Elsevier
ELSEVIER

Parkinsonism & Related Disorders Vol. 2, No. 2, pp. 95–103, 1996

PII: S1353-8020(96)00005-3
1353-8020/96 $15.00 + 0.00

Adolf Hitler had Post-encephalitic Parkinsonism

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Accepted 7 December 1995

Adolf Hitler had Parkinson symptoms in 1934, at age 45 years. He may have had transient symptoms in 1923, at age 34 years. Young-onset parkinsonism, during the 1920s, favored a diagnosis of post-encephalitic rather than idiopathic parkinsonism. Hitler had oculogyric crises, phenomena only associated with post-encephalitic parkinsonism. In addition, he had dystonic facial spasms, palilalia and a sleep disorder, phenomena more likely to be associated with post-encephalitic than idiopathic parkinsonism.

In November 1918, at age 29 years, Hitler may have had von Economo's encephalitis, while he was a patient in a hospital, recovering from poison gas. This paper looks at the possible relationship of von Economo's encephalitis to Hitler's asocial behavior; his obsessions and compulsions, his cruelty and rages. The influence of Hitler's parkinsonism on his conduct during World War II is discussed. Copyright © 1996 Published by Elsevier Science Ltd.

INTRODUCTION

In 1942 when Adolf Hitler was age 53 years, he and his close associates, knew he had a tremor [1]. Although Hitler's personal physicians knew he had a tremor, none of them diagnosed parkinsonism. Hitler, himself, probably first became aware of his tremor in 1940. It was intermittent and he hid it by keeping his left hand in his pocket (Fig. 1), or suppressed it by grasping an object in his left hand (Fig. 2). Later, in 1942, when the tremor was more noticeable, he limited his appearances, and allowed himself to be photographed only from angles that did not show his left hand.

Tremor, in the public mind, is erroneously associated with an alcohol problem or senility. And, neither Hitler, his political and military associates, nor his physicians, wanted anyone to know that Hitler, the undisputed leader, the Führer of Germany had a tremor. Thus Hitler's neurological symptoms are not mentioned in the memoirs of most of the men close to Hitler, including Field Marshal W. Keitel [2], Hitler's Chief of Staff; General W. Warlimont [3], Hitler's military adjutant; or P. Schmidt, Hitler's interpreter [4]. Because most of Hitler's associates, with the exception of A. Speer, Hitler's Armaments Minister, did not mention the tremor [5], neither it nor his parkinsonism are mentioned by most of his principal biographers including A. Bullock [6] D. Irving [7] and J. Toland [8]. Hitler's tremor, although not ascribed to parkinsonism, is mentioned by other biographers including H. Trevor Roper [9], R.L.G. Waite [10] and J.C. Fest [11]. When the tremor and other parkinsonism symptoms are mentioned, no one considered them to have influenced his conduct of World War II.

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EVIDENCE HITLER HAD PARKINSONISM

Newsreels

Hitler's parkinsonism is revealed in a March 1945 Swedish newsreel that escaped the German censors [12]. The newsreel is now available on a videotape and shows Hitler walking slowly, and not swinging his left arm (bradykinesia). He has masked facies, a stooped posture and a resting tremor of his left arm.

A. Speer wrote, in his memoirs [5], that:

"In 1944 Hitler was shriveling up like an old man. His limbs trembled, he walked stooped with dragging footsteps.... His uniform, which in the past he had kept scrupulously neat... was stained by the food he had eaten with a shaking hand (his right hand, indicating that, in 1944, his parkinsonism was bilateral)(Fig. 3)."

G. Boldt , an intelligence officer, assigned to Hitler's staff, wrote that in February, 1945 [13]:

"His left arm hung limply by his side, and his left hand trembled perceptibly.... This was not the vigorous, energetic Hitler the Germans knew, the Hitler that Goebbels, Minister for Propaganda, still depicted."

Fig. 1. Adolf Hitler, age 56 yr, circa 1945, 11 yr after onset of Parkinson symptoms. Hitler walks with his left hand in his pocket to hide his tremor.

S. Knappe, an S.S. Officer wrote that on meeting Hitler in April, 1945: [14]

"I was shocked by his appearance. He was stooped, and his left arm was bent, and shaking.... Both of his hands shook.... He looked...at least twenty years older than his 56 years...."

