-mind relationships is not raised here simply in academic, theoretical terms. It is instructive that even today, well over a quarter century after their occurrence, the experiences of physical and psychological abuse suffered by concentration camp victims are not uniformly interpreted by investigators studying the results of that episode. There are those who view the lingering symptoms seen today among concentration camp survivors as the result primarily of physical trauma, while others discount the effects of tissue damage, and emphasize instead the psychodynamics of the concentration camp experience.

The difference in emphasis is perhaps best characterized in the writings of two leading students of the impact of concentration camp experiences. Eitinger (1961, 1962) points out that physical trauma such as beatings around the head may result in long-term symptoms of a primarily psychological nature. For Chodoff, (1963, 1970) on the other hand, the long-term symptoms seen among survivors of incarceration are readily explained as a result of psychological stresses; he does not subscribe readily to the notion that the persistent complaints among concentration camp survivors can be traced primarily to the organic brain disease which followed upon the illness, injury, and maltreatment incurred during internment. Chodoff contends that central nervous system trauma, while relatively important in some cases, were not crucial overall, and that the chronicity of symptoms over time are more dependent on psychological than on organic factors.

Such distinctions, while of interest, do not in any case carry practical relevance. Modern concepts of treatment assume the importance of addressing the whole man in his functioning environment, irrespective of the weight given to the physical or psychological origins of stress, or of resulting symptoms. For this reason, therefore, although they are treated separately in the text, no arbitrary distinctions are to be inferred here between physical and psychological dimensions of the former prisoner's adjustment problems. Both the stresses endured and the resulting symptoms and behavior are seen along a single dimension in which somatic and psychodynamic factors are intertwined.

The Isolation of Cause and Effect Relationships

In assessing the effects of massive trauma such as those accompanying long-term incarceration, it becomes natural to think primarily in terms of a one-to-one relationship between a specific trauma on the one hand, and all of the sequelae which can be ascribed to it on the other. It must be kept in mind, however, that few cause-and-effect relationships may be isolated in such simple terms. The long-term effects of any stress very likely depend not only on the stress itself, but on a host of predisposing factors as well as on the myriad events that follow.

Chodoff, (1963), for example, argues persuasively that, although there can be no doubt that the primary cause of symptoms among concentration camp survivors is the "multiple, massive emotional and physical stress to which the prisoners were exposed during internment," nevertheless these stresses alone cannot account for the origins and the course of delayed or added symptoms, or of the persistence of symptoms in many cases in spite of the passage of time and infinitely more favorable circumstances.

Meerloo, (1969), also points out the often unique quality of the response of a particular prisoner to a given stimulus. He suggests that often, a shattering catastrophe may have little effect on body and mind and is adequately warded off by the organism. At other times, a minor trauma may disturb a newly acquired equilibrium of existence. The result, he argues, depends on the sensitivity and receptivity for trauma at that precise moment, although hereditarily diminished capacity for tolerance to stress does play a role.

At least one group of investigators (Antonovsky et al., 1971) believe that the extensive literature on prison survivors is largely incapable of confronting the question of cause and effect. Even when not based only on a small number of patients in psychiatric treatment, most papers on concentration camp survivors, for example, deal with select populations. Moreover, it is seldom that survivors are compared to appropriate controls. Thus, there is no clear-cut avenue for answering the central question: To what extent do maladaptation and malfunctioning characterize survivors of the prolonged stress of incarceration, and to what extent do we find successful adaptation among such persons? Existing answers to this question are, at best, imperfect, and therefore inferences for intervention must be regarded as tenuous.

The Generalization of Findings from Studies of Concentration Camp Survivors

The major source of data describing the long-term effects of incarceration experiences is embodied in a host of follow-up studies of the survivors of concentration camps during World War II. It should be clearly noted at the outset, therefore, that analogies drawn between those experiences and the experiences of American prisoners of war are often tenuous. Even a cursory appraisal of the trauma to which concentration camp victims were subjected leads to the conclusion that here was an episode fairly unique in the annals of human

history. The stresses of the Nazi concentration camp bore a quality of horror and perverse brutality that is virtually unmatched even in the most horrendous conditions of military captivity.

Hocking points out (Hocking, 1970) that the Nazi concentration camps in Germany, Poland and other parts of occupied Eastern Europe - probably constituted one of the most extreme and prolonged stresses to which any large group of individuals has ever been subjected. It is a matter of clinical record that concentration camp prisoners were the victims of a brand of physical brutality, mistreatment and torture unique in scope, intensity, and duration. It is also a fairly safe inference that the psychological trauma they suffered were unique as well. The decimation of family and friends, for example, constitutes a stress more potent than, or at least psychodynamically different from, that endured by the prisoner of war totally removed from a family that does not share his world of danger and privation.

Niederland (1965) provides a number of graphic case histories to support the notion that the concentration camp experience finds no parallel in more "traditional" prison experiences. "In examining and evaluating hundreds of survivors of this kind of persecution over the years," he writes, "I have become aware again and again of my own incapacity to imagine, much less to comprehend fully the true nature of the experience." Niederland proceeds to summarize briefly the elements of that massive trauma. "It should be recalled that the concentration camp was an elaborate and gigantic machine created for the purpose of destroying human lives. With Jewish victims, this was achieved either outright and by direct means (shooting, gassing, incinerating, in certain cases by so-called scientific experimenting, drowning, burying alive) or, with people deemed utilizable for the German war effort, by starvation, forced labor, maltreatment, and physical and mental degradation. Only the technical approach varied; the aim was unmistakable and final: extinction (Niederland, 1965)."

The uniqueness of the concentration camp experiences is itemized also by Meerloo (1969). Years of harrassment and anticipation of persecution, he points out, led to gradual conditioning into compliance and masochism among victims. Panic and submissiveness had already begun long before the victims entered the extermination camps. Once incarcerated, the prisoners were the

object of such stresses as the destruction of personal history and social milieu; famine, freezing, and exhaustion leading to utter dependency; weight loss of more than 35 percent, resulting in an almost permanent feeling of exhaustion; brutality, horror, terror, and humiliation; the loss of all hope; continual exposure to terror-stricken fellow prisoners; continual denial and isolation of affect; coercion into emotional withdrawal and callousness towards others; the routinization of torture and sadism; continual separation anxiety, knowing that parents and relatives had been murdered; brain trauma by beatings over the head and body; continual alarm reactions of fright and panic; uprootedness, alienation, depersonalization and lack of privacy.

The foregoing represents only a partial listing of the total catalogue of stresses endured by concentration camp survivors. The reader may judge for himself the degree to which stresses of military captivity present comparably severe trauma. It should be pointed out here, however, that despite the unique nature of the concentration camp experience, survivor data are reported in this paper along with other, more immediately relevant studies. The special quality of the concentration camp experience does not altogether erase the thread of similarity that runs throughout all long-term prison episodes. Chodoff puts the issue well in comparing the phenomena of "brainwashing" as practiced by the Chinese Communist regime, and persecution of civilian minorities by the German Nazis: "Although differing from each other in important respects, brainwashing and Nazi oppression are both unmistakably instances of coercive force pushed to its utmost extent against defenseless individuals confined within tightly controlled environments (Chodoff, 1970)". Lifton (1963) too, has reported in his studies of Hiroshima victims many features similar to those identified among survivors of Nazi persecution. The threat of extinction and the shock of a suddenly and irrevocably altered environment must, after all, carry a motif of comparable meaning wherever they occur.

The Incidence of Psychiatric Symptoms and Psychopathology Among Former Prisoners

Most of the data describing the long-term psychiatric sequelae of imprisonment derive from the many studies carried out among survivors of the concentration camps of World War II. The hazards of drawing direct and unequivocal

analogies between this experience and other incarceration experiences have been pointed out above. The behavioral consequences of the concentration camp trauma are important to summarize, however, since they do relate to problems of rehabilitation and therapeutic intervention which all former prisoners share in common.

The history of concentration camp studies is traced clearly by Chodoff (1959). At the close of World War II, concentration camp survivors began to return either to their own countries, or to attempt to find a new life elsewhere - for example, in Israel and the United States. About 15 years later, articles began to appear in the literature, reporting the extent of psychiatric problems among these survivors, which either persisted through the years, or emerged after a considerable period. For example, studies from Israel (Klein et al., 1963; Koranyi, 1969), the United States (Trautman, 1961), and Norway (Eitinger, 1961) all suggested an abnormally high incidence of psychiatric disorder among survivors of the horrendous trauma of concentration camps. Although overall data on the incidence and prevalence of long-term psychiatric symptoms among concentration camp survivors have not been compiled, it is fairly clear from individual studies that the frequency of such symptoms is high. The results of a few such studies are reported below.

Bensheim (1960) reported that in 1960, half of all patients in the neuropsychiatric clinic in Haifa, Israel, were under treatment for residues of consequences of the Nazi persecution. Matussek (1961) basing his report on a study of 130 survivors who were initially believed to have shown no aftereffects of the concentration camp experience, states that he has not seen a single person who did not show some pathology, although perhaps superficially covered up. Such extended psychopathologic effects have been found not only in concentration camp survivors, but also in those who had spent a significantly long period in occupied Europe either hiding from the Germans or, with the aid of forged papers, undertaking the dangerous masquerade of assuming false identities and becoming a part of the German work force (Klein, Zellerman & Shanon 1963).

The former prisoner, it should be pointed out, is not likely to approach questions of his health status without a tendency to focus on the negative sequelae of his prison experience. A degree of hypochondria, for example, has

been correctly anticipated among POWs returning from Vietnam after long years spent focusing on issues of health and survival. Nor is the investigator or debriefer himself likely to be free of bias predisposing him to identifying or at least emphasizing ill effects. Certainly in the case of former concentration camp victims, a degree of such biasing factors was operative, especially true in the case of survivors being processed for reparation payments. It would be surprising indeed if patients undergoing examination for reparation claims would be free of temptation to add emphasis to already existing symptoms and problems.

Despite the need to correct for such biasing factors, existing data do suggest a higher degree of chronic and long-term psychopathological problems among those who have endured captivity than among those who have not. Indeed, somewhat similar findings emerge from studies of survivors of major stresses other than captivity. The survivors of the atom bomb attacks on Hiroshima, for example, have been studied intensively by Robert Lifton (1963), with results showing that their chronic psychological symptoms are comparable to those of people who have survived other forms of extreme stress. Depression, anxiety, loss of initiative and drive, fatigue, nervousness, impairment of memory and concentration, psychosomatic symptoms and feelings of guilt are described as constituting the syndrome that the Japanese call "burabura" or "do nothing sickness." A number of authors have also studied the long-term effects of combat as a stress. Although important variables are difficult to control, the general consensus is that combat as a stress experience produces a greater preponderance of chronic neurotic and psychosomatic problems than those seen among veterans without exposure to combat. A study by Mayfield and Fowler (1969), for example, suggests that combat experience may increase the probability of the occurrence of later emotional illness. The higher incidence of service-connected physical disability among combatants was to be expected, in view of the occupational hazards inherent in combat service. The higher incidence of service-connected psychiatric disabilities in combatants suggests that emotional illness is also an occupational hazard of combat service. The findings indicate that combat experience increases the probability of the presence of emotional illness many years after combat.

The results of studies by Hocking (1970) are also relevant. He conducted a study of 300 survivors who had been subjected to some form of severe stress during World War II. Some, for example, had been imprisoned in ghettos and concentration camps; some had been hiding in forests or in the cellars, walls or ceilings of houses; some had been subjected to a combination of these experiences; and some had escaped from German-occupied territory and spent part of the war in Russian labor camps. Clinically, it was found that virtually all of the individuals who had been incarcerated in ghettos and concentration camps presented an apathetic appearance that was so characteristic that they could usually be identified from other patients sitting in the waiting room. Others showed a marked degree of tension and anxiety that overlay their depressive symptoms. More than half of the patients described a syndrome that consisted of depression, anxiety, disturbed sleep, traumatic dreams, tension, irritability, headache, difficulty in concentrating, and impairment of memory for names and recent events, and a startle reaction to innocuous stimuli.

The Range and Nature of Psychiatric Symptoms

Major studies of psychiatric symptomatology evidenced by former prisoners focus on samples of survivors of the concentration camp experience. Soon after studies of such survivors were undertaken, attention began to be drawn by a number of investigators to a cluster of symptoms that appeared with striking regularity among their subjects. Indeed, the common web of psychopathology that emerged from such studies, (Jacobs, 1948; Winkler, 1959; Nathan, 1964; Chodoff, 1970) came to be known as the *concentration camp syndrome* -- an indefinable, neurasthenia-like syndrome which frequently reduced social and vocational adjustment markedly. Among most of the cases concerned, this syndrome had developed shortly after repatriation, though in some it had appeared only after a period of latency.

The syndrome was first called *repatriation neurosis*, and it was attributed to the internment period in a concentration camp, especially the high degree of undernourishment suffered. Other examinations of ex-prisoners had shown that there was a more-than-average incidence of ill health among them, and that the neurasthenia-like syndrome was not infrequent. The term repatriation neurosis

was subsequently replaced by the term *KZ syndrome*, a name taken from the German abbreviation for Konzentrationslager, or concentration camp.

A number of investigators have developed extensive summaries of the essential features of the concentration camp syndrome. Chodoff (1959) describes the syndrome in detail: a degree of anxiety, often very marked, along with irritability, restlessness, apprehensiveness, and a startle reaction to such ordinary stimuli as an unexpected phone call. These anxiety symptoms are almost always worse at night, and are usually accompanied by insomnia and by nightmares that are either simple or only slightly disguised repetitions of the traumatic experiences. Psychosomatic involvement of almost all the organ systems has been reported, the most common being weakness, fatigue, and gastrointestinal symptoms. In some instances, anxiety has become displaced to particular situations, with resulting phobia formation. A characteristic symptom is an obsessive ruminative state in which the person is more or less constantly preoccupied with recollections of his own persecutory experiences, or with the often-idealized period of his life with his family before the persecution began. Most survivors found their memories unwelcome and obtrusive, but there were a few who actually seemed to derive pleasure from them. Depression and guilt are also very common manifestations of the syndrome (Jacobs, 1948; Chodoff, 1959; Shanon, 1970) as the victim experiences guilt for having survived his trauma which so many others did not.

Koranyi (1969) has also provided an extensive overview of the survivor syndrome. The end results of prolonged stress, he reports, contained many striking similarities, no matter who the persecutors were. The typical features consisted of elements of chronic depression and anxiety, and personality change. Persistently severe and frank depressions were observed, but less frequently than a state verging on depression in which acute symptoms are warded off.

Probably the most detailed clinical portrait of concentration camp survivors is provided by Meerloo (1969). He itemizes at length all of the psychiatric symptoms encountered in examinations for compensation restitution. He notes that certain symptoms appeared directly following liberation - including depression, rage, and psychosomatic conversions such as ulcer, migraine, and colitis. These were followed by an incubation of anxiety symptoms, also called

the "bridge period," resulting from ability to temporarily repress the horror-drenched memories. Sometimes symptoms came to the fore when external circumstances became favorable, and survivors could let themselves go, perhaps more than 20 years after liberation (Antonovsky et al., 1971). The first years after liberation disguised the hidden psychic wounds by defensive overcompensation, but later, the panic reappeared.

Meerloo (1969) noted also that chronic increased tension, irritability, and vigilance led to various psychosomatic symptoms; a depression, different from the usual endogenous or reactive depression, comparable to the Japanese "Hibakusha syndrome," in which those affected show psychic numbness, lack of drive, and shame about their lack of concern over others; retrograde amnesia, with almost no memories prior to being in the camp; anterograde amnesia for the first years after liberation, with only the facts of the camp clearly recalled; periodic feelings of depersonalization usually expressed in feelings of dizziness; robotization of emotions - i.e., living like a corpse; continual anger - i.e., playing the pseudo-personality of being continually angry and full of revenge; periods of ultramasochism - depression, self-accusation, accident-proneness, and in women, promiscuity resulting from passive victimization; diminished sexual drive and frigidity in both men and women - i.e., diminished capacity for giving love and affection; increased sensory sensitivity, intolerance to noises, increased irritability; time sense disturbances, a disruption in the filing of past events; and conditioned body attitudes (ducking, bending, slouching), even 25 years following the pathological conditioning, of which the individual is usually not aware. Sensory hypersensitivity is also apparent, especially when the sensations are reminiscent of camp sounds or smells - e.g., the smell of burning flesh. There is often also a profound suspicion toward officials. Meerloo points out how easy it is to precipitate the syndrome. Memorial meetings, news about trials, a movie about the camps may provoke it. It is also triggered by renewed emigration, the death of a friend, or the loss of a job. Symbolic triggers provoke the old trauma again and again.

The rich and detailed description of the sequelae among concentration camp survivors finds no parallel in comparable studies of survivors of other prison ordeals. A rare controlled study was made by one team studying effects

of prisoner of war experiences over the long term in a group of Hong Kong prisoners of war (Kral, Pazder & Wigdor, 1967). The researchers reported the psychiatric, neurological and psychological findings which were made 20 years after liberation among 20 Canadian servicemen who had been made prisoners of war of the Japanese Army in Hong Kong, and subsequently underwent a multiplicity of severe stresses of approximately three-and-a-half years' duration. The former POWs were examined thoroughly, as were a control group of their brothers who also had seen service in World War II. The psychiatric examination consisted of an interview, with emphasis on the evaluation of the following psychopathological signs: changes of mood, presence or absence of anxiety or tension, feelings of guilt, neurotic maladjustment and pathological personality traits. Presence or absence of perceptual disorders and psychomotor retardation or blocking were assessed, as well as thought processes, judgment, and the degree of insight into the nature of the subjects' complaints and condition.

The collected data indicated a high incidence of complaints about nervous tension, anxiety (both free-floating and situational), depression, irritability, social isolation, poor memory and slow thinking. Neurological problems were in evidence - including complaints about various sensations in the extremities (cramps, burning, restlessness, weakness, and paresthesias); and tremor or other neuromuscular complaints such as clumsiness and the tendency to drop things.

Two Major Problem Areas: Depression and Aggression

A number of investigators have noted in newly liberated prisoners the existence of two underlying and often interwoven psychological themes - depression and apathy on the one hand, and hostility and aggression on the other. The liberated POW, they have found, moves gradually from apathy to anger, from abject withdrawal to overt resentment, almost as if he is flexing adaptive emotional resources that were forced into suppression during captivity (Wolf & Ripley, 1947; Greenson, 1949; Lifton, 1954; Segal, 1954; Strassman, Thaler & Schein, 1956; Eitinger, 1963).

But what of reactions over the longer term?

It is generally agreed that depression must be regarded as one of the most characteristic chronic symptoms found among concentration camp survivors.

Along with anxiety state and the obsessive rumination over the past, it is a hallmark of the so-called concentration camp syndrome (Chodoff, 1959). Its sources may lie in elements typical of the concentration camp experience, and not present so dramatically, therefore, among survivors of other prison settings. Meerloo (1963), for example, sees depression as often representing a delayed mourning reaction, particularly insistent in its demands because the concentration camp prisoners had been unable to engage in ceremonial mourning for their dead. Trautman (1961), too, emphasizes the mourning quality of the depression, and certainly the brutal destruction of so many family members, relatives, and friends needs no explanation as a cause for depression.

It is less obvious, however, why the depression of these survivors is so often tinged by feelings of guilt, either openly verbalized or easily inferred from their behavior. Such feelings of guilt are at times attributed to a specific episode, such as when a prisoner had taken an action which led to the saving of his own life at increased risk to another. To survive in a Nazi concentration camp often required both luck and a determined drive toward self-preservation that might require behavior from which the person would recoil in other circumstances. The same dynamics may very well exist among some combat veterans exhibiting peacetime emotional disturbances. Chodoff (1963), among many investigators, has pointed up the importance of "survivor guilt." Such guilt has been noted among many survivors who, regardless of their own individual behavior, mourn the very fact that they have remained alive when so many others have died. A psychodynamic factor of importance in the perpetuation of symptoms may be noted in some survivors who continue to dwell on the past, are unable to give up their memories and their symptoms, and live more satisfactorily in the present; to do otherwise would amount to forgetting their murdered kin. In other instances, to get well would mean, unconsciously, forgiving the enemy. Survivors must, therefore, go on suffering in order to continue to bear witness to the cruelty with which they were treated. They suffer, says Chodoff (1963), so that the world will not forget.

A number of investigators have focused also on the phenomenon of aggression among survivors of prison experiences. Hoppe (1971), for example, contends that the importance and prevalence of the phenomenon are underestimated; indeed,

such thorough researchers as Eitinger (1961) among others, regards observations and inferences concerning aggression in survivors "very unconvincing and not especially well grounded." In contrast, Luchterland (1970), interviewing concentration camp survivors in 1952, listed uncontrollable rage as an important mirror of psychological stress. A number of investigators describe survivors as characteristically responding to any unwelcome stimulation with irritability, temper outbursts, and often intolerance to noise (Herberg, 1961; Grauer, 1969).

Hoppe (1971) studied the life histories of 190 survivors of persecution, focusing on somatic, emotional, and psychosocial variables. The survivors, referred through their legal advisors, were in the process of making claims for restitution. Hoppe found that nearly three-fourths of the survivors were suffering from a chronic reactive depression, with the remainder showing either a combination of depression and aggression, or a clear-cut chronic, aggressive state. Such chronic aggression is seen either as a repetitive explosion of pent-up rage, or a defense against depression - and, therefore, a "relief." In any case, the aggressive survivor often suffers from his uncontrollable outbursts of rage, especially if these are turned against his own family members; the results are self-accusation, guilt feelings, lowered self-esteem and psychosomatic symptoms.

Other investigators have noted that contrasting long-term reactions are typical of two different types of surviving prisoners. Chodoff (1959), for example, pointed out that long-term unfavorable personality alterations have taken two widely overlapping directions. He notes that one of these consists of tendencies toward seclusiveness, social isolation, helplessness, and apathy; these symptoms are seen among people who are passive, fatalistic, and dependent, wanting only to be taken care of and to be let alone by a world whose requirements, they feel, are too much for them. Other survivors, in contrast, regard the world with suspicion, hostility, and mistrust; they display attitudes towards others ranging from quiet, envious bitterness to cynicism and quarrelsome belligerence. Either set of attitudes, of course, interferes significantly with interpersonal relationships and thus, in a reverberating fashion, tends to become accentuated as unfavorable experiences pile up.

Psychosomatic Symptoms and Sleep Problems

A number of studies of concentration camp survivors described earlier have yielded data describing the development of somatic complaints rooted in psychic trauma. (Bastiaans, 1957; Bychowski, 1964; Kral, Pazder & Wigdor, 1967; Meerloo, 1969; Hocking, 1970). Among the symptoms noted are, for example, sweating, tremors, headaches, weakness, paresthesias, muscular clumsiness, abdominal and back pain, palpitations, tachycardia, vertigo, and blackouts.

Shanon (1970) relates the late appearance of psychosomatic skin disorders in survivors of concentration camps to earlier traumatic emotional experiences. After studying 105 patients in terms of their underlying psychodynamics in dealing with stress and conflict situations, he concluded that most cases of psychosomatic skin disorders originating in conflict can be directly ascribed to real or imaginary guilt feelings. During their internment in concentration camps, the patients were determined to survive at all costs, and they were often forced to commit acts which were alien to their education, pre-war experience and moral standards. Some had managed to save their lives by deserting or denouncing close relatives or friends or other inmates. In doing so, Shanon holds, they became partly depersonalized and dehumanized. The regression they experienced evoked overwhelming guilt feelings and conflicts that were irreconcilable. The result was a defense mechanism in the form of a psychogenic skin disorder.

Interestingly enough, in most patients whose psychosomatic skin disorder was originated by such conflict, symptoms subsided or virtually disappeared when stress was renewed, but they recurred, sometimes with greater intensity, once the stress was reduced. For example, in one patient suffering neurodermatitis, skin lesions disappeared entirely during his active participation in the six-day war which Israel fought against the Arab nations, but recurred after the stress was ended and the original personal conflict was revived. The new stress factor evidently serves only to inhibit the intensity of the conflict and its subsequent expression as a disease symptom; it does not have a beneficial effect on the course of the dynamic relationship between the conflict and the skin disorder. In pointing out the role of an "antagonist stressor," this study highlights the difficulty in reducing to a simple one-to-one relationship the

interplay between present adaptation to stress and prior experience.

A major finding among disabled combatants of World War II was their predilection for conceptualizing their illnesses in physiologic terms even when emotional factors were clearly present. The poor occupational performance of many disabled combat veterans may result from these attitudes, and it may be also that the higher incidence of excessive drinking can be related to certain of these patients' concepts about the appropriate response to subjective discomfort.

A number of authors, notably Koranyi (1969), point out that survivors of prison experiences frequently suffer from recurrent nightmares; the content typically embodies elements of the trauma experienced in captivity. Among some samples of concentration camp survivors, nearly half reported this symptom. The nightmares are often preceded by specific stimuli, for example, talking or hearing about war experiences, or political events. The survivors appeared to be suffering from poor sleep, a "vigilant" type of insomnia, in which the sleeper finds it difficult to relinquish his defenses.

More rarely found among survivors are episodes of narcolepsy, interpreted by Meerloo (1963) as a form of escape reaction. Similarly, daytime nightmares or persecution fugue are also sometimes present. The nightmare intrudes into daytime activity, and the survivor is unable to work; he walks around in a dazed, depersonalized state. Although the condition usually dissipates, in effect, as with primitives, the dream becomes for some more real for a time than reality itself.

Physical Disease

Although a number of investigators have surveyed the health status of veterans years after the close of their military service, few researchers have pursued follow-up studies specifically of former POW populations. As in the case of psychiatric disability studies, the literature focuses primarily on samples of concentration camp survivors.

A major source of data regarding physical disease following incarceration was developed during the period November 20-25, 1961. There took place at that time in the Hague an International Conference on the Later Effects of Imprisonment and Deportation (International Conference, World Veterans Federation, 1961).

The conference, organized by the World Veterans Federation, was not concerned with pathology during captivity nor the immediate period afterwards. The essential and sole object of the conference was to study delayed pathology - that is to say, pathology apparently showing itself after a minimum of five years, and often as long as 20 years after incarceration.

The general aim of the conference was to make technical recommendations with a view to improving the health and economic and social conditions of former internees and deportees. The conference was attended by 70 participants from 12 countries and included 40 highly qualified medical and legal experts, invited by virtue of their special knowledge and experience in the field, four representatives of international organizations and 26 observers from governments and associations of eight countries. Approximately 30 reports dealing with the medical and legal aspects of problems created by the later effects of imprisonment and deportation were included in a volume summarizing the results of the conference. Papers were presented on the following subjects: neuropsychiatry, cardiology, rheumatology, internal medicine, endocrinology, gynecology, and gerantology.

The populations described in the various papers of the volume include, of course, concentration camp victims, but also other prisoner populations, including prisoners of war of various nationalities. Among them, for example, are German prisoners of war incarcerated in such countries as the United States, England, France, Italy, Belgium and the Netherlands. Included also are studies of Eastern European prisoners (for example, Yugoslavian), and also New Zealanders. But few if any studies involve *control groups* by which to begin to assess the relative impact of captivity.

The results stress the emergence of a number of health problems: pulmonary disorders such as tuberculosis and the complications of chronic bronchitis and emphysema; cardiovascular disorders, including functional cardiac disturbances with coronary asthenia, chronic alterations and infarction of the myocard, sequelae of endocarditis and myocarditis, infections and valvular lesions; circulatory problems - for example, arteriosclerosis, the more or less premature appearance of which may explain certain types of premature senescence, whether or not accompanied by arterial hyper- or hypotension; digestive disorders

including frequently encountered gastric neurotonic disorders, colitis, sigmoiditis, and enterocolitis; thyrotoxicosis, which can be attributed to the cortico-hypothalmic stresses to which victims were subjected in varying degrees; the disappearance of the menstrual period and of the ovarian function during imprisonment in the case of the majority of women, with later untoward gynecological effects; chronic rheumatism (spondylosis, arthrosis, polyarthritis), whose early manifestations and the character of certain degenerative alterations are factors in evaluating premature aging; and organic lesions of the central nervous system and signs of lesions of the peripheral nervous system as well, all showing a degenerative character and a gradually progressive tendency.

The report of the International Conference on the Later Effects of Imprisonment and Deportation deals at some length with the results of studies focusing on the aging process. In that volume, for example, Herberg (1961) describes his study of premature aging among former POWs from various countries participating in World War II. The result revealed no unequivocal physiological signs for defining premature senility. Psychological findings seem to be better indicators, suggesting attention to such factors as control of memory, capacity for attention, concentration power, and premature fatigue. The investigators recognized premature senility also by general appearance, the typical transformations of attitude, gait, synkinesis, cutaneous condition and physiognomy. Herberg diagnosed premature senility of 110 of 700 former prisoners of war, and in general, the Conference led to confirmation of a process of premature aging more frequent among former inmates of concentration camps than among the rest of the population.

Only a few investigators have undertaken to pursue follow-up studies of American military veterans who were prisoners of war during both World War II and the Korean War. In one such study (Nefzger, 1970), U.S. Army Veterans taken captive during World War II and in Korea, and various other control groups, were followed for mortality to 1965. Standard mortality ratios and death rates indicate a clear early excess of deaths among prisoners held by the Japanese in World War II. Relative to their controls, excess mortality in Pacific prisoners diminished with time, the two groups being indistinguishable by the mid-1950s. In contrast, prisoners from the European and Mediterranean areas of World War II

had not had an adverse mortality experience to 1965. Mortality in Korean War prisoners was more like that in Pacific than European prisoners: A substantial early excess of deaths has, relative to partially matched controls, all but disappeared. Korean War prisoners remained at about the same disadvantage throughout 12 years of follow-up, in relation to mortality in U.S. white males, whereas Pacific prisoners did not. Accidents, tuberculosis, and cirrhosis of the liver appear to be the causes chiefly responsible for the excess deaths in Pacific prisoners. Trauma is the most common cause of death, and of excess deaths, in the younger Korean prisoners. Suicides, though few in number, have been about 30 percent more frequent in these prisoners than in their controls. Arteriosclerotic deaths have occurred at about the same rate in both groups, as have deaths from malignant neoplasms and respiratory diseases. The data at least suggest the conclusion that the stresses of captivity were significantly greater for prisoners of Oriental captors than for Western captors, and in doing so, they extend and support similar earlier results by Cohen and Cooper (1954).

