

The Supernatural vs. the Neuropsychological: Macbeth's Fatal Entanglement in Future Memory

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Abstract

Shakespeare portrays his protagonist in Macbeth as haunted by future memory. The blueprints of the future of Macbeth are provided by Supernatural aids. These equivocal blueprints breed the protagonist's prospective memory. However, the equivocation embedded in them leads to his confusion and the confusion of the whole country. In Ingvar (1985), who coined the expression "future memory," in neuropsychology, the concept is guided by past experience and mental imagination. In contrast, prospective memory of the protagonist is dictated by the supra-terrestrial agency of the three witches who take us off-guard at the outset of the play, and surprise Macbeth and Banquo in Act 1, Scene 3 and later in Scene of Act IV. The study hopes to analyze Ingvar's concept of future memory in neuropsychology and Shakespeare's version of the concept. It also hopes to demonstrate that the vision of the Elizabethan bard was not informed by empirical studies of the brain, but by the cultural concepts of his Age that used to give credibility to magic, demonology, fairies, and supernatural intervention in terrestrial life and time.

Keywords: *Future Memory, Blueprints, Beguiling the Time, Consolidation, Recharging Memory.*

Introduction

Memory has always been an attractive subject for philosophers, thinkers, and writers of literature. St. Augustine in Confessions perceives of memory as a record of past events in his attempt to explain the irreversibility of human time. He considers the present as the only available time. But the present turns into past time. And thus it no longer exists along with the events that happen in it. The future also does not exist because it is not yet. This description of the flux of time is meant to show the difference between eternal time and human time. In the eternal time there will be no flux and the present remains the present. Consequently, there are no categories of past, and future. Memory in St. Augustine is a tool to empower the human mind by enabling it to reconstruct the events deposited in the past (Liliann et al. 2013).

Memory has become a hot subject to modern neuropsychology. Notably, Modern research in neuropsychology has learned a lot from St. Augustine, especially his division of time to the three categories of past, present, and future (Liliann et al. 2013). Modern neuropsychology has studied the operations of the brain with regard to time and has come up with new concepts of time flux such as mental time travel (Suddendorf and Corballis, 1997, 2007), mind wandering (Corballis, 2013), episodic memory (Wheeler, Stuss & Rotman 1997), and future memory Ingvar (1985), among others. This study aims to analyze Shakespeare's preconception of the modern term of future memory. It worthy to review the modern theories related to memory and then define Shakespeare's vision.

Ingvar (1985) coins the expression “future memory” in an article with same title in which he tries to allocate the activities of temporal conscious awareness of the past, present, and future components of time to the lobes of the cerebral cortex. He associates our experience of the past to memory mechanisms that are functionally related to the various parts of the cerebral cortex called the temporal lobe. Consciousness of

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the present experience is achieved by the sensory input which motivates a conscious awareness of inner Now-situation irrelevant of the afferent impulses conveyed to the brain. Most important discussion of Ingvar is devoted to the experience of future time which is not yet.

Ingvar contends that the frontal/prefrontal cortex is responsible for the management of behavior and cognition. It functions also as the storage for future programs and plans, and relevant behavior and cognition. He calls these “memories of the future” basically because they can be retained and remembered. This repertoire of plans and programs reserved in the neural frontal/prefrontal lobe provides the source for anticipations and goal oriented planning. Ingvar contends that anticipating the future is based on past experiences and awareness of the present. He further adds that damage of the frontal /prefrontal cortex leads to states of instability, indifference, lack of ambition, and inability to anticipate the results of one’s future behavior. The article also explains that that lobe of the cortex is in charge of organizing temporal behavior and cognition because of its function as managing serial information and deriving causal relations from it. This lobe also provides a template to organize non-serial information the mind is continuously exposed to. The author concludes that without that future memory faculty that organization cannot occur.

Ingvar (1979) maintains that memory enables individuals to lay out “alternative hypothetical behavior patterns in order to be ready for what may happen” (21). He calls this process the “simulation of behavior” (21). In a later article (1985), he explains that the “concepts about the future can be remembered, like past memories of the past event can be remembered in great detail” (128). Thus, simulated scenarios meant to prepare or plan for future events can be recalled from the repertoire retained in the prefrontal cortex, exactly like memories of time past recollected from the temporal lobe. Furthermore, future memory can play an important part in the “adaptive nature of human cognition” (Szpunar et al. 2013, 1).

Studies have shown that there is a difference between prospective memory and imagination. These studies have demonstrated that future “memories and simulated events” relate to the structure of consciousness, intