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**DEPRESSION AND DESTRUCTIVE NEUROPLASTICITY: A STUDY OF
MOEZZI'S *HALDOL AND HYACINTHS* IN HEALTH HUMANITIES**

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Abstract:

*Neuroplasticity an inherent potential of the brain which constitutes structural and functional modifications regulated by life experiences and behavioral activities is often manifested in the light of positivity like recovery and resilience, but like two sides of a coin it has a darker side named destructive neuroplasticity. The plasticity which is susceptible in harnessing healthy brain is also equally vulnerable in rending undesirable changes which would lead to the development of disorders like chronic depression. The present essay, with reference to the literary memoir *Haldol and Hyacinths* written by the Iranian-American writer Melody Moezzi traces the elements which instigate and architect destructive neuroplasticity by analyzing the subjective experience of her bipolar disorder thereby drawing on the theoretical insights from Norman Doidge, Catherine Malabou and Alex Korb.*

Keywords: *Destructive Neuroplasticity, Bipolar Disorder, Immigration, Political Turmoil and Stress, etc.*

Neuroplasticity: An Introduction:

“Humans make their own brain, but they do not know they make it” (Malabou, 1). Neuroplasticity also known as brain plasticity is a ground breaking theory in the arena of neuroscience because it deconstructed all the hypothetical notions of neurological nihilism. The term neuroplasticity is a coinage of two words namely neuro and plasticity. The former neuro refers to neuron, a cell which constitutes the fundamental unit of brain system and the latter plasticity signifies malleability. The advent of neuroplasticity theory incurred numerous criticism and resistance because it negates the age-old theorization of the machine metaphor of



the brain which compares it to computer hardware “with permanently connected circuits, each designed to perform a specific unchanging functions” (Doidge xviii). To elaborate further, neuroplasticity nullifies the notion of neurological nihilism on three significant grounds. First the formation of neural circuits is not predetermined; second, the malleability of the brain is not restricted to a certain phase of life; and last the brain is not hardwired and rigid rather has the inherent potential to compensate for its losses and deficits. The neuroscientists who believed and advocated the age-old hardwired theory of brain vehemently condemned the idea of neuroplasticity with the accusation that just because the theory worked out in non-human species like rhesus monkeys and *Alphisia* it doesn’t mean that it is applicable to humans as well. The feud between hardwired neuroscientists and neuroplasticians continued until Paul Bach –Y-Rita the father of neuroplasticity demonstrated the possibility of substituting sensory receptors in blind persons with neurological disorders. Following Paul’s cogent evident the theory of neuroplasticity turned out to be a critically acclaimed topic in the discipline of neuroscience and draw in the attention of various theorists to probe and explore its possibilities. But the drawback is that the notion of positive aspects of neuroplasticity like resilience predominated the research, thereby sidelining its negative attributes. In other words, like two sides of a coin neuroplasticity too has its pros and cons. Neuroplasticity not only make up for the deficits but also plays a significant part in forming negative rigid connections technically called as plastic paradox or negative plasticity which Doidge explains as follows, “While the human brain has apparently underestimated itself, neuroplasticity isn’t all good news; it renders our brains not only more resourceful but also more vulnerable to outside influences. Neuroplasticity has the power to produce more flexible but also more rigid behaviors-a phenomenon I call “the plastic paradox.” Ironically, some of our most stubborn habits and disorders are products of our plasticity...The plastic paradox is that the same neuroplastic properties that allow us to produce more flexible behaviors can also allow us to produce more rigid ones” (Doidge, 317).

With the above concept as the focal point, the article unfolds the tie up between negative plasticity and depression in particular by analyzing the memoir *Haldol and Hyacinth* where the writer Melody Moezzi records the subjective experience of her bipolar condition as a person with split identity.

Immigration, Lacuna and Guilt Conscience: Architect of Destructive Plasticity:

“No one arrives at or departs from insanity in quite the same way. The airports are plentiful and the gates are infinite. But whatever the route, given a certain history and genetic inclination, going crazy is cake” (Moezzi, 7). Childhood is the most sensitive stage in the development of the brain because it sets the base for the first phase of plasticity where neurogenesis (growth of neurons) and formation of neuronal networks determined by an individual genetic determinism take place. Following this phase, the biological influence gets slow down and give rise to the second phase of plasticity known as modulational plasticity, a sensitive stage where neural circuits are modified and get strengthened by means of synaptic efficacy influenced by environmental factors, individual life experiences and activities as Malabou articulates, “brain plasticity’s second field of action: the modification of neuronal connections by means of the modulation of synaptic efficacy...at this level that plasticity



imposes itself with the greatest clarity and force in “opening” its meaning...that depends on nothing but the individual’s experiences, his life, habituation” (Moezzi, 23). Given this, it is clearly evident that an individual behavior, thought process, emotional regulation and identity to a large extent is cultivated and fixated during this critical phase of childhood. Besides a healthy childhood learning and experiences play a pivotal role in the formation of holistic brain and reduces the chance of getting afflicted with neurological disorders.