Studies of former POWs other than American have also not been frequently pursued, and often they deal primarily with attempts to assess the long term effects of periods of malnutrition. In one study of residual disability in Hong Kong prisoners of war, for example, British troops were studied a number of years after they were captured by the Japanese. During captivity, the prisoners lived on a diet deficient in calories, proteins and fat, and were forced to engage in hard manual labor. Many were heavily infected by dysentery, malaria, infectious hepatitis, diphtheria and intestinal parasites. As a consequence, all of them suffered from malnutrition and nearly all had specific evidence of various vitamin deficiencies, and especially edema, "peripheral neuritis" and blindness. During the period 1945-1956, over 500 of the former POWs were examined, most of them repeatedly. The most significant symptoms found were fatigue, perspiration, anorexia and other gastrointestinal symptoms, cardio-vascular symptoms, paresthesias of the feet and legs, and optic atrophy. There was a considerable improvement in all symptoms during the period of study, least in neurological signs and optic atrophy. The vast majority of the cases were, by the end of the study, fully employed.

A number of investigators have highlighted the occurrence of liver damage as a result of periods of starvation. One study (Coke, 1961), for example, involved a 12 year follow-up of 391 Canadian veterans who suffered from dietary insufficiency from December 1944 to August 1945. The author did not establish an expected increase in cardiovascular disease, but did show a prevalence of liver dysfunction. Similar results have been reported by others, among them Gottlieb (1946) and Pearson (1946), who found the presence of liver damage among veterans released from POW camps in the Far East.

The effects of prolonged starvation on sex hormones was studied by Jacobs (1948) among POWs who had been incarcerated as long as 40 months. Although the experience produced symptoms indicating a decrease in sex hormone production following recovery, there was no evidence of impotence or sterility.

The occurrence of residual visual problems has also been reported by some investigators. One study (Bloom, Merz & Taylor, 1946), for example, presented the clinical picture of American soldiers liberated after an extended confinement in Japanese prison camps under conditions of severe malnutrition. The study was done on 33 soldiers captured in April and May, 1942, on Bataan and Corregidor, and liberated in early 1945. The residual findings were observed while the patients were hospitalized in an Army eye center in the United States. During the period between liberation and the study, the patients had returned to approximately their normal weight. The investigators concluded that malnutrition due to a deficient diet can cause an optic atrophy, manifested by defective vision, central or centrocecal scotomas, and pallor of the nerve head. If treatment is not instituted early enough, the condition becomes irreversible.

Factors Affecting Later Adaptation to the Stresses of Life

The severe stresses of imprisonment may reasonably be expected in many instances to affect the capacity to adapt to the stresses of life in the years beyond captivity. Certainly in the case of concentration camp survivors, there is ample evidence that the ability to adapt to stress was weakened during the years following liberation.

In one of the few studies of the long-term effects of concentration camp experiences employing a control group, one team of investigators (Antonovsky et al, 1971) found a significant difference in the degree of adaptation to

climacterium. The respondents constituted a representative sample of all women in a middle-sized Israeli city meeting the criteria of age and nativity. Of the 287 women in the sample, 77 had been in a Nazi concentration camp during World War II. The remaining 210 women were used as a control group. Adaptation was measured from several different points of view: menopausal symptomatology, the subjective sense of well-being, physical and emotional health status, and role satisfaction. Detailed analyses of data show camp survivors to be more poorly adjusted than the controls in terms of all of the relevant criteria.

Although the study itself is not of direct significance to POW problems, the investigators did raise important questions about the variability of findings from follow-up studies of prison survivors. They emphasize the fact that a considerable number of concentration camp survivors were found to be well-adapted, despite the extreme trauma, and they suggest that this finding requires serious investigation. Three complementary explanations of successful later adaptation are proposed: an initial underlying strength; a subsequent environment which provided opportunities to reestablish a satisfying and meaningful existence; and a "hardening" process which allows the survivors to view current stresses with some equanimity.

Chodoff (1970) attempted to trace the sequence of events that accelerated the impact of the concentration camp experience and worked *against* a satisfactory adaptation. The immediate impulse of most of the patients after liberation, he pointed out, was to try to return to their homes, primarily to ascertain the fate of their relatives. In most cases, the knowledge acquired by the patients reinforced their worst fears, and any lingering hopes were likely soon to be snuffed out. A high proportion lost one or more members of their immediate family in the Nazi holocaust, and few were able to return home and take up their lives again. Chodoff holds that for concentration camp survivors, the loss of families and homes significantly influenced the course of later neurotic symptoms, not only because of their direct disruptive impact on the patients' lives and on their identities, but also because of their effect in dashing the fantasies of life after liberation which had proliferated during their sufferings.

Such fantasies may be a universal phenomenon among people exposed to unusual hardship or danger. Constituting what Wolfenstein (1957) calls the

postdisaster Utopia, these fantasies are always dashed by reality since few things are ever quite as attractive in the realization as in the anticipation. Certainly, she points out, the world does not give us our just desserts in reward for the punishment we have endured. From the extreme fantasies engendered by their acute suffering, these patients returned to the post-war world to find their homes destroyed, their friends and relatives scattered, their families killed, their chances of returning to the warm hearths that they had dreamed about fading into oblivion. Wolfenstein writes: "It seems reasonable to believe that their consequent letdown, bitterness, and resentment towards a still hostile or indifferent world would contribute to and possibly add new elements to their neurotic symptomatology (Wolfenstein, 1957).