Hitler had micrographia (Fig. 4).

SEVERITY OF HITLER'S PARKINSONISM

Hagglund, reviewing videotape of the 1945 newsreel, assessed him as having Stage 1.5, parkinsonism [12]. But, the videotape captures Hitler for only a few seconds. The best description of Hitler's parkinsonism is by P. Stolk: [1]

Fig. 2. Adolf Hitler age 51 yr, June 1940, 6 yr after onset of Parkinson symptoms, bradykinesia of the left hand. Hitler grasps an object with his left hand to supress his resting tremor.

Fig. 3. Adolf Hitler, age 55 yr, circa 1944, 10 yr after onset of Parkinson symptoms. Hitler walks his dog, Blondi, his left arm is flexed, and he uses a cane.

"Hitler developed a tremor...it was first noticed in his left arm, autumn of 1942, (*Stage 1* parkinsonism, unilateral involvement, my assessment) and subsequently also in his left leg and his head (*Stage 2* bilateral involvement). Later, in 1944, the upper part of his body tended to incline forward.... Standing up he was forced to grab-hold of his partner in conversation for support (*Stage 3 or 4*)."

There are discrepancies between Hagglund's videotape and Speers' [5], Boldt's [13], Knappe's [14] and Stolk's descriptions [1]. In the levodopa era of treatment, fluctuations in symptoms, related to medication, are the rule, resulting in terms such as wearing-off, on-off, and yo-yoing. However, it is underappreciated that untreated patients also fluctuate, although neither consistently, nor dramatically, Thus, before beginning levodopa many patients report being better in the morning, the sleep benefit, while other patients report being worse in the evening. Rarely, a few untreated patients with advanced parkinsonism, Stage 4 or 5, exhibit dramatic fluctuations in response to psychic or physical stress, consisting of the sudden onset of mobility in a wheelchair-bound patient, kinesia-paradoxica, or the sudden onset of immobility in an ambulatory patient, akinesia-paradoxica. Both akinesia and kinesia-paradoxica were seen more commonly

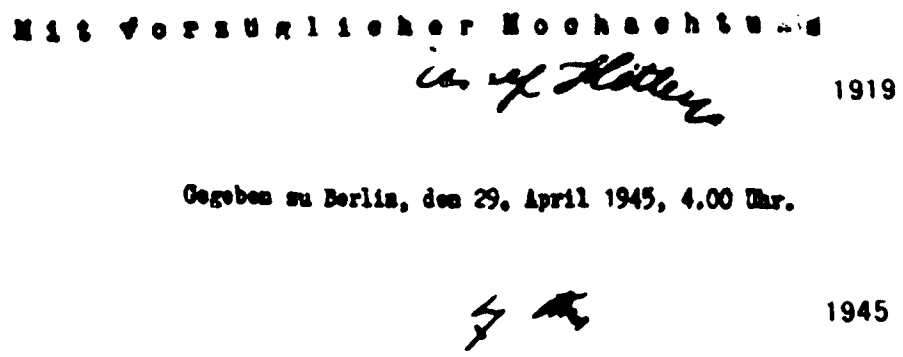

Fig. 4. (Top) Adolf Hitler's signature, right hand, age 30 years, 1919, 1 year after encephalitis, 15 years before the onset of symptoms in his left hand. (Bottom) Adolf Hitler's signature, right hand, age 56 years, 1945, 27 years after encephalitis, 11 years after onset of symptoms in his left hand.

before the levodopa era, when there were many more untreated patients with advanced parkinsonism.

DURATION OF HITLER'S PARKINSONISM

From a retrospective study of 300 hr of film of Hitler, from 1919 to 1940, the first symptom of Hitler's parkinsonism, decreased movement of his left arm, is evident in L. Reifenstahl's 1934 film, *Triumph of the Will* made during the Second Annual Nazi Party Congress, when Hitler was age 45 years. The decreased movement is not apparent when Hitler arrives at the Congress in the morning, but is apparent during his speech to the Congress in the afternoon, and is more apparent during his address to the Congress at night (Personal Observation). Hitler was probably unaware of the decreased movement of his left arm, while walking or speaking, activities that do not require awareness of the arm, a form of unilateral neglect. Neglect in patients with parkinsonism may reflect a disturbance in frontal, cingulate, basal ganglia and thalamic inter-connections.

Symptoms of parkinsonism appear after there is a 60–80% loss of the pigmented nigral neurons, and a 60–90% loss of striatal dopamine [15–18]. Assuming a linear progression of neuronal loss from the inception of the parkinsonism process: genetic or post-encephalitic, to the appearance of symptoms, the parkinsonism process must begin years before its symptoms manifest themselves [16–19]. The duration of parkinsonism before the onset of symptoms, the pre-clinical latent phase, is estimated to be 10–20 years [16–20]. The time, from the onset of symptoms to diagnosis, is, on average, 2 years [16,18–20].

VON ECONOMO'S ENCEPHALITIS

Von Economo's encephalitis, encephalitis lethargica, sleeping sickness, occurred during the period 1917–1930, then disappeared thereafter [21–27]. The etiologic agent may, or may not have been, similar to the agent responsible for the influenza epidemic which occurred during the period, 1918–1928 [26,28]. The agent responsible for von Economo's encephalitis has never been identified [21–23,26,28]. The encephalitis, like most encephalopathies, was characterized during the acute phase, by high fever, confusion, delirium and stupor, often progressing to coma and death [21]. The encephalitis was frequently fatal; the number of patients dying, per number of patients affected, varying with the location and referral pattern of a center [21–23,25,27,29]. Thus, W. Holt reported 453 deaths among 1298 patients, 35%, from 13 centers, including 54 deaths among 266 patients from his own center in Boston, 20% [23]. Whereas, Ziegler reported 99 deaths from among 752 patients from the Mayo Clinic, Minnesota, 13.2% [29].

The pathology of von Economo's encephalitis, in the acute phase, is characterized by congestion and inflammation involving the gray matter of the cortex, basal ganglia and the midbrain.[21] In the chronic phase, among those patients who developed post-encephalitic symptoms, the disease is characterized by the widespread destruction of nigral neurons associated with neurofibrillary tangles and unassociated Lewy bodies [21,24]. Idiopathic parkinsonism is characterized by a loss of pigmented neurons in the substantia nigra, mainly in its ventral and medial portions, associated with a reactive gliosis. Lewy bodies, intra-cytoplasmic eosinophilic inclusions, appear in many of the remaining neurons, unassociated with neurofibrillary tangles [21,24,30]. A similar loss of pigmented neurons, with reactive gliosis, and neurofibrillary tangles (post-encephalitic parkinsonism) or Lewy bodies (idiopathic parkinsonism) is found in the locus cereuleus, and, less consistently, in the dorsal vagal nucleus, and the peripheral sympathetic and parasympathetic ganglia [31,32].

POST-ENCEPHALITIC PARKINSONISM

Parkinsonism developed in approximately 40% of patients who had von Economo's encephalitis (Table 1) [22,23,25,29,33]. This figure is high, as it is based on patients who were hospitalized during, or soon after, the acute attack. Many more patients had milder forms of encephalitis, or did not have encephalitis at all, and were not hospitalized. The prevalence of parkinson-

Table 1. Symptoms in 266 patients who survived an acute episode of von Economo's encephalitis and were later admitted to a chronic disease hospital 78 patients (29%) admitted within 3 months of acute illness 188 patients (71%) admitted more than 3 months after acute illness

Symptoms	Patients	%	Relevance to Hitler
Parkinsonism	114	43%	Present after 1918
Oculogyric crisis	10	9% of parkinsonism	Present after 1918
Sleep disturbances	240	90%	Present after 1918
Sleep-inversions	56	21%	Present after 1918
Depression	149	56%	Present before and after 1918, unrelated
Delusions	93	35%	Present before and after 1918
Hallucinations	97	39%	Present during acute illness, only
Mania	82	31%	Present Intermittently after 1918
Talkativeness	47	18%	Present before 1918
Obsessive thoughts, Compulsive behavior	15	6%	Need to destroy Jews, present before 1918 Not as marked as after 1918.
Stealing	25	9%	Present after 1918, he plundered Europe
Sexual perversions	18	7%	Present after 1918
Cruelty	23	9%	Present after 1918
Rage attacks	19	7%	Present before 1918
Blindness	16	6%	Present, temporarily in 1918
Hyperhidrosis	35	13%	Present after 1918
Erythema	16	13%	Present after 1918

ism among these patients is not known, but it was probably less than 40% [23,25,29,33].

Many patients developed parkinsonism during the acute illness. In some these symptoms persisted, in others they disappeared, only to return after a symptom free interval of years, the pre-clinical latency, leading to a diagnosis of post-encephalitic parkinsonism. P. Vieregge *et al.* [33], report the pre-clinical latency, as varying between 1 and 26 years, with a mean of 14.3 years. Parkinsonism symptoms, once they reappeared, could be identical to, or different from the symptoms during the acute phase. But, the symptoms, when they reappeared, were progressive.

In some patients post-encephalitic parkinsonism developed in the absence of an acute illness leading to a diagnosis of post-encephalitic parkinsonism without encephalitis [23,25,29,34,35]. In these patients, infection with von Economo's agent was inferred from abnormalities in the cerebrospinal fluid, obtained by lumbar puncture, during, or shortly after the acute illness, or from post-mortem examination [34,35]. The exact number of patients with post-encephalitic parkinsonism with encephalitis is unknown.

The parkinsonian features among post-encephalitic patients and idiopathic parkinsonism patients were similar: resting, postural and kinetic tremor, cog-wheel rigidity, bradykinesia, postural instability, postural deformities, gait abnormalities, speech difficulty, facial masking and autonomic dysfunction including hyperhidrosis, hypersalivation, constipation and vasomotor disturbances (erythema).

Hitler had a resting, a postural and a kinetic tremor, and a stooped posture. Features consistent with both idiopathic and post-encephalitic parkinsonism. Hitler also had a head tremor, an unusual feature of idiopathic parkinsonism. If Hitler's head tremor was a dystonic tremor,then this would favor a diagnosis of post-encephalitic parkinsonism. Patients with post-encephalitic parkinsonism developed symptoms at an earlier age than patients with idiopathic parkinsonism. M. Hoehn studied the distribution of age at onset of parkinsonism. She comments: [35]

"During the years 1855–1921 there was a high discrete modal onset of disease in the sixth decade... suggesting a single disease entity (*idiopathic* parkinsonism, my parenthesis). During the years 1920–1943... when *post-encephalitic* parkinsonism appeared to account for over a quarter of patients, there was a bimodal curve with peaks in the third decade (*post-encephalitic parkinsonism*) and again in the sixth decade *(idiopathic parkinsonism)*.... During the years 1944 – 1969 the modal onset was later in life as... the number of *post-encephalitic* parkinsonism was reduced the less than 10%."

In 1965, Duvoisin and Yahr reported among 47 young-onset patients, 11 (23%) had idiopathic and 36 (76%) had post-encephalitic parkinsonism. Among 67 patients with parkinsonism onset below the age of 50 years, 31, (46%), had post-encephalitic and 36, (54%) had idiopathic parkinsonism [34].

Hitler, who developed parkinsonisonian symptoms at age 46 years, is, on the basis of disease onset, as likely to have had post-encephalitic as idiopathic parkinsonism. However, J. Recktenwald, quoted by Stolk [1], described two transient episodes of left-sided tremor in Hitler, in 1923, at age 34 years. And W. Maser, quoted by J.H. Walters [36], described a left-sided tremor in Hitler from November 1923, after Hitler's abortive coup d'état, the Beerhall Putsch, to December 1924, before Hitler's release from prison. If Hitler had even transient symptoms, when he was 34 years old, this would favor a diagnosis of post-encephalitic parkinsonism.

It was the presence of non-Parkinson motor symptoms which distinguished post-encephalitic from

idiopathic parkinsonism. These non-Parkinson motor symptoms included chorea, focal and segmental dystonias, dystonic facial spasms or tremor, palilalia and a variety of eye movement abnormalities including oculogyric crises. Hitler had oculogyric crises, and these have never been reported except in post-encephalitic parkinsonism [23,27]. Thus Prime Minister E. Daladier, of France, as quoted by J. Walters [36], observed an oculogyric crisis in September 1938, during the Munich Conference:

"Hitler's dull blue eyes had a hard strained look and *suddenly turned upwards.*"

In addition Stolk, presented a film clip, dating to 1939, during which the following occurred: [1]

"Suddenly Hitler's face becomes expressionless as he struggles against a spasm of his eyes. He twitches his eyebrows, and tilts his head to the right.... It is not certain if this is an *oculogyric* crisis or... a *faciopalpebral spasm.* Diagnostically this is of no great importance, as such spasms may have the same etiology as the *oculogyric crisis.*"

Hitler had palilalia. B. Dahlerus, a Swedish businessman, attempted, in 1939, as a private emissary, to avert war between England and Germany. Dahlerus was, during this period, in close contact with Hitler. He observed [36]:

"Suddenly Hitler, stopped... and stared into space. His voice became hollow and his whole behavior seemed quite abnormal...." *'If there is a war, I will build U-boats! U-boats! U-boats!.... I will build airplanes! Airplanes! Airplanes!.... I will build airplanes! Airplanes! Airplanes!'*

Whether the above represents palilalia, or a rhetorical flourish, meant to frighten, is impossible to know.

Hitler had somatic symptoms, including constipation, hyperhidrosis, and hypersalivation, arising from autonomic nervous system dysfunction [1,36,38]. Symptoms of autonomic nervous system dysfunction can antedate the occurrence of motor symptoms in both idiopathic and post-encephalitic parkinsonism [31,32]. They arise because the disease process, idiopathic or post-encephalitic, affects the peripherally-located sympathetic and parasympathetic ganglia. Walters comments: [35]

"Complications of the *post-encephalitic* state such as... excessive sweating, flatulence, abdominal distention and constipation, were known to those close to Hitler.... Because of his heavy sweating, he often took several baths per day."

Hyperhidrosis and constipation also occur on a functional basis, as a manifestation of anxiety. And such symptoms may have been related to Hitler's anxiety.

SLEEP DISTURBANCES

Sleep disturbances, of many kinds, including sleep-inversions, accompanied von Economo's encephalitis, and were so characteristic, as to give the disorder its alternate names, encephalitis lethargica or sleeping sickness [22,25,38]. Some patients, during the acute illness, would suddenly fall into a deep sleep from which they could be roused, unlike comatose patients. When roused they could be fed, allowing them to survive in an era, 1917–1930 when intensive care units, respirators, and total parental nutrition were unknown. These sleep disturbances could occur during the acute illness, disappear and then reappear, or they could occur during the acute illness and persist, or they could occur shortly after the acute illness and persist.

The number of patients affected and the pattern of the sleep disturbance varied. Thus L. Ziegler reported persistent sleep disturbances in only 10% of 752 patients [29], while W. Holt reported persistent sleep disturbances in 90% of 266 patients [23], and G. Anderson reported persistent sleep disturbances among all of her 33 patients (7 of her patients died). She writes [38]:

"In the early part of the night, the patients... wished to sleep, but were too uncomfortable to do so. Later... they climbed over the furniture, were noisy and... towards morning they fell into a deep sleep, which... was abnormally sound."

The above sleep pattern characterized Hitler who claimed he developed it during World War I when he was a messenger. It is also possible Hitler's sleep pattern was related to methamphetamines, and/or depression. However, this sleep pattern pre-dated his use of methamphetamines, and did not change during his depressive periods.

RAGE ATTACKS

After 1918 Hitler had unprovoked outbursts of anger, rage attacks, similar to those described in some post-encephalitic patients. These were present before 1918, but were not as striking [23,29]. Unprovoked rage attacks arise from a neuronal system including the orbitofrontal cortex, the hippocampus, the amygdala, caudate nucleus, hypothalamus and midbrain. They are behavioral disturbances, not seizures, and may be accompanied by autonomic dysfunction including hyperhidrosis, hypersalivation and erythema. G. Boldt described a rage attack during a confrontation between Hitler and General H. Guderian in 1945 [13]:

"Hitler slumped further and further down in his chair, the color drained from his face. But then, driven by his rage, he suddenly got up from his chair with an agility which nobody present would have thought possible (*kinesia paradoxica?*). His face was marked with large, red blotches. His left arm and the whole left side of his body was trembling more violently than usual, and it looked as if he were about to throw himself at the general."

A. Bullock regards Hitler's rage attacks as volitional, deliberate and controlled, but as the War progressed the rage attacks became unpredictable and uncontrolled [6].

DID HITLER HAVE ENCEPHALITIS?

The young onset of Hitler's parkinsonism, his altered sleep patterns, his palilalia, oculogyric crises and/or faciopalpebral spasms and his rage attacks implicate von Economo's encephalitis as the cause of his parkinsonism. Although an autopsy was performed on Hitler, his brain was destroyed, and the cause of Hitler's parkinsonism, idiopathic or post-encephalitic, cannot be determined [39]. A history of encephalitis, in 1918, would, however, substantiate the assumption that Hitler's parkinsonism was post-encephalitic. In 1918, Hitler was gassed, according to Hitler writing in *Mein Kampf*, his political testament and autobiography: [40]

"On the night of October 13, the English gas attack... burst loose....A few hours later, my eyes had turned into glowing coals; it had grown dark around me. Thus I came to the hospital at Pasewalk in Pomerania.

In the last few days (November 1918) I had been getting better.... I was given grounds for hoping that I should recover my eyesight.... In any case, I was on the road to improvement when the monstrous thing happened (*the Armistice*). Again, everything went black before my eyes.... There followed terrible days and even worse nights, I knew that all was lost. In the days that followed, my own fate became known to me.... I, for my part, decided to go into politics."

The records of Hitler's hospitalization in 1918 have been lost, or destroyed. Initially, Hitler may have been blinded by chlorine or mustard gas, but then he recovered. His subsequent episode of blindness has never been explained. It may have represented a delayed effect of poison gas, or hysteria. However, it is possible Hitler had von Economo's encephalitis, was delirious, delusional and hallucinating at the time of the Armistice, his epiphany, the seminal event of his life, and that later he confabulated the vents to fill the voids in his memory. Certainly, it would be better, for an aspiring politician, to claim temporary blindness from gas, than unresponsiveness or blindness from encephalitis, an inflammation of the brain. And, we have only the word of Adolf Hitler, the world's greatest liar, as to what happened to him in November 1918.

Asocial behavior

Behavioral disorders, with or without impaired mentation, sleep disturbances, affective disorders, parkinsonism or non-Parkinson motor symptoms appeared in 40–60% of patients hospitalized during the acute illness [22,23,25,29,33,36,38]. Among the patients who developed behavioral disorders, a small minority, less than 10%, developed asocial behavior, this behavior not having been present in these patients before the acute illness, and presumably developing as a consequence of the illness [23,25,29,35]. It is, of course, impossible to know whether or not these asocial behavior disorders would have developed in these patients had they not had von Economo's encephalitis. The asocial behavior, as reported by W. Holt [23], included obsessive thoughts and compulsive actions (6% of 266 patients), stealing (9%), sexual perversions (7%), cruelty (9%), and rage attacks (7%). Some patients exhibited more than one asocial behavior.

G. Anderson, reporting on 33 patients commented: [38]

"*Hitherto well-behaved children became disobedient, excessively bad-tempered, cruel, garrulous, and in some instances, kleptomaniac.* In spite of this change, they had an outstandingly excellent memory."

J. Walters comments: [36]

"A whole group of liars and swindlers was identified among *post-encephalitics*.... Such patients pretended innocence and harmlessness and would dissimulate by complaining about maltreatment by others (as Hitler complained about maltreatment by the Jews, my parenthesis) and about being unjustly accused (as Hitler claimed he was by his enemies).... *Such a behavior pattern is typical of antisocial psychopaths*.... These patients were referred to as *moral imbeciles*.... The *moral imbecile* is often possessed of a cleverness, even a brilliance which distinguishes him....from most ordinary defectives. Usually he is.... an exceedingly plausible and ready liar. But he is absolutely devoid of all moral and altruistic feeling. He knows neither shame nor gratitude (this characterizes Hitler)."