Though at the opening of the memoir Moezzi states that she has no valid cause to feel depressed and incline towards suicidal thoughts, her traumatic childhood confrontation and experiences turn out to be the primary inducer of chronic conditions in her. Moezzi was conceived by her mother in an untimely situation where three key historical events threatened the livelihood and survival of Iran people namely 1953 CIA and MI6 sponsored coup, British and American Imperialism and Islamic Revolution. To safeguard their lives, her parents deploying their educational credentials as physicians migrated to America where Moezzi was born. Even after their legal migration, Moezzi family wasn’t let to live in peace, soon another political turmoil called Iran hostage crisis surfaced. The impact of Iranian students’ imprisoning Americans in Tehran is that her parents’ immigration documents got destroyed and forced their expulsion from America. Caught in the middle with no hope to return to their homeland and the lack of acceptance in host countries without appropriate immigrant documents Moezzi embarks the life of a nomad as she says, “like millions of other children of the Revolution, I spent my infancy as a nomad: from Greece to France to Iran to the United States and a bunch of countries in between. My first-ever photograph, taken in the hospital when I was less than a day old, doubled as my first passport pic” (Moezzi, 9). Following her infancy stage as a nomad, Moezzi returns to Tehran, but the political revolutionary ideology of freedom and civil rights tend to be more unjust like limiting a woman’s individuality and perpetuating religious discrimination. Adding up to this, the inciting war between Iran-Iraq pressurized Moezzi’s father to choose a perfect place for permanent immigration where his daughters could achieve their dreams and being respected and valued for their gender. Finally Moezzi’s father sets his eyes on America as a potential choice and makes his move with steadfast optimism.

Though at the outset, there seems to be nothing wrong in the choice made by her father, in one aspect he turns out to be the causal agent for Moezzi getting afflicted with depression. To elaborate further, Moezzi’s father took this decision of immigrating to America in the best interests of her daughters. Besides, to make such a choice is an easy task, because on one side his feelings and community where he could find a sense of belonging and on the other his daughters’ survival and future. But the latter wins over and convinces him to sacrifice his community bonds and memories. To examine the context of immigration from Moezzi’s end, as her father thought it has widened her career prospects and individuality, but like slow poison it heightened the prospect of getting inclined towards depression. Immigration involves drastic changes in the neural circuits as Doidge points out, “Immigration is hard on the plastic brain...Cultural differences are so persistent because when our native culture is learned and wired into our brains, it becomes “second nature,” seemingly as “natural” as many of the instincts we were born with. The tastes our culture creates—in foods, in type of family, in love, in music—often seem “natural,” even though they may be acquired tastes...because they



are so deeply wired into our brains. When we change cultures, we are shocked to learn that these customs are not natural at all” (Moezzi, 299).

Her early childhood experiences as a peregrine has deprived the brain of positive neuroplastic harnessing and instead made it hay-wired. Each time as Moezzi encounters a new cultural and political crisis; her brain gets baffled and inclines toward negative neuroplasticity changes by prompting the strengthening of traumatic memories. And this becomes clearly evident when Moezzi confesses that her first thought of suicide arrived at the age of fourteen. Her inclination towards suicide at such tender age points out the extremity of her disordered emotional state and stress level. To examine what rendered Moezzi, the trigger of unpleasant emotions and toxic stress is her guilt conscience. Being an immigrant resident and enjoying the privileges and simultaneously being a witness to her community suffering in Iran, a sense of guilt consciousness creeps into the life of Moezzi. That is, she starts to picturize herself as a coward and a traitor which is artistically picturized in the following lines, “Uprooted from the land of my mother the land of my father, the land of my blood. Brought to a land that continues destroying my denied homeland. The land I see now belongs to a fantastical, impossible dream. It belongs to heaven and hell. This land doesn’t take me as her own. She takes me for a stranger/a foreigner, a traitor” (Moezzi, 132).

