

Intelligence and neurological disease in Stefan Zweig's *Chess Story*

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ABSTRACT

Introduction and objectives. Stefan Zweig (Vienna 1881-Petrópolis 1942) was a highly successful essayist and novelist in his own lifetime. As an Austrian-born Jew and a cosmopolitan freethinker, he was persecuted and his works were prohibited in Nazi Germany and its occupied territories before he was forced into exile. *Chess Story*, a cornerstone of his later works, contains neurological references that we will examine here.

Methods. We present a reading of this novel in which we 1) identify excerpts with neurological relevance; 2) analyse its biographical and historical context (1941); and 3) use the above to complete a critical rereading and interpretation.

Results. One of the main characters displays 1) an extraordinary ability for chess and savant-like features; the protagonist, in stark contrast is an imaginative intellectual who became a self-taught chess player by chance. After being imprisoned and held in solitary confinement by the Nazis, he survives thanks to chess, his practical intelligence, and his resilience. During his time in solitary confinement, he experiences 2) an induced deafferentation syndrome with emotional and agitated symptoms compatible with delirium or confusional syndrome. After his release, Dr B. displayed post-traumatic stress disorder. In addition to the above, the author describes 3) complex motor stereotypies due to imprisonment, and the pre-modern entity of "brain fever". The brief appearance of a doctor, a sympathetic character who protects Dr B, represents unofficial medicine, the unseen assistance provided to victims in Nazi Germany.

The savant character (an asocial, selfish person described as being intellectually stunted, with no interests) may represent society at large in the author's time. Since there are no true clinical descriptions of chess savants, this character study may be read as a neuroliterary case description predating any such report by medicine. The multifaceted player, serving as the writer's alter ego, is portrayed as a victim; persecuted and envied for his accomplishments, he survives thanks to his multifaceted intelligence. Zweig also suffered isolation in exile experienced severe emotional trauma.

Conclusion. The double suicide of Stefan Zweig and his wife while in exile in Brazil was motivated by their pessimistic view on the war and the future of their country. Such was the tragic ending to the real biographical events hinted at in *Chess Story*. The contrast between different types of intelligence and different neurological symptoms constitute the basic elements in the plot, and they lend it its cohesion and driving force.

KEYWORDS

Stefan Zweig, *Chess Story*, savant syndrome, literature, medicine, history of neurology

Introduction

The relationships between literature and neurology should be examined within the framework of the relationships between literature and medicine. From this

perspective, we can see that one link between literature and medicine is found in the description of medical conditions. Classic examples of this association include the depictions of sleep paralysis in *Moby-Dick*, locked-in syndrome in *The Count of Monte Cristo*, or Pickwickian

syndrome whose name was taken from Charles Dickens' novel. Each of these literary descriptions predates its counterparts in the medical literature.^{1,2} If these great authors' powers of observation allowed them to make new clinical discoveries, it is not surprising that the pages of so many different narrative genres would yield excellent descriptions of semiological or clinical entities that had already been covered by the medical literature. Examples of these descriptions include the visual hallucinations featured in different stories by Maupassant,³ as well as the meticulous details in Pérez Galdós' contemporary novels about the different forms of migraine and their symptoms, trigger factors, and treatments at that time.⁴ The didactic value of these descriptions is obvious and also largely untapped.

While the discoveries and descriptions of diseases play key roles in the relationship between literature and neurology, another crucial element is the depiction of the healthcare systems (or lack thereof) pertaining to the time and place. Novels from different periods offer this information, and provided that they are written from a realist perspective, they may be considered authentic historical documents. Examples include descriptions of tuberculosis sanatoriums (*The Magic Mountain* by Thomas Mann; Thomas Bernhard's *Gathering Evidence*, and *Goodbyes and Stories* by Juan Carlos Onetti). We also find depictions of rural medicine and care in large hospitals, generally charity hospitals, in bygone times (*The Tree of Knowledge* and various short stories by Pío Baroja), or problems inherent to the healthcare systems that began emerging in the 19th and early 20th centuries (*Fortunata and Jacinta*, *La desheredada*, and *El amigo Manso* by Pérez Galdós; *Tiempo de silencio* by Martín Santos).⁵ In these cases, the narrator speaks from a pulpit for social criticism; observations may be direct as in Thomas Bernhard's works, or implicit, as in the other novels cited above.

From a writer's point of view, an invalid and his or her symptoms may constitute the central pillar of the plot by providing the narrative value intrinsic to these topics. Without the headaches that plagued the Rubín family, *Fortunata y Jacinta* would be a different novel, and Maupassant's *Le Horla* is inconceivable without the device of the visual phenomena which the author knew well. The same can be said of narrative descriptions of medical care. Authors often had access to sources of information that may guide our neurohistorical research. These sources are varied, and they include literary impressions of the author's own diseases, the author's experiences as a doctor, reports from acquaintances practising medicine,

and knowledge acquired in a classroom setting or from textbooks. Pérez Galdós himself suffered severe familial migraines; today, he would have been diagnosed with chronic migraine and headache induced by overuse of combination analgesics. His social circle included the great doctors of his time, including Gregorio Marañón and Manuel Tolosa Latour. Pérez Galdós also had access to official clinical texts; his collection included well-read and underlined copies signed by their authors, and their influence can be seen in his novels. Maupassant frequently attended the famous "Tuesday Lessons" presented by Charcot in La Salpêtrière, and references appear in his stories. Pío Baroja and Martín Santos, on the other hand, were both trained as doctors. These are just a few examples of possible avenues of research in neurology and literature; some of these projects are underway, while others are still pending.