Hitler had an obsession with Jews, with blood and a compulsion to kill, especially Jews. The obsession with Jews and with blood was present before 1918. However, until he became the Führer, he never had the means of satisfying his obsessions, and enacting his compulsions. As K. Heiden writes in his introduction to R. Mannehim's translation of *Mein Kampf* [40]:

"The book may well be called a kind of satanic Bible. To the author (Hitler) although he was shrewd enough not to state it himself... the belief in human equality is a kind of hypnotic spell exercised by the world conquering Judaism with the help of the Christian Churches. Later the Jews invented the mass seduction of liberal democracy....' *By preaching the principle of human equality Judaism has attempted to... to rob them (the Germans) of their leadership'*.... To (inculcate in the Germans) the principle that men are not equal is the purpose of *Mein Kampf*.

All of (Hitler's) schemes, even his friendships, mean bloodshed, '*An alliance which does imply the intention of going to war would be meaningless,*'.... Whether he speaks of art, of education, of economics, he always sees

blood. He does not like a certain kind of artist, or educator, and that will be reason enough to kill them... the light-heartedness with which he threatens murder at the slightest provocation is... even more frightful than the threats themselves."

Hitler stole billions of dollars, and murdered people without remorse, guilt, or regret. Hitler was noteworthy for his extreme cruelty, torturing and beating his victims before murdering them. His favorite method of killing being decapitation. Yet his cruelty co-existed with an unusual kindness and rapport with children and animals. Hitler could preach about the inhumanity of boiling lobsters, then order the death of millions of men, women and children. It may be that this asocial behavior, this psychopathology, was present before 1918, but Hitler did not have a chance to indulge it. Or, it may be that in 1918 the psychopathology was engrafted upon Hitler's personality [36].

DID ENCEPHALITIS TRANSFORM HITLER?

Hitler's mind, which housed his capacity to plan, plot, scheme, organize, and think, also housed his personality and Hitler had a borderline personality. R.L.G. Waite comments in *The Psychopathic God: Adolf Hitler* [10]:

"*Borderline personalities* are those who, while mentally ill, can still function in some areas with great effectiveness. Their pathology differs from *neurosis* and is less severe than *psychosis*, they occupy an area on the *borderline* between the two.... *Borderline patients* characteristically show paranoid tendencies. They distrust and are highly suspicious of other people....

Distrust of others entered into the routines of Hitler's life.... Mistrust became the hallmark of his government and set the tone for... the *Third Reich.*

Borderline personalities consider themselves *especially privileged persons*, they fantasize about their *magical omnipotence*, they believe they have a right to exploit others for their own gratification.... Selfish and narcissistic, they often display a contradiction between an inflated concept of themselves, and an inordinate need for tribute from others.... *Borderline patients* also tend to have phobias about dirt, feces, and contamination. Significantly they are prone to gross forms of sexual perversion involving filth.... We are reminded of Hitler's perversions involving urine and feces.

The most basic characteristic of *borderline personalities* is a *splitting of the* ego. Patients exhibit dramatically opposing personality traits: they are cruel and kind, sentimental and hard, creative and destructive...."

Hitler, with his borderline personality, was a failure the first 30 years of his life and was not promoted in World War I past the rank of corporal, because he was thought by his superiors to lack leadership qualities. In 1918, among the 80 million Germans who swore revenge, Hitler would have been thought least likely to exact it. Bullock, a historian, describes Hitler's rise to power, including his asocial behavior and amorality in traditional terms [6].

"In making use of the formidable power which was thus placed in his hands, Hitler had one supreme, and fortunately rare advantage: he had neither scruples nor inhibitions.... Throughout his career Hitler showed himself prepared to seize any advantage that was to be gained by lying, cunning, treachery and unscrupulousness.

The baffling problem about this strange figure is to determine the degree to which he was swept along by a genuine belief in his own inspiration and the degree to which he deliberately exploited the irrational side of human nature, both in himself and others with a shrewd calculation."