Besides, the above feeling gets deeply etched in the brain following her visit to Iran in order to bring her granny to the United States in 1999. The year 1999 was a politically unrest situation because following the judicial decree of the closure of the reformist newspaper Salam, student revolution intensified as “Paramilitary forces raided a student dormitory after the first day of protests, killing one student. After that it was on...At least three others were killed, hundreds were injured and around seventy people just up and disappeared” (Moezzi, 121). Amidst the crucial situation, Iranians are attempting whatever steps they could to exhibit their anger and resistance. For instance, during her stay in Iran, Moezzi sees her cousin Negin who exhibits her hatred and opposition against the repressive regime by means of an unconventional way of dressing as she articulates, “She dressed as provocatively as she thought she could get away with. Tight jeans, tight caption (the minimum mandatory body covering that looks pretty much like a raincoat) above the knees, thin roo-sari that looked like more of a headband than a true head covering and impeccable makeup” (Moezzi, 122-23). The activities of Negin who is younger than Moezzi further intensify her guilt conscience thereby making her question the notion of identity crisis and finding solace in suicidal thoughts.

Even after returning to America with her granny, Moezzi’s brain doesn’t get a space to come to terms with the reality. Soon, another traumatic event named 9/11 takes place and worsens her situation. That is the incident kept at stake the lives of Anglo-Americans by pressurizing to prove their commitment and patriotism to their host land. But however means they prove that they are not guilty, the host government refuses to accept and determined to mark off in the category of otherness. Similarly Moezzi choosing a career in law is also interlinked with her guilt conscience and showcases her desire to bring peace to her community in Iran. Typically for Iranians when it comes to career prospects they blindly choose medicine over anything else, and Moezzi family proves this biased inclination of Iranians with her father, mother and elder sister being physicians. But gradually Moezzi’s passion for law drains out following her understanding that it is inefficient and painstaking. To



critically interpret Moezzi's haphazard decisions and regrets, the lack of effective emotional regulations could be highlighted as a valid cause. Because like her, Matthew (Moezzi's husband) is also a child of split identity with his father Tom being from the background of Catholic Slovenian and his mother Jean from England. But he is not into the burden of guilt conscience and emptiness because he has an efficient way to give vent to his emotional distress.

Matthew being a practical person takes comfort in the logical model of understanding a problem and figuring a solution which Moezzi humorously articulates, "Matthew finds hope and solace in data, mathematical models, logic, proofs. The man can't make any major (and many minor) life decisions without creating an Excel file full of folders and formulas; he adores charts and graphs and he's always hunting for patterns" (Moezzi, 17). Although from Moezzi end it seems funny, it is effective for Matthew in keeping at bay the chronic depressive disorders. The choice of immigration is juxtaposed with the optimistic prospects of well-being, but when it comes to children and adolescents it has the pernicious potential to render neurological disorders by triggering negative neuroplasticity and unbalancing neurochemicals. Moezzi's life experiences clearly elucidate and justifies the above argument. Given to the situation, that immigrant child is doubly vulnerable in contracting such chronic disorders in the adulthood, the healthcare service center should make it as a mandatory process of undertaking counselling sessions during such sensitive phase. This would cut down the risk of vulnerability by nipping in the bud because like positive neuroplasticity destructive neuroplasticity too takes its time in strengthening its connections as Alex Korb points out, "In depression, there's nothing fundamentally wrong with the brain. It's simply that a particular tuning of neural circuits creates a tendency toward a pattern of depression. It has to do with the way the brain deals with stress, planning, habits, decision making, and other things—the dynamic interactions of those circuits...that create a downward spiral" (Moezzi, 125). Finding out its root cause at the beginning stage would make it easy to prune its circuits and developing an alternative way to channelize it efficiently.

To conclude, the Brain is like a playdough with its material representing the first phase of plasticity which cannot be altered, but what shape it should constitute is up to the individual who tends to handle it. Although the influence of genetic determinism could not be averted, the second phase of plasticity which is more open and influential is solely determined by an individual activities and thought process. Unlike positive neuroplasticity, destructive neuroplasticity once fixated during the sensitive phases like childhood and adolescence is hard to weaken it and it is clearly evident in Moezzi's situation. That is, though she finds an agency like praying to be therapeutic and liberating it tends to be transitory. The negative memories of guilt conscience and worthlessness rendered by immigration are too deeply etched and wired up in her neural circuits that it is challenging and more time consuming to overcome it. But, Moezzi is not ready to succumb to it rather embarks the journey of recovery by accepting her condition and persistently trying to improvise it which testifies both the resilient spirit of the brain and her.



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