

Post-Traumatic Stress Reactions before the Advent of Post-Traumatic Stress Disorder: Potential Effects on the Lives and Legacies of Alexander the Great, Captain James Cook, Emily Dickinson, and Florence Nightingale

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ABSTRACT Evidence is presented that Alexander the Great, Captain James Cook, Emily Dickinson, and Florence Nightingale each developed symptoms consistent with post-traumatic stress disorder in the aftermath of repeated potentially traumatizing events of differing character. Their case histories also varied with respect to background, premorbid personality style, risk factors, clinical presentation, and course of the illness, illustrating the pleomorphic character of the disorder, as well as the special problems in diagnosing it in historical figures.

INTRODUCTION

Whether the reactions to potentially traumatizing events (PTEs) of war and other disasters currently being diagnosed as post-traumatic stress disorder (PTSD) are a normal, perhaps even adaptive, response (as some have argued¹⁻⁴) or a pathological reaction to traumatizing events,⁵ it is clear that psychological stress can produce disturbing changes in behavior that persist for considerable periods. These changes have plagued veterans of the Vietnam War and will almost certainly plague large numbers of veterans of the current conflicts in Iraq and Afghanistan, just as they probably have plagued veterans of all wars since the dawn of civilization.

Standard histories of PTSD jump from allusions to post-traumatic symptoms in Homer's *Iliad* to descriptions of "soldier's heart" during the U.S. Civil War and the first systematic studies of "shell shock" during World War I.⁶ Virtually nothing has been written about its existence or potential influence on the course of history during the years between the Trojan and U.S. civil wars.

In the present investigation, we review evidence that four influential figures of pre-World War I history, namely, Alexander the Great, Capt James Cook, Emily Dickinson, and Florence Nightingale (Fig. 1), each developed symptoms consistent with PTSD in response to different types of PTEs. They differed with respect to background, premorbid personality styles, risk factors, clinical presentation, and course of the illness. Together, they illustrate the pleomorphic character of PTSD, the special problems in diagnosing it posthumously, and its potential influence on the lives and legacies of four prominent historical figures.

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CASE HISTORIES

Alexander the Great (356–323 BCE)

At the age of 22, 2 years after his father was assassinated in 336 BCE, Alexander crossed the Hellespont with an army of just over 30,000 men to conquer the "known" world. In 10 years of bloody hand-to-hand combat, in which he received several near-fatal wounds and saw legions of comrades struck down by injury and disease, Alexander subjugated the vast Persian Empire of Darius III to become "Lord of Asia." When he reached western India, however, his exhausted troops refused to march further, forcing him to halt his conquest to the east and return to his new capital at Babylon. Although until that time he had been a peerless leader, brave, adventurous, adaptable, ingenious, and considerate of those who served under him, Alexander began to exhibit disturbing changes in his character during the return from India. First, he drove his exhausted army through the Gadrosian Desert, where two-thirds perished from dehydration, starvation, and hyperthermia. Then, he began executing the lieutenants and satraps who had served him as middle managers of the empire during his conquests to the east. By the time he reached Babylon, he was drinking heavily and had become so pathologically suspicious and easily alarmed that he regarded the "least unusual or extraordinary thing as a prodigy or a presage."⁷ (p 853) During one of his alcoholic binges, he developed the mysterious febrile illness that killed him and ended plans then being formulated for renewed conquest around the Arabian peninsula and across North Africa.⁷

Capt James Cook (1728–1779)

Capt James Cook, the son of a common laborer from north Yorkshire, England, became the most famous navigator of his day, discovering and charting coastlines for Britain from the Arctic region to the Antarctic region and from the east coast of Australia to the west coast of North America, as well as hundreds of islands in between. During his first voyage of



FIGURE 1. (Left) Emily Dickinson (daguerreotype taken shortly after her 16th birthday). (Right) Florence Nightingale (photograph taken at age 37).

discovery from August 1768 to July 1771, Cook nearly perished when his ship struck a reef off Australia; he had his first encounter with cannibalism; he lost one-third of his men to a shipboard epidemic of unknown etiology, which also nearly killed him; and, after almost 3 years of the strains and stresses of command at sea, he returned to England to find that a son and daughter had died during his absence. In <1 month, Cook was committed to a second voyage lasting from July 1772 to July 1775, in which he suffered the terrors of two Antarctic sweeps in a wooden ship, again struck a reef (this time off Tahiti), had an attack of “bilious colic” and a blast wound to his hand, witnessed further instances of cannibalism, and lost one of his marines overboard. At that time, after another 3 years at sea, he seemed to have had enough of the pressures of command and applied for a position at the Royal Hospital for Seamen at Greenwich, a sinecure with few duties that was usually granted as a reward for distinguished service. Although initially excluded from consideration as commander of a third voyage of discovery, “after wine had been passing around the table for some time” at a dinner attended by Admiral Hugh Palliser, Sir Philip Stephens, and Lord Sandwich (Britain’s Comptroller of the Navy, Secretary of the Admiralty, and First Lord of the Admiralty, respectively), Cook announced, “I will myself undertake the direction of this enterprise if I am so commanded.”⁸ (p 271)