However, it is more tempting to agree with Walters [35]:

"Some *Epidemic Encephalitis* victims, following their attack, exhibited capabilities for leadership, even a certain charisma. *The question arises of course... whether by some unfathomable coincidence, an enhancement of qualities is essential to leadership occurred.... Something happened sometime during the years of military service to transform the obtrusive, argumentative, know-it-all into a shrewd, skilled and charismatic orator.* After the war ended, he became a beguiling actor who learned to sway and fascinate the masses. That one person could have been able to exert such influence is still a matter of dispute and puzzlement debated by psychologists, political scientists, and historians."

If Hitler's mind was transformed by von Economo's encephalitis, and it may have been, it does not answer the question of his uniqueness. For among the millions of encephalitis victims in Germany, France, England, and America only one psychopath emerged as a national leader. And, if Hitler, a psychopath, is to be credited for his astuteness and political leadership in resurrecting Germany, he must be condemned, whether or not he had post-encephalitic parkinsonism, for her defeat, and crimes against humanity: terror bombing of cities, massacre of hostages, enslavement of captured populations, wholesale starvation of Poles, and Russians, and the annihilation of six million Jews.

As Bullock, commenting on the tendency of the German Generals after the War to condemn Hilter, says [6]:

"Before the war, Hitler had scored a series of political triumphs, culminating in *the Nazi–Soviet Pact*, which could challenge comparison with the diplomacy of Bismarck...in 1940, he led the German Army to a series of military triumphs which eclipsed the fame of Moltoke and Ludendorff and challenged comparison with the victories of Frederick-the-Great and even Napoleon.

It is customary to decry this achievement, to point, for instance, to the luck Hitler had in encountering

such weakness and incompetence on the other side, to his good fortune in finding a Manstein to construct his plan of campaign (in France) and men like Guderian to put it into operation. But this is only part of the truth. If there were weakness and incompetence on the other side, it was Hitler who divined it. He was the one man who consistently refused to be impressed by the military reputation of France, the one man who insisted that a quick victory in the west was possible, and who forced the Army, against his Generals' advice, to undertake a campaign which was to prove the most remarkable in its history. If Manstein designed the plan...it was Hitler who took it up. If Guderian was the man who showed what the German *panzer divisions* could do... it was Hitler who grasped the importance.... If Hitler, therefore, is justly to be made responsible for the later disasters of the German Army, he is entitled to the major share of the credit for the victories of 1940. The German Generals (and history) cannot have it both ways."

EFFECT OF PARKINSONISM ON HITLER

Until 1945, Hitler had *Stage 1 or 2* parkinsonism and the disease did not limit his mobility. After 1945, Hitler had *Stage 2 or 3* parkinsonism, and the disease may have limited his mobility. But by 1944 the War was lost, and nothing Hitler did could have altered its outcome.

However, Hitler's parkinsonism, manifested in 1940, only as tremor, may have affected his decision-making, and conduct. Hitler, when he became aware of his tremor, feared the public would associate his tremor with senility. Thus, after 1940, Hitler who had always been visible, and accessible, isolated himself. Bullock writes [6]:

"One of the secrets of his mastery...was his instinctive sensitivity to the mood of a crowd...Hitler had the gift of all great politicians for grasping the possibilities of a situation more swiftly than his opponents. He saw, as no other politician did, how to play on the grievances and resentments of the German people, as later he was to play on French and British fear of war.... *Fingerspitzengefuhl, finger-tip feeling* well describes his sense of opportunity and timing."

Speer [5], and others [1,6,9–11,36,37], comment on Hitler's isolation, an isolation that deprived Hitler of his ability to remain in touch with events. In *Mein Kampf*, Hitler writes [40]:

"He (the Leader) will always follow the lead of the great mass in such a way that from the living emotions of his hearers, the apt word (or thought, or idea) which he needs will be suggested to him...."

While, after 1940, tremor could have been the reason Hitler did not appear in public, and lost his sense of the public, his Fingerspitzengefuhl, it is possible that after he became aware of his tremor, and recognized his mortality, he became a man in a hurry. This may have led him to invade Russia, before he defeated England, or to declare war on the United States, when he did not have to do so. By doing so Hitler violated one of his principle dictums [40]:

"No matter what you attempt, if an idea is not yet mature you will not be able to realize it. Then there is only one thing to do: have patience, wait, try again, wait...."

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