These preliminary reflections set the scene for an analysis of the writings of Stefan Zweig (Vienna 1881-Petrópolis 1942). Zweig (Figure 1) enjoyed tremendous international prestige as a writer in his own lifetime. While he was all but forgotten for decades, recently edited high-quality editions have introduced his books to younger generations and paved the way for new discoveries of his contributions to neurohistory. Zweig belonged to a wealthy Jewish family which he described as non-practising: "my father and mother were only Jewish by accident". As a member of the Viennese intellectual elite of

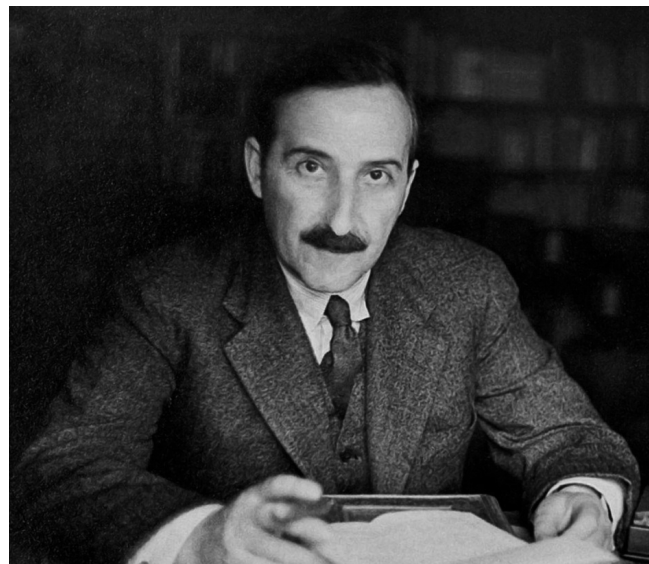


Figure 1. Undated photo of Stephan Zweig in his later years

the interwar years, he was socially connected to many of the great names of his time (Einstein, Paganini, Richard Strauss, Rilke, Joseph Roth, Rodin, and Gorki). Thanks to his family's fortune, he was able to travel and cultivate ideals of rationalism and, tolerance, and a love of the truth. This upbringing ensured that he would find himself at odds with the official political and cultural climate as Nazism spread. In 1936, Zweig's works were prohibited in Germany and its satellites; faced with persecution, the author chose exile. He obtained British citizenship, and after several stops across Europe and the Americas, he came to rest in Brazil. His own situation and the events of WWII filled him with despair. Convinced that Nazism would leave no corner of the world untouched, he and his wife planned their suicides meticulously, and left a note that even specified who was to care for their dog.⁶

Although *Chess Story* is a novella, it is regarded as his crowning achievement (Figure 2). Published in 1941, a year before Zweig's suicide, it reflects the author's mature style in a work of social criticism that foreshadows his tragic demise. This book contains references to clinical neurology that play a central role by lending the plot its structure and driving force. The purpose of this article is to identify, describe, and analyse these passages.

Methods

We have completed a structured reading of the novel, using the Spanish-language version published by Editorial Acantilado in 2011. Passages mentioning neurological and other medical concepts were extracted and analysed based on neurological semiology. The analysis also draws from the historical setting and the author's biography to provide a critical re-reading and interpretation of the novella.

Results

Our findings are as follows:

1. Selective savant-like intelligence as displayed by Mirko Czentovic, one of the two main characters in the story. The orphaned son of labourers, he is adopted by a village parson who discovers his extraordinary chess skills quite by accident. Otherwise, the boy is extremely slow and shows no initiative whatsoever. This boy's selective genius-level chess skills are suggestive of savant syndrome.



Figure 2. Covers of the Spanish and original German editions of the novella

The tow-headed, rosy-cheeked fifteen-year-old...beat all his opponents, one after another....At seventeen he had already won a dozen prizes, at eighteen the Hungarian Championship, and at twenty he was champion of the world.^{6(p10-14)}

This character displays three relevant features, which are listed below.

a) dysexecutive syndrome with intellectual disability, illustrated in the following passages:

...the lumpish, taciturn, broad-browed boy was unable to learn at the village school....no matter how simple the subject, his brain labored heavily but retained nothing. At the age of fourteen he still counted on his fingers, and, though he was now an adolescent, he could read books and newspapers only with great difficulty.^{6(p7)}

Yet Mirko could not be called reluctant or willful. He obediently did what was asked,...But what irritated the good parson most about the awkward boy was his total apathy. He did nothing unless specifically told to,...and undertook no activity that had not been explicitly assigned to him; once Mirko had finished his chores, he sat around listlessly indoors...taking not the slightest interest in what went on around him.^{6(p7)}

b) A mind incapable of abstract thought and mentalisation: despite his genius at playing chess, the boy was unable to imagine a simple chessboard layout or a move.

For Czentovic never managed to play a single game by memory alone—"blind," as the professionals say. He completely lacked the ability to situate the field of battle in the unlimited realm of the imagination.

He always needed to have the board with its sixty-four black and white squares and thirty-two pieces...^{6(p13)}

This failing, in itself minor, betrayed a lack of imaginative power...But this strange idiosyncrasy did nothing whatever to slow Mirko's stupendous climb.^{6(p12-13)}

It took some time to make the ignorant boy understand that in a simultaneous game he would be the only opponent of a range of players.^{6(p11)}

c) Single-mindedness. This savant, limited in all intellectual domains except for chess, cut an incongruous figure in the intellectual circle in which elite chess players moved in those days. This contrast is further highlighted by the description of Czentovic's personality, which focuses on his pettiness and his consistently selfish behaviour without the slightest trace of generosity or scruples. He is also conceited and, in consequence, single-minded and obsessed solely with chess; the boy is incapable of leaving behind that world and the benefits it brings him. Mirko's simple-mindedness is such that the author briefly mentions Gall's study of phrenology, stating that the player would have been a fascinating subject in that scholar's search for a direct relationship between cerebral or cranial regions and specific capacities or traits.

Thus it happened that the illustrious gallery of chess champions, including among their number the most varied types of superior intellect—philosophers, mathematicians, people whose natural talents were computational, imaginative, often creative—was for the first time invaded by a total outsider to the intellectual world, a dull, taciturn peasant lad, from whom even the craftiest newspapermen were never able to coax a single word of any journalistic value.^{6(p13)}

Czentovic became an irredeemably grotesque, almost comic figure;...he was artless and almost brazen in extracting, with a miserly, even vulgar greed, what money he could from his talent and fame....he permitted himself to appear in soap advertisements,...he couldn't put three sentences together—sold his name for use on the cover of a *Philosophy of Chess* which had actually been written for the enterprising publisher by an insignificant Galician student.^{6(p14)}

Czentovic had no sense of the ridiculous; ever since his triumph in the world tournament, he considered himself the most important man in the world, and the awareness that he had beaten all these clever, intellectual, brilliant speakers and writers on their own ground, and above all the evident fact that he made more money than they did, transformed his original lack of self-confidence into a cold pride that for the most part he did not trouble to hide.^{6(p14)}

...and since he has no idea that there's anything of value in the world other than chess and money, he has every reason to be pleased with himself...this odd specimen of a one-track mind...^{6(p15)}

That wily peasant is tremendously shrewd behind all his abysmal limitations. He never lets anything slip...When he senses an educated person he crawls into his shell. That way no one will ever be able to boast of having heard him say something stupid or of having plumbed the depths of his seemingly boundless ignorance.^{6(p16)}

In earlier times, when there was a rage for physiognomy, a Gall might have dissected the brains of such chess champions to determine whether there was a special convolution...And how excited such a physiognomist would have been by the case of a Czentovic, in whom this narrow genius seems embedded in absolute intellectual inertia like a single gold thread in a hundred-weight of barren rock.^{6(p18-19)}

As a foil to Mirko Czentovic, Stefan Zweig introduces the character known as Dr B. His full name is never given, and this device of symbolic anonymity allows readers of similar social backgrounds and personality types to identify with this character, whose main traits are described below.

He was born into a wealthy family whose members included the Kaiser's personal physician and an abbot; his own father was a representative of the clerical party. These good connections provided his father with a living as the administrator and legal advisor for large monastic estates, and he completed his tasks with great discretion.

Dr B.'s environment, was marked by envy, jealousy, and revenge. At this time, every corner of society had been infiltrated by people working as crucial informants for a power striving to appropriate all available riches and eliminate any obstacles to its plans for expansion.

Now the Nazis, long before they built up their armies against the world, had begun to organize an equally dangerous and well-trained army in all neighboring countries—the legion of the disadvantaged, the neglected, the aggrieved. Their 'cells' were tucked away in every office, every business; their informers and spies were everywhere, all the way up to the private chambers of Dollfuss and Schuschnigg. They had their man even in our obscure office, as I unfortunately failed to discover until it was too late.^{6(p42-43)}

Dr B., as a member of the wealthy classes with riches yet to be confiscated, received a very different type of treatment from his tormentors than was seen in the concentration camps. Important detainees, housed in conditions befitting their standing, were subjected to psychological

torture in the form of solitary confinement. The purpose of isolation is to eliminate all types of physical or mental stimulation so that the prisoner will be more easily manipulated into delivering or revealing information: in this case, the whereabouts of the goods in question.

You will perhaps remember that our chancellor, and in a different sort of case Baron Rothschild, from whose relatives they hoped to wring millions, were not put behind barbed wire in a prison camp. By no means. Instead, as if they were being accorded preferential treatment, they were taken to a hotel, the Hotel Metropole—also the Gestapo's headquarters—where they were each given separate rooms. Insignificant as I may have been, I was also granted this distinction.^{6(p46)}

For the requisite 'evidence' was to be wrested from us by a force more sophisticated than crude beating or physical torture: the most exquisite isolation imaginable. They did nothing—other than subjecting us to complete nothingness. For, as is well known, nothing on earth puts more pressure on the human mind than nothing.^{6(p47)}

But the door stayed locked day and night, no book, no newspaper, no sheet of paper or pencil was permitted to be on the table, the window faced a firewall; complete nothingness surrounded me both physically and psychologically.^{6(p48)}

In the end, Dr B., like the narrator/writer figure, is not merely an individual cut off from all contact and subjected to an oppressive and destructive lack of stimulation; he is a torture survivor marked by severe sequelae. The mere suggestion or sight of an element associated with his torture—a game of chess, in this case—triggers the sequence of alterations in his thought process that he experienced during his time in isolation.

I don't want to fall again into that passionate chess fever, which I recall with nothing but horror ... and anyway ... anyway the doctor warned me ... warned me specifically. Anyone who has suffered from a mania remains at risk forever, and with chess sickness (even if cured) it would be better not to go near a chessboard ...^{6(p 80-81)}

The author, like Dr B. himself, was envied and persecuted, and experienced isolation in exile; he too suffered profound emotional trauma, and his scars would never heal.

2. Intelligence and deafferentiation symptoms in Dr B.

a) Mentalisation ability

Dr B., deprived of all stimuli and subjected to the torture of monotony as described above, has the good fortune to find a means of escape: a tiny book of chess

in the coat pocket of one of the officers conducting in the interrogations. He is able to steal it and discovers that it is an anthology of master chess games. Although he is scarcely familiar with the game, he is soon able to decipher the book and put its teachings into practice. Lacking a board and pieces, he soon learns to play entire games in his head and master the strategy. His situation is entirely opposite to that of Czentovic, the savant described in the previous section. Dr B.'s intelligence is what frees him from the obsessive thoughts and ruminations—he himself describes them as delirious and unhealthy—which he experienced while deprived of all spatial and temporal references. This exercise would bolster his psychological resistance and provide an unexpected source of strength, enabling him to coolly resist his interrogations.

But what good was this theoretical rubbish? You can't play chess without another player and certainly not without pieces, without a board....I found nothing but plain square diagrams of each of the master games and underneath them symbols that were incomprehensible to me at first, a2-a3, Nf1-g3, and so on. It all seemed to me like a kind of mathematical code,... I only gradually deciphered it: to designate the positions of the pieces, the letters...stood for the vertical rows and the numerals...for the horizontal rows; so that these diagrams, though schematic, had a language all the same. During those early days I was constantly becoming confused;...After six days I played the game perfectly all the way through;...The transformation was total: I had created an internal projection of the chessboard and pieces and was able to see any position based on nothing more than the formulas in the book, the way an expert musician has only to glance at a score to hear all the voices and their harmonization. After another fourteen days I was able to play through every game in the book effortlessly and by heart—I played 'blind,...At first I played the games through quite mechanically; yet gradually a pleasurable, aesthetic understanding awoke within me.^{6(p60-63)}

For suddenly I had something to do...something that nullified the nullity surrounding me;...So my day, otherwise as formless as jelly, was full, I was busy,... Each day my silent cell was filled with ceaseless novelty, and the very regularity of my exercitia restored the acuity of my intellectual faculties: I felt my mind refreshed, even honed, so to speak, by the constant mental discipline.^{6(p63)}

The fact that I was thinking more clearly and coherently was especially evident during the interrogations. At the chessboard I had unconsciously perfected a defense...from then on I no longer let down my guard during the questioning, and it even seemed to me that the Gestapo men were beginning to regard me with a certain respect. They had

seen all the others break; perhaps they were quietly wondering what secret wellspring had given me alone the strength for such unshakable resistance.^{6(p63-64)}

b) Executive intelligence and divided consciousness

Three months later, having already mastered the game of chess and every game in the book, Dr B has run out of new material and surprises. At a dead end and facing monotony once more, he decides to invent new games to fill the void and keep up his strength. But to experience these new games, he has no choice but to play against himself. This undertaking obliges him to plan, execute, and memorise the moves of the black pieces and white pieces simultaneously and in parallel. The colossal effort required to complete these games resulted in a loss of mental control, although he was free from the usual anxiety about winning since it was all the same to him whether black or white prevailed. As this went on, he realised that his exercise in divided consciousness was what he called schizophrenia, but he justified it as a way of letting off tension and enduring isolation.

...there was only one way to continue with this strange diversion: I had to make up new games to replace the old ones. I had to try to play with, or rather against, myself.^{6(p65)}

Now if Black and White together made up one and the same person, the result would be a nonsensical state of affairs in which one and the same mind simultaneously knew and did not know something, in which as White it could simply decide to forget what it had wished and intended to do as Black a moment earlier...a total division of consciousness, an ability to turn the workings of the brain on or off at will, as though it were a machine;...as jumping over one's own shadow.^{6(p65-66)}

But obliged as I was to project this battle against myself... within an imaginary space, I was forced to ...visualize...for Black and for White, four and five moves ahead.^{6(p67)}

The only reason that this activity had become such a salutary and even soothing one for my shattered nerves was that playing through games that were not my own did not involve me personally; it was all the same to me whether Black or White won...^{6(p68)}