In his first two voyages, Cook distinguished himself as “the most moderate, humane and gentle circumnavigator that ever went upon discoveries,”⁸ (p 2) exhibiting a new and refreshingly civilized attitude toward the men who served under him and the natives of the lands he exposed to European view for the first time. In 1776, however, he embarked on his third voyage of discovery a changed man, one who had lost his burning curiosity and had become cruel, irritable, and

profane. His seamanship had become faulty; whereas before he had been both concise and precise, he constantly delayed and vacillated from one plan to another, and he tempted fate repeatedly with foolhardy acts, such as sailing fast with the wind in fog with visibility of no >100 yards. Ultimately, his recklessness led to his death in a melee he provoked with Hawaiian warriors and from which he might easily have escaped, had he made any effort to flee his attackers.⁸

Emily Dickinson (1830–1886)

Emily Dickinson spent virtually her entire life in Amherst, Massachusetts, sheltered from the outside world among her socially prominent family. As a child, she was “one of the wittiest girls in [her] school, a self-proclaimed free spirit,”⁹ (p 37) and by the time she reached her middle teens, she was brimming with self-confidence, exclaiming, “I am growing handsome very fast indeed! I expect I shall be the belle of Amherst when I reach my 17th year. I don’t doubt that I shall have perfect crowds of admirers at that age.”¹⁰ (p 13) However, in <2 years, she underwent a striking metamorphosis, retreating into the world of a recluse. An accumulation of PTEs coincided with her withdrawal from society and might have precipitated the change in behavior. During her 14th year, there were the deaths of four intimates in rapid succession, whose funerals she was forced to attend. One of these deaths was that of a cousin of the same age, Sophia Holland, into whose room Dickinson stole moments after the girl died; Dickinson reportedly remained staring transfixed into her dead cousin’s face “until others pulled her away.”⁹ (p 15) During this same time, Dickinson developed intermittent fever, cough, and possibly hemoptysis, which would plague her for decades and force her to withdraw from Mount Holyoke College at age 17. Her mother had a similar illness that relatives feared

was hereditary. Emily was her mother's primary caregiver for nearly three decades. In the late 1850s, Dickinson began secluding herself from most social contact, refusing to come downstairs even to meet close friends, no longer attending church, fleeing from the room or from the garden at the approach of outsiders, meeting visitors at the foot of the backstairs by moonlight alone, conducting conversations from behind an ajar door or screen, and permitting her doctor to examine her only by observing while seated in the next room as she walked by an open door. At age 35, she began to recover, to become more interactive socially, and to write poems less morbid than the earlier ones for which she is remembered. She died at age 56, most likely of hypertension complicated by a massive stroke.⁹

Florence Nightingale (1820–1910)

Florence Nightingale, born into a family of Britain's social elite, was serious as a child, although frail, and yet remarkably independent. She was also deeply religious. Vigorously educated at home at a time when universities admitted only men and British society had little interest in equal education for women, Nightingale had the courage and conviction to challenge her society's strictures and take up the then-masculine vocation of nursing. In 1854, in her middle thirties, she traveled to Skutari (now Uskudar), Turkey, to care for British soldiers fighting the Russians in the Crimea. With a mere 38 nurses under her, she provided medical care to a seemingly endless stream of troops wracked by frostbite, gangrene, dysentery, and other diseases and crammed into 4 miles of beds not 18 inches apart. Her own quarters were cramped and infested with rodents and vermin. During January and February of her first winter, Nightingale saw 3,000 of the soldiers die, while she worked 20 hours per day much of the time and took the most-severe cases herself. In May of the following year, she developed a near-fatal illness (most likely brucellosis). Although she was urged to return to England, she remained with the Army during her convalescence and did not leave her post until the last soldier had left for home 21 months after her arrival. When she reached England, she appeared hardened and aged by illness and exhaustion. She complained of intermittent fever, anorexia, fatigue, insomnia, irritability, depression, sciatica, dyspnea, and palpitations, which for nearly three decades kept her confined to her room, scarcely ever off her sofa. Finally, in her sixties, these symptoms began to abate, and the cold, obsessed, and tyrannical workaholic she had been as an invalid gradually transformed into a gentle matron capable of something close to normal relationships with relatives and friends. She never returned to nursing and died of "old age and heart failure" at age 90.¹¹