Among the factors cited in studies of concentration camp survivors to explain the persistence of symptoms are the following: Organic factors involving the central nervous system, but also other organ systems, caused by physical trauma, exposure, malnutrition, or illness; destruction or unavailability of the home, and deaths of relatives, particularly members of the immediate family; a marked contrast between wishful fantasies during the stress period and the actual conditions of the post-stress world; inadequacy of internal resources or absence of external assistance in taking up life again after the stress period; downward change in the socioeconomic scale, particularly in older people; inability to make a satisfactory adjustment to life in a new setting; conflicts at an unconscious level between the wish to get well, and the need to suffer for purposes of revenge and expiation, expressed at the symptomatic level in feelings of guilt over survival (Wolfenstein, 1957).

It appears clear that events taking place after the end of the war and liberation could not fail to affect the future emotional health of concentration camp victims. It would clearly be at this time that good material, physical, intellectual, and emotional resources would enable a man or woman to take advantage of fortunate events and compensate for unfortunate ones, and thus develop a new identity and a new productive life in which symptoms would gradually become memories. It is equally likely that poor resources would encourage the development of regressive tendencies, with consequent clinging to symptoms as

an unconscious excuse for an inability to live actively and as a gratification of dependent impulses.

Investigators differ on the question of whether the final outcome of the stress of captivity developed regardless of the pre-existing personality. Koranyi (1969), among a number of investigators, believes that it did. Nevertheless, the questions of the uniqueness of the post-captivity syndrome would be solved readily only if it were possible to compare the pre-morbid personalities of a broad range of prison survivors. A controversy in psychiatric circles about the role of predisposing personality factors in the etiology of the traumatic neurosis has long existed. Freud expressed doubt that objective danger alone can give rise to neurosis without participation of the deeper unconscious layers of the psychic apparatus, and psychoanalytic theory has continued to maintain that an event is traumatic because of its relation to the individual's unconscious conflicts rather than because of its intensity. Even such analysts as Saul and Lyons (1952), who emphasized the importance of the precipitating stress, also considered the presence of a "specific, emotional vulnerability" to be an essential prerequisite for the development of a traumatic neurosis. In contrast, Leopold and Dillon (1963), believe the nature of the trauma to be much more significant in the development of the traumatic neurotic symptoms than the previous personality organization.

The evidence from studies of the concentration camp survivor syndrome is inconclusive because of the absence of reliable studies of the pre-morbid personalities of survivors. Yet the data do support a theory of traumatic neurosis that emphasizes the role of the traumatic events themselves rather than predisposing personality factors. The ubiquity and uniformity of the symptomatic picture of the syndrome seems better explained as the consequence of overwhelmingly intense trauma producing similar effects in many individuals of different personality structure, than as being determined by presumed individual differences in premorbid personalities. Eitinger (1963) for example, reporting on a group of Norwegian survivors of the concentration camps, could not find any consistent correlation between premorbid personality factors and persistent anxiety symptoms.

Future Research Needs

Despite the caution necessary in interpreting the available data, the cumulative weight of findings from existing follow-up studies leads to the conclusion that the extraordinary stresses of incarceration are related to a heightened vulnerability to physical and psychological health problems over the long term.

The fact is, however, that comprehensive and definitive long term follow up studies of former U.S. prisoner populations have not been pursued with thoroughness or intensity. There are difficulties in accomplishing such studies, of course. Nefzger (1970) pointed out that useful information for follow up studies of former POWs is not easily achieved. His observations merit repetition:

> *Prison experience is a manifold of inadequate food, exposure, disease, physical abuse and emotional torment. These various ingredients appear to be thoroughly mixed and interdependent. Their relative intensities probably vary from time to time, from place to place, and from man to man; and it seems impossible to separate any one component of this complex experience from the total. Thus, the analogy between studies of survivors of war prisons and atomic bombings is least apt in the point of specifying the initial insult of central interest. In the one case, a single, massive, whole-body dose of ionizing radiation is of central interest. In prisoners of war, the initial insult is a complex, often prolonged, set of experiences that cannot be described in specific terms."*
>
> *Although this circumstance limits the scope and specificity of inferences that may be drawn statistically, long-term follow-up studies of prisoners of war are justified. If for no other reason, there are administrative questions that can be answered only by observation. There is, moreover, hope of learning more about the late effects of a stress that is recognized as severe even though not well differentiated. Long-term*

statistical study of former prisoners of war may also suggest areas for more penetrating study by other methods and will provide the background against which to view the results from such studies.

The return earlier this year of U.S. POWs from Southeast Asia revitalizes Nefzger's observation. The opportunity to plan long-range research on former prisoners -- and their families -- again presents itself.

It may very well be that the degree to which such studies are pursued will either give credence or deny one physician's observation about the returning POWs: "They may be the men of the year for 1973 - but they're going to be the forgotten men of 1974."

REFERENCES

Antonovsky, A., Maoz, B. Dowty, N. and Wijsenbeek, H. Twenty-five years later: A limited study of the sequelae of the concentration camp experience. *Social Psychiatry*, 1971, 6, 186-193.

Bastiaans, J. *Psychosomatic aftereffects of persecution and incarceration.* Amsterdam, 1957.

Bensheim, H. Die KZ-neurose rassisch verfolgter. *Nevenartzt*, 1960, 31, 10-16.

Bloom, S.M., Merz, E.H. and Taylor, W.W. Nutritional amblyopia in American POWs liberated from the Japanese. *American Journal of Ophthalmology*, 1946, 29, 1248-1257.

Rychowski, G. Permanent character changes as an after effect of persecution. Proceedings presented at The second Wayne University workshop on late sequelae of massive psychic traumatization, Detroit, February 1964.

Chodoff, P. Effects of extreme coercive and oppressive forces. In S. Arieti (Ed.), *American Handbook of Psychiatry*. New York: Basic Book, Inc., 1959.

Chodoff, P. Late effects of the concentration camp syndrome. *Arch. Gen. Psychiatry*, 1963, 8, 323-333.

Chodoff, P. The German concentration camps as a psychological stress. *Arch. Gen. Psychiatry*, 1970, 22, 78-87.

Cohen, B.M. and Cooper, M.Z. A follow-up study of World War II prisoners of war. *V. A. Medical Monograph*, 1954.

Coke, L.R. Late effects of starvation. *Medical Services Journal of Canada*, 1961, 17, 313-324.

Eitinger, L. Pathology of the concentration camp syndrome. *Arch. Gen. Psychiatry*, 1961, 5, 371-379.

Eitinger, L. Concentration camp survivors in the post war world. *Am. J. Orthopsychiatry*, 1962, 32, 367-375.

Eitinger, L. Preliminary notes on a study of concentration camp survivors in Norway. *Isr. Ann. Psychiatry*, 1963, 1, 59-67.

Gottlieb, M.L. Impressions of a POW medical officer in Japanese concentration camps. *U.S. Naval Medical Bulletin*, 1946, 46, 663-675.

REFERENCES (Cont'd)

Grauer, H. Psychodynamics of the survivor syndrome. *Can. Psychiatr. Assoc. J.*, 1969, 14. 617-622.

Greenson, R.R. The psychology of apathy. *Psychoanal. Q.*, 1949, 18, 290-302.

Herberg, H.J. Premature senility in former prisoners of war. In *International Conference on the Later Effects of Imprisonment and Deportation*, World Veterans Federation, The Hague, November, 1961.

Hocking, F. 1970. Psychiatric aspects of extreme environmental stress. *Dis. Nerv. Syst.*, 1970, 31, 542-545.

Hoppe, K.D. Chronic reactive aggression in survivors of severe persecution. *Compr. Psychiatry*, 1971, 12, 230-237.

International Conference on the Later Effects of Imprisonment and Deportation, World Veterans Federation, The Hague, November, 1961.

Jacobs, E.C. Effects of starvation on sex hormones in the male. *J. Clin. Endocrinol. Metab.*, 1948, 8, 227-232.

Klein, H., Zellermayer, J. and Shanon, J. Former concentration camp inmates on a psychiatric ward. *Arch. Gen. Psychiatry*, 1963, 8, 334-342.

Koranyi, E.K. A theoretical review of the survivor syndrome. *Dis. Nerv. Syst.*, 1969a, 30, 115-118.

Koranyi, E.K. Psychodynamic theories of the survivor syndrome. *Can. Psychiatr. Assoc. J.*, 1969b, 14, 165-174.

Kral, V.A., Pazder, L.H. and Wigdor, B.T. Long-term effects of a prolonged stress experience. *Can. Psychiatr. Assoc. J.*, 1967, 12, 175-181.

Leopold, R.L. and Dillon, H. Psychoanatomy of a disaster. *Am. J. Psychiatry*, 1963, 119, 913-921.

Lifton, R.J. Home by ship: Reaction patterns of American POWs repatriated from North Korea. *Am. J. Psychiatry*, 1954, 110, 732-738.

Lifton, R.J. Psychological effects of the atomic bomb in Hiroshima. *Daedelus*, 1963, 92, 462-497.

Luchterland, E. Early and late effects of imprisonment in Nazi concentration camps. *Soc. Psychiatry*, 1970, 5, 102-110.

REFERENCES (Cont'd)

Matussek, P. Die konzentrationslagerhaft als belastungssituation. *Nervenarzt*, 1961, 32, 538-547.

Mayfield, D.G. and Fowler, D.R. Combat plus twenty years: The effect of previous combat experience on psychiatric patients. *Military Medicine*, 1969, 134, 1348-1354.

Meerloo, J. Delayed mourning in victims of extermination camps. *J. of the Hillside Hospital*, 1963, 12, 96-101.

Meerloo, J. Persecution trauma and the reconditioning of emotional life: A brief survey. *Am. J. Psychiatry*, 1969, 125, 1187-1191.

Nathan, R.S., Eitinger, L. and Winnik, H.Z. A psychiatric study of survivors of the Nazi holocaust: A study of hospitalized patients. *Irs. Ann. Psychiatry*, 1954, 2, 47-80.

Nefzger, M.D. Follow-up studies of World War II and Korean prisoners of war. *Am. J. Epidemiol.*, 1970, 91, 123-138.

Niederland, W.G. Clinical, social and rehabilitation problems in concentration camp survivors. *J. Jew. Communal Serv., 1965*, 42, 186-191.

Pearson, F.F. Morbidity and mortality in Santo Tomas internment camp. *Ann. Int. Med.*, 1946, 24, 988-1013.

Saul, L.J. and Lyons, J.W. Acute neurotic reactions. In F. Alexander and H. Ross (Eds.), *Dynamic Psychiatry*. Chicago: Univ. of Chicago Press, 1952.

Segal, H.A. Initial psychiatric findings of recently repatriated POWs. *Am. J. Psychiatry*, 1954, 111, 358-363.

Shanon, J. Delayed psychosomatic skin disorders in survivors of concentration camps. *Br. J. Dermatol.*, 1970, 83, 536-542.

Strassman, H.D., Thaler, M.B. and Schein, E.H. A prisoner of war syndrome: Apathy as a reaction to severe stress. *Am. J. Psychiatry*, 1956, 112, 998-1003.

Trautman, E.C. Psychiatric and sociological effects of Nazi atrocities on survivors of the extermination camps. *J. Am. Assoc. Soc. Psychiatry*, 1961, September-December.

REFERENCES (Cont'd)

Winkler, G.E. Neuropsychiatric symptoms in survivors of concentration camps. *J. of Soc. Therapy*, 1959, 5, 281-289.

Wolf, S. and Ripley, H.S. Reactions among allied POWs subjected to three years imprisonment and torture by the Japanese. *Am. J. Psychiatry*, 1947, 104, 180-193.

Wolfenstein, M. *Disaster*. Glencoe: The Free Press, 1957.

ACKNOWLEDGEMENTS

The writer gratefully acknowledges the assistance of Ms. Linda A. Castle in compiling the references, Ms. Fran Jackson and Ms. Lois West in preparing the manuscript for publication, and Drs. J. A. Plag and E. J. Hunter for their editorial comment.