...this kind of artificial schizophrenia or divided consciousness, with its admixture of dangerous excitation, would be inconceivable in a normal person under normal circumstances. But don't forget that I had been forcibly wrenched out of any sort of normal life,...Something in me wanted to come out on top, and yet all there was for me to fight was this other me in me;...^{6(p69-70)}

c) Symptoms of isolation

Dr B's symptoms appeared successively, in parallel to his deafferentation process. He was cut off from the world, with no variations in his surroundings, deprived of natural light and sound and with no stimuli other than those initially present; the first symptoms were already apparent in just a few weeks, before he discovered the book. That book lessened the problem for a time, but as soon as he had learnt its contents, he found himself returning to his previous situation of tedium and deafferentation due to lack of both external and internal stimuli. As described above, this is when he invented the double game in which he would play himself. By making a Herculean effort, he is able to escape the initial symptoms of isolation. However, the same sustained effort, combined with obsessive one-track thought (like Czentovic's) and no other possibilities for mental occupation, ended up triggering a confusional state. Features of his confusional state included alterations in attention, memory, orientation, perception, and affect; it peaks with an episode of agitation resulting in his being immobilised and taken to a medical centre. The description is consistent with delirium or a confusional syndrome. The passages that follow present the order in which symptoms appeared.

...my eyes, my ears, all my senses received not the slightest stimulation from morning till night, from night till morning...you lived like a diver in a diving bell in the black sea of this silence, for that matter like a diver who has guessed that the cable to the outside world has snapped and that he will never be hauled out of the silent deep.^{6(p48)}

This sensation of emptiness and solitude only grows when he returns to his room after being interrogated, because he finds the same monotonous surroundings. In this character's view, the torture of his own thoughts was even more cruel than the physical punishment of a concentration camp, where at least he would have seen other faces and the camp itself, and heard other voices.

...after every interrogation by the Gestapo my own thoughts relentlessly continued the torment of questioning and examining and harassing—even more cruelly, perhaps, for the former came to an end after an hour but the latter never did, thanks to the insidious torture of this solitude... Now I saw how diabolically practical, how psychologically deadly in its conception this hotel room system was.^{6(p51-52)}

This truly indescribable state of affairs continued for four months... But there's no way to describe, to gauge, to delineate, not for someone else, not for yourself, how long time lasts in dimensionlessness, in timelessness, and you can't explain to anyone how it eats at you and destroys you...^{6(p53)}

In this situation, Dr B. performs repetitive movements in the little space available to him and makes attempts to self-stimulate; this behaviour is also seen in livestock, patients in historical insane asylums, and prisoners subjected to solitary confinement in prison. These behaviours are complex motor stereotypies, and they pre-date Dr B.'s other early cognitive symptoms of isolation (difficulties with memory encoding and attention, slowness of thought and expression). They are also warning signs of delirium which, for a time, he is able to stave off:

You walked up and down, you and your thoughts, up and down, over and over.^{6(p48)}

Then I tried arithmetic—adding and dividing random figures—but nothing stuck in my mind in that emptiness. I couldn't concentrate on anything.^{6(p52-53)}

Little things made me uncomfortably aware that my mind was falling into disorder... Now I stammered when I tried to get out even the simplest sentences, for while I spoke I stared, hypnotized, at the pen that ran across the paper... I sensed that my strength was failing, I sensed that the moment was approaching when, to save myself, I would tell everything I knew,... to escape the chokehold of this nothingness.^{6(p54)}

At this point in the story, he makes off with the book, which unfortunately will only help him for a brief period of time. After this, his stay will be dominated by his schizophrenic games against himself. In this phase, we see that Dr B. becomes overstimulated, and the final symptoms of delirium appear shortly.

...but gradually my frayed nerves refused to let me wait. My white self had no sooner made a move than my black self feverishly pushed forward;... It was an obsession which I could not resist;... which permeated not only my waking hours but gradually my sleep too.^{6(p70)}

Even when I was summoned to an interrogation, I could no longer think coherently about my responsibilities; I have a feeling that during the final interrogations I must have expressed myself pretty confusedly, for the interrogators looked at each other with surprise.^{6(p71)}

I could no longer sit still for a second;...my eagerness to win,...gradually became a kind of frenzy, I trembled with impatience,...I lost weight, my sleep was troubled and fitful, when I woke up it always took special effort to force my leaden eyelids open; sometimes I felt so weak that when I held a glass it was all I could do to bring it to my lips, my hands were trembling so much...^{6(p71)}

I sometimes heard, as though through a red fog, my own voice addressing me with hoarse and ill-tempered exclamations of 'Check!' or 'Mate!'.^{6(p73)}

The character himself, in his first-person description of the events, hazards a diagnosis for this phase of his imprisonment, but is unable to find an explanation for his eventual breakdown.

Today, of course, it's entirely clear to me that this state of mine was a thoroughly pathological form of mental overstimulation, for which I have found no name but one heretofore unknown to medicine: chess sickness.^{6(p72)}

I myself am unable to tell you how this appalling, indescribable state came to a head.^{6(p73)}

3. Late-phase symptoms and the providential doctor

a) Fever

Fever is described in this novel in the pre-modern sense, that is, not as an increase in body temperature, but as the agitated state that accompanies an established confusional state. Dr B. did not eat, but he was thirsty and kept drinking as he was assailed by the obsessive thoughts, anxiety, and delirium described before. "My only physical sensation was a terrible thirst; it must have been the fever of this constant thinking and playing."^{6(p71)}

b) Post-traumatic stress disorder

Dr B. survived these events and was released; nevertheless, any contact with chess, no matter how unintentional, will cause a recurrence of his symptoms of uncontrolled attraction, manifest anxiety, mental fixation, and extreme difficulty to withdraw from the game. These phases are always preceded by a strange and portentous twitch in the corner of his lip. The symptoms appear in the three games played on the ship providing the backdrop for the novella. Here, Czentovic faces Dr B., who is helping two amateurs: a wealthy engineer who pays Czentovic to play; and his friend, the narrator of the story. The latter detects the symptoms of Dr B.'s fatal chess attraction and subsequent "overdose" on the steamer, and this occurs even though Dr B. is well aware of the risk he runs by returning to the game. A violent outbreak becomes inevitable, but Dr B.'s companions are able to redirect it such that the doctor recovers, becomes aware of his state, and decides to stop playing chess.