METHODS

Because diagnostic data could not be obtained from the subjects themselves, we relied on information collected from source material and the opinions of experts regarding likely responses of these four historical figures to a standard PTSD

assessment instrument. Biographical material on each of the subjects was reviewed by the authors to determine the presence of criterion A stressors.¹² Criterion A1 experiences may involve the person experiencing, witnessing, or being confronted with event(s) that involve actual or threatened death or serious injury or threat to the physical integrity of self or others. Details of PTEs for each of the four historical figures are presented in the case studies above. Given the lack of first-hand descriptions of personal responses to these PTEs, the presence or absence of criterion A2 responses to the events (fear, helplessness, or horror) could not be evaluated.

To further assess the presence and severity of post-traumatic symptoms, persons with special knowledge of the biographical details for each of the four historical figures were contacted. Each has written extensively about one of the historical figures in question and/or is a member of a society dedicated to the study of that person. Each of these "experts" was given a copy of the PTSD Checklist (PCL)¹³ and asked to respond to the questions contained therein as they believed the historical figure would have, had he or she been examined during the period of altered behavior following exposure to his or her PTEs.

The PCL is a 17-item, self-report measure that assesses the individual symptoms of PTSD. The respondent is asked to rate the extent to which the problem described in each item has bothered him or her during the past month. Scores of ≥ 50 for military samples and ≥ 44 for nonmilitary samples have been proposed as diagnostic of PTSD.¹³

RESULTS

The experts representing Alexander, Florence Nightingale, and Emily Dickinson all felt they were familiar enough with the lives of their historical subjects to hazard responses to the questions included in the PCL, although they indicated that the source material with which they were familiar did not always directly address the questions asked. As shown in Table I, Alexander and Dickinson both scored 46 on the proxy PCL completed by their respective experts. Nightingale earned a PCL score of 58. If the data obtained in this fashion are valid, then these scores, each of which is in the range of modern PTSD samples, in conjunction with the criterion A stressors reported in the case histories above, are indicative of a diagnosis of PTSD for each of the three historical subjects. The Captain Cook Society expert (who was assisted by other society members in completing the PCL) reported that the nature of available source documents related to Capt Cook (i.e., his formal journals, which were designed to be read by the British Admiralty) do not lend themselves to attributions of Capt Cook's probable mental health or post-traumatic symptoms. Based on the information to which this expert had access, he felt justified only in endorsing symptoms of anger/irritability and hypervigilance, both of which were rated at a level of "Quite a bit."

DISCUSSION

Alexander, Cook, Dickinson, and Nightingale all exhibited striking changes in behavior in the aftermath of repeated

TABLE I. Proxy PCL Responses of Biographical Experts for the Four Historical Figures

	Response			
	Alexander ^a	Cook ^b	Dickinson ^c	Nightingale ^d
1. Repeated, disturbing memories, thoughts, or images of a stressful experience from the past.	2		3	4
2. Repeated, disturbing dreams of a stressful experience from the past.	2		1	4
3. Suddenly acting or feeling as if a stressful experience from the past were happening again (as if you were reliving it).	1		3	4
4. Feeling very upset when something reminded you of a stressful experience from the past.	2		2	3
5. Having physical reactions (e.g., heart pounding, trouble breathing, and sweating) when something reminded you of a stressful experience from the past.	3		1	4
6. Avoiding thinking or talking about a stressful experience from the past or avoiding having feelings related to it.	2		2	3
7. Avoiding activities or situations because they remind you of a stressful experience from the past.	2		5	4
8. Trouble remembering important parts of a stressful experience from the past.	2		1	2
9. Loss of interest in activities that you used to enjoy.	4		4	4
10. Feeling distant or cut off from other people.	4		4	3
11. Feeling emotionally numb or being unable to have loving feelings for those close to you.	3		2	4
12. Feeling as if your future somehow will be cut short.	3		5	5
13. Trouble falling or staying asleep.	5		1	4
14. Feeling irritable or having angry outbursts.	4	4	1	3
15. Having difficulty concentrating.	2		1	3
16. Being "superalert" or watchful or on guard.	3	4	5	2
17. Feeling jumpy or easily startled.	2		5	2

The responses were as follows: 1 = not at all; 2 = a little bit; 3 = moderately; 4 = quite a bit; 5 = extremely.

^a Dr. Eugene Borza, author of three books on Alexander and ancient Macedonia, Emeritus Professor of Classics, Pennsylvania State University.

^b Cliff Thorton, President, Captain Cook Society (West Yorkshire, England).

^c George Mamunes, author, "So Has a Daisy Vanished": Emily Dickinson and Tuberculosis.

^d Alex Atwell, Director, Florence Nightingale Museum (London, England).

PTEs of differing character. Were these changes precipitated by the PTEs and, if so, did they represent normal reactions to stressful events or more sinister (pathological) psychological reactions? Did these four subjects have PTSD? If not, what caused the profound changes in their behavior?

Although in many respects the constellation of symptoms seen in patients diagnosed with PTSD is distinctive,⁵ some authorities question the validity of the disorder as a specific psychiatric diagnosis, pointing out that, after highly distressing events, virtually everyone is troubled with feelings of anxiety, loss of sleep, nightmares, and occasional flashbacks and that both the extent and duration of these symptoms correlate directly with the severity and duration of the stressful events.¹⁻⁴ Whether or not the symptoms constituting PTSD in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition,¹⁴ are truly unique to this diagnostic category, it is clear that, under certain circumstances, PTEs can produce devastating psychological reactions of considerable duration. If the symptoms exhibited by these four famous historical figures were "natural" reactions to the PTEs to which the figures had been exposed, then they were at best socially disruptive and at worst fatal. Moreover, we think that the symptoms were of a character and an intensity consistent with criteria currently used to define PTSD.

Diagnosing PTSD in historical figures is considerably more challenging than diagnosing PTSD in living subjects, because the instruments currently used to establish the diagnosis cannot be administered in traditional fashion. Consequently, only the most florid historical cases of the disorder are likely to be diagnosed. Although in the present investigation we tried to circumvent this problem by having questionnaires completed by proxy for each of our subjects, the validity of data obtained in this manner, even from recognized experts, is uncertain. Moreover, historical records are only moderately helpful in establishing the diagnosis posthumously, because they rarely reveal subjects' inner feelings. For these reasons, standard criteria used to define PTSD "caseness" in contemporary patients are difficult to apply to historical figures. Nevertheless, all four of these famous subjects exhibited many of the cardinal features of PTSD in the aftermath of repeated PTEs, such that, even in the absence of responses to standardized PTSD instruments reported by the subjects themselves, the findings point to PTSD as a likely cause of the striking changes in behavior. Other diagnoses are also possible, however, and must be considered, either as alternatives to PTSD or as possible comorbidities.

For all four subjects, depression was a prominent feature of their post-traumatic psychological states and might well have been their principal disorder. In Alexander's case, because of his

nearly constant inebriation for at least 7 months before he died, alcohol dependence rather than PTSD has to be considered as the principal diagnosis. It is also possible that, after more than a decade of fighting, scheming, and murdering in pursuit of absolute power, Alexander changed because he came to realize that absolute power demanded eternal vigilance.¹⁵ Similarly, Cook's apparent mental burnout might have been the result of an adjustment reaction to the unremitting stresses of two harrowing voyages of discovery, rather than the consequence of PTSD. Dickinson had many of the classic symptoms of panic disorder with agoraphobia, complicated by the hormone-induced alterations in mood that sometimes accompany the onset of puberty in women. It is also possible that she had an anxiety disorder other than PTSD (social anxiety disorder, for example) that was largely unrelated to the PTEs that coincided with her retreat into seclusion. If Wisner et al.¹⁶ are correct, then Nightingale had bipolar I disorder with psychotic features both before and after her traumatic experiences in the Crimean War. Perhaps this was the condition, rather than PTSD, that sent her to bed for the better part of three decades. Although it was also suggested that chronic brucellosis was responsible for her protracted invalidism,¹¹ the duration of the illness and its spontaneous resolution after creating physical and mental havoc for nearly 30 years renders this diagnosis unlikely.

If these four famous individuals did all have PTSD, as our interpretation of the evidence suggests, then their illnesses covered a broad spectrum of the condition (as currently defined), in terms of the variety of PTEs inducing the stress reaction, premorbid personalities, ethnocultural contexts in which reactions to PTEs find expression, and clinical manifestations, course, and consequences of the disorder. All four of these individuals were subjected to repeated severe PTEs over extended periods. For Alexander, there were the manifold stresses of war; for Cook, famine and other life-threatening traumas of nature; for Dickinson, repeated exposure to death (of relatives and close friends, as a result of a disease she feared was hereditary); and, for Nightingale, plague and compassion fatigue (complicated not just by survivor guilt but also by guilt over complicity in perpetuating the pestilence that carried off so many of her patients).

The diverse premorbid personalities and backgrounds of these four patients emphasize the breadth of the susceptible population, given exposure to PTEs of sufficient intensity and duration, as well as the influence of the sociocultural environment in which the disorder arises on its clinical expression. Alexander was a warrior king whose psychological reaction to an accumulation of PTEs was dictated and then judged by the warrior society over which he presided as supreme ruler. Of these four individuals, he was endowed with perhaps the greatest resilience, which for a time seemed to inure him to the adverse psychological effects of the PTEs of conquest. Eventually, however, even for him, there was a limit to the intensity and duration of PTEs that could be tolerated before he was broken psychologically. For Cook, the super-mariner, social pressure applied by a caste-conscious society, which was by nature suspicious of the accomplishments of self-made members of its lower classes,

forced him to endure yet more PTEs when he was already psychologically disabled. Possibly (as proposed by Janet¹⁷ more than a century ago) efforts to keep memories of the PTEs of his first two voyages at bay sapped him of psychological energy to such an extent that, during his third voyage of discovery, he was too exhausted mentally to perform the focused and creative activities required of him as naval commander. Dickinson benefited from the continuous social support of her younger sister Lavinia, as well as that of a large circle of devoted friends. However, she was the least resilient and suffered her PTEs during an especially vulnerable period in her psychological development (puberty). Nightingale, although more resilient, answered to a less nurturing society, which in fact was not much different from Cook's. As a member of the upper class and a woman, she might have enjoyed a life insulated from the PTEs that sent her to bed for three decades. However, she rejected the traditional role of a socially elite woman to take up a role then performed exclusively by men of lower social station.

A prominent feature of the post-traumatic responses of both Dickinson and Nightingale was self-imposed seclusion. Interestingly, Nightingale did not retreat to bed with her myriad somatic complaints until after she returned from Scutari. Cook was traumatized in an ethnosociological environment similar to Nightingale's, which idealized the capacity to suffer and to endure. However, whereas a woman might react to PTEs that had become intolerable by taking flight into somatic complaints, indulging in Victorian melodrama, or retreating into self-imposed isolation (but only when no longer judged according to the masculine standards of a battlefield environment), a man of the same society could not do so without inciting societal condemnation. To Dickinson's society, the idiosyncratic behavior that dominated her post-traumatic response was not only understandable but to some extent even desirable, in that it enhanced her image (mystique) as a poetess. Given their positions, their gender, and the societies to which they answered, neither Alexander nor Cook could resort to such behavior in response to their PTEs without being calumniated as cowards or deviants or, in the words of Winston Churchill's physician, Charles Wilson, as "unable to stand the test of men . . . [having] about them the marks known to our calling of the incomplete man, the stamp of degeneracy."¹⁸ Alexander "chose" continuous inebriation as the only form of self-imposed seclusion appropriate for a warrior king. Cook, most likely in response to perceived expectations of the society to which he answered, pressed on in the face of post-traumatic mental exhaustion, although he was no longer capable of concentrating on the tasks of command.

How the post-traumatic responses of these four prominent historical figures affected their legacies is, of course, open to conjecture. Although a fever killed Alexander before he could implement plans for a new expedition around the Arabian Peninsula and across North Africa, he was already so incapacitated psychologically by the stresses of his eastern campaign that it is unlikely he could have led a new expedition to the west even if he had survived his febrile illness. Cook's psychological collapse after his second voyage of discovery ended his days as an

effective explorer. Although enraged Hawaiians killed him, it was his erratic post-traumatic behavior that precipitated the meleé in which he died. Emily Dickinson's post-traumatic transformation was different. It energized rather than immobilized her, to the extent that it inspired the poems that are her principal legacy, much as the survivor guilt that sent Florence Nightingale to bed for three decades simultaneously drove her to agitate relentlessly for better treatment of soldiers, women's suffrage, and sanitary reform and, in so doing, to create her most important legacy.

No doubt the debate over the legitimacy of PTSD as a distinct diagnosis will continue, given the overlap of several PTSD symptoms with those of other anxiety and depressive disorders. Although controversy persists regarding what symptoms, if any, are appropriately regarded as PTE-induced, it is clear that traumatic experiences have the capacity to radically alter human behavior. As these four case studies demonstrate, such PTE-induced behavioral transformation is not a new phenomenon, nor is it one limited to minor players in history. We think that Alexander, Cook, Dickinson, and Nightingale are but four examples of how the phenomenon has altered the lives and legacies of influential historical figures. If so, its effect on the course of history might have been profound and merits ongoing rigorous study.

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