...I noticed a nervous twitching at the right corner of his mouth, something that had struck me earlier. I saw now that it was repeated every few minutes. The movement was a fleeting one, hardly more than a flicker, but it gave his entire face a peculiar restlessness.^{6(p45)}

I don't want to fall again into that passionate chess fever, which I recall with nothing but horror ... and

anyway ... anyway the doctor warned me ... warned me specifically. Anyone who has suffered from a mania remains at risk forever, and with chess sickness (even if cured) it would be better not to go near a chessboard ... So you understand...^{6(p80)}

I knew with a shiver that in his pacing he was unconsciously tracing the dimensions of his cell.^{6(p85)}

For a visible exaltation had come over this man,...^{6(p89)}

I was beginning to suspect that he had actually long since forgotten Czentovic and the rest of us in this quiet madness, which seemed ready to explode into violence of some kind. And, at the nineteenth move, the crisis in fact erupted.^{6(p91)}

I am sorry to have made a fool of myself— this is the last time I will try my hand at chess.^{6(p93)}

c) The benevolent doctor

The outbreak of violence that Dr B. manifested toward the end of his imprisonment by the Gestapo is described by the doctor who treated him. The doctor is aware of the conditions in which Dr B. is being kept, and declares him mentally unsound in a report that will mean his freedom.

At midday the doctor came, a friendly older man.^{6(p75)}

Two days later the kind doctor explained to me with some frankness what had happened. The guard had heard me cry out loudly in my cell...I had flung myself upon him the moment he appeared at the door and shouted wildly at him...and finally assaulted him so fiercely that he had to call for help...I had suddenly broken free, thrown myself at the window in the corridor and shattered the glass, cutting my hand...^{6(p76)}

'Acute nervous irritation,...Perfectly understandable...No wonder, with these methods,' he murmured. 'You're not the first. But don't worry.'^{6(p76)}

'Leave it to me, I'll do my best.' I have no idea what this helpful doctor told my tormentors about me. In any case he achieved what he had intended: my release. Possibly he declared me of unsound mind...^{6(p77)}

Discussion

Chess Story holds an exalted position among the writings of Stefan Zweig. Its autobiographical resonances are obvious, and Dr B. is clearly recognisable as the author's alter ego. By examining this character's biographical information and life experiences and comparing them to Zweig's own, we find that both come from well-to-do families and both faced persecution and envy, along with the destruction of their creations and accomplishments.

Dr B. is placed in solitary confinement; Zweig was isolated by having to go into exile. Both survive, but their sequelae are severe and incurable. Dr B. displays post-traumatic stress disorder, and Zweig suffered from severe emotional disturbances that would lead him to commit suicide a year after finishing this book.

Thanks to his imagination and intelligence, Dr B. manages to survive. His inner resources enabled him to resist isolation and interrogations for several long months that are of critical importance to the plot. His imagination, mentalisation ability, mental flexibility, overall vision, and need for distraction drive him to master the complex game of chess. Chess is his mechanism for avoiding what he describes as an emptiness of body and soul, that is, total lack of stimulation and a state of monotony that gives rise to confusional syndrome or delirium with agitation due to physiological deafferentation. Although the clinical syndrome is inevitable, the character's struggle and his success in keeping its progression at bay for several months should be seen as a metaphor: they represent reason and intelligence, which contrast sharply with the dominant traits in Austrian society when Zweig wrote these lines. Both temperance and reason were absent, and the ruling power thought only of itself in a world that had grown fragmented, cruel, self-absorbed, invasive, and selfish. The same adjectives were also applied to Czentovic, Dr B.'s adversary in the story, who undoubtedly represents the Nazi regime.

Dr B.'s intelligence and inner resources therefore constitute the only possible means of surviving the game played against the domineering world champion (Czentovic, or more metaphorically, Nazism). Dr B. achieves this end in the novel; similarly, the author survived persecution and was able to go into exile thanks to his intelligence and the accomplishments described in his voluminous works. Overarching, strategic, and imaginative intelligence finds its polar opposite in savant syndrome. This is a rare disorder in which an individual manifests an "island of genius".^{7,8} The term 'savant', derived from the French verb *savoir* (to know), denotes extraordinary levels of knowledge and ability, limited to specific areas, in individuals of borderline to low intelligence (IQ 30-75). Almost half of these cases are associated with the autism spectrum or with various developmental disorders. Savants' outstanding abilities tend to be linked to memory, calculation, spatial relationships or representation; combinations may also be present. Typical examples include an astounding command of calendar dates and recitation or

recall of tiny details from entire pages of text that were read quickly. Other cases have manifested as musical genius (instrumentalists) or astonishing abilities for navigation, drawing, or mechanical tasks. We have not found descriptions of chess savants in the literature,⁹ although Zweig's character displays many savant-like characteristics and his skill could be interpreted as a combination of different abilities, excluding visuospatial ability. In this sense, Stefan Zweig might be regarded as a pioneer for having provided a neuroliterary description of a variant of an existing clinical syndrome before that variant had ever been described in the literature of clinical neurology. Despite his prodigious chess abilities, the character's intellectual capacity is very limited in all other spheres, and his social skills are reminiscent of those seen in Asperger syndrome.

Savant syndrome may also be an acquired condition. In some cases, it has manifested secondary to seizures, especially complex partial seizures, arising in the left frontal or temporal lobes.⁸ It may also arise in cases of frontotemporal dementia (FTD) affecting the same localisations, or following different types of trauma. These cases display uncommon forms that are almost always associated with artistic abilities in the case of FTD, or with musical abilities when a different cause is present. Oliver Sacks and Darold Treffert have described patients with this profile in whom musical or artistic abilities have appeared secondary to acquired lesions to the central nervous system.¹⁰⁻¹² The cases listed by those researchers, together with the congenital form displayed by Kim Peek (who inspired Dustin Hoffman's eponymous character in the film *Rain Man*),¹³ are the best-known cases today. Acquired forms are attributed to the release of intrinsic abilities in the right hemisphere; under normal conditions, these abilities are 'suppressed' by the left hemisphere, but its inhibitory control is lifted when that hemisphere is injured. Experiments using transcranial magnetic stimulation in control subjects support this hypothesis.^{8,9}

When a subject remains in isolation with minimal environmental stimulation, and no variation in his or her surroundings, he or she only has recourse to internal stimuli which may be motor stimuli, or more complex (cognitive) stimuli. Motor self-stimulation tends to adopt the form of complex repetitive movements of varying types, including stereotyped pacing with a recurring pattern over short distances; this is sometimes associated with complex and repetitive movements of the arms,

neck, or torso.¹⁴ This type of movement is also seen in livestock kept in crowded conditions, or in prisoners or mental patients who are kept in isolation. We know that Dr B. spent long periods of time pacing back and forth in his room. This can be interpreted as a complex and self-stimulating stereotypy. More detailed descriptions of this process can also be found in the first chapter of *La desheredada* by Pérez Galdós, which provides an exact snapshot of the Psychiatric Hospital of Leganés in its earliest years¹⁵; another example is seen in the inmates portrayed in the film *The Midnight Express*.¹³

The next step in self-stimulation in order to stave off the effects of isolation is cognitive stimulation, which Dr B. achieves by pouring his effort and imagination into the game of chess. However, either lack of stimulation, or its opposite, extreme overstimulation resulting in rigid attention, will lead to identical outcomes: confusional syndrome or delirium. Delirium is dominated by deficits in attention, memory, perception, and behaviour. It may manifest with agitation, as in the case of Dr B., or with inhibition, as seen in elderly residents of assisted living facilities.¹⁶ Deafferentation affecting perception of a defined type of sensory stimulus, whether visual, auditory, or tactile, gives rise to specific syndromes: Charles Bonnet syndrome, musical hallucinations in the deaf, and phantom limb syndrome in amputees. When deafferentation is widespread, the subject will experience progressive onset of the sequence of symptoms that Zweig describes so accurately in Dr B. We know that if lack of stimulation is accompanied by fear and anxiety, the subject will have difficulty concentrating and will therefore be easier to manipulate. This classic type of torture was used by the Nazis, and updated versions have been used more recently for the same purpose of manipulating a prisoner's mind in order to obtain information.¹⁷

It is surprising that the writer would mention Gall and the practise of phrenology given the date of this book. By Zweig's time, phrenology had all but vanished in Germany, and in Spain as well; Cubi's phrenology textbook of 1849, which was recently revisited by García Albea,¹⁹ had already fallen into disuse. The fascination with external features –the skull and its morphology– gave way to the study of its content: the brain with its delimited anatomical areas and specific functions. Paul Broca spearheaded the movement. The author confuses notions of phrenology with concepts relating to cerebral localisation. However, phrenology was most likely mentioned only to illustrate the stereotypical, simple, and vacuous existence

of Czentovic and what the character represents: “a single gold thread in a hundred-weight of barren rock”; that is, power devoid of intelligence and reason.

We must not overlook the only mention of medical care in the novella. Doctors in Nazi Germany faced constant threats. Those who were not forced to cooperate directly with the regime’s cruel experiments were still forced to comply with its directives, and many doctors were also tortured and persecuted.²⁰ This fact makes the brief appearance of the doctor all the more noteworthy: he diagnoses the confusional state and its origin, shows empathy, and plays a decisive role in Dr B’s release. The doctor also recognises that future contact with the game of chess will entail a risk of relapse. As such, the patient’s symptoms may be interpreted as post-traumatic stress syndrome evoked by a trigger (chess); that which was liberating at first evoked the patient’s crisis at the end. Here, the writer recognises the integrity of medical professionals and the distance they maintained from the regime, at least in the cases of the doctors who placed themselves at risk in order to help victims.

From a purely clinical viewpoint, we should also stress that Dr B’s fatal attraction to chess, and his difficulty giving it up after his release, could also be defined in psychological terms as an addiction. In this sense, the obsession with the game which he promoted during his confinement would be responsible for his limited impulse control, a typical symptom in addiction. A multidisciplinary diagnostic reading indicates that this final phase of the syndrome could well be the combination of post-traumatic stress syndrome and the limited impulse control originating in addiction. In the same way, the clinical feature described as a twitch at the corner of Dr B’s mouth, appearing when the character is losing voluntary control, deserves further analysis. From a clinical viewpoint, this could be a sign of loss of motor control. This hypothesis is supported by the description of the movement as involuntary, hyperkinetic, and localised. In other works of literature, twitches have been described so precisely that they can be diagnosed as hemifacial spasm. An example may be found in our neuroliterary reading of *Fortunata and Jacinta*; here, the semiology is perfectly clear.⁴ Stefan Zweig’s depiction, however, is too succinct to permit a precise diagnosis. The movement in question may be a tic instead of a hemifacial spasm, but it is even more likely to be a stereotypy triggered by external anxiogenic stimuli.

Stefan Zweig was a prolific writer. In addition to his narratives and novels, we find plays, literary essays, and

multiple biographies; his accounts of Mary Queen of Scots, Marie Antoinette, and Joseph Fouché are peerless. In later years, he contributed the libretto for the Richard Strauss opera *The Silent Woman*, which premiered in Dresden in 1935. As the librettist for that opera, he faced censorship since he was not of “Aryan descent”. Strauss was only able to present three showings –which Hitler refused to attend in any case– and the opera was prohibited after that.

He was already living in Brazil when he wrote *The World of Yesterday*; it was published in 1944, after his tragic suicide.²¹ Its autobiographical flavour is immediately apparent. His criticisms of Europe, which was then being torn apart at the orders of his tormentors, contrast with the peace, harmony, and the artistic and scientific accomplishments that contributed to his youthful impression of his home. His nostalgia and pessimism stem from the immense pleasure that he took from intellectual creation and from his love of freedom; when that freedom was threatened, he showed great courage and coherence in going through with his elaborate suicide.

There can be no doubt that this author had a keen interest in the mind, and how its role extends beyond that of a mere focus of illness to become a channel by which diseases may enter the body, while also providing a means of curing them. In fact, one of his best-known books is *Mental Healers: Franz Mesmer, Mary Baker Eddy, Sigmund Freud*.²² As its title suggests, this book contains the biographies of the respective founders of magnetism, Christian Science, and psychoanalysis. The author points to Virchow as the father of modern medicine because he connected disease to organs and cells. With this gesture, he put an end to sacred medicine, which was rooted in the belief that disease was a mysterious imposition, and that healing required intermediaries that understood nature and its secrets. Technological medicine, which Zweig lambasted as being distant, cold, and impersonal –this is nothing new, no matter what we might believe– does not satisfy certain popular classes of society that have inherited a faith in sacred medicine. This is the thesis he uses to explain the success of these three tendencies in mental healing: magnetism, based on willpower and suggestion; Christian Science, using faith; and psychoanalysis, by increasing self-awareness. Writing the biography of Freud, who was living at the time, was a particularly delicate task. Their correspondence points to Freud’s



Figure 3. Original film poster and images from the 1960 film by Gerd Oswald, based on Stefan Zweig's novel of the same name



and observations of his environment. The details in *Chess Story* would thus reflect the realist tradition in its purest form.

Despite its brevity, *Chess Story* is recognised by critics as a masterpiece and the author's best work. It has been adapted for both film and opera. The 1960 German film *Schachnovelle*, directed by Gerd Oswald (*Juego de reyes* in Spain; *Three Moves to Freedom* in the UK)¹³ is considered a high-quality psychological thriller about the Nazi regime, and it remains largely true to the novella (Figure 3). The opera *Schachnovelle*, composed by Cristóbal Halffter, premiered in Kiel in 2013 and met with great success (Figure 4). One of its original touches was portraying Czentovic (who is also a Nazi officer in this version) as a countertenor, rather than a Mephistophelean bass-baritone, which would have been in keeping with operatic tradition. The countertenor's cadences and high notes underscore the contrasting elements of the masculine and the feminine, reason and tyranny, and slavery and freedom, found at the heart of the story.²⁴ Our analysis builds on the different adaptations and studies that have focused on this modern classic; here, our reading and interpretation examine research on types of intelligence and the neurological symptoms displayed by the two main characters.

Conflicts of Interest

The authors have no conflicts of interest to declare, and have received no monetary compensation for this study.

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overall satisfaction with Zweig's account since the author made an effort to link the fundamentals of Freud's doctrine to that scholar's character, rather than to his intelligence.²² Although this book demonstrates that the writer was well-versed in the neuroscience of his time, neither *Mental Healers* nor Zweig's well-known biography²³ include any information that might explain the level of detail with which the characters, types of intelligence, and neurological disorder are described in *Chess Story*.

Without conducting a more detailed investigation, we can hypothesise that the author's love of realist detail, well-documented in his biographies, indicates that descriptions may have been based solely on experience



Figure 4. The Spanish-German composer Cristóbal Halffter conducting (left); a scene from his opera *Schachnovelle* (right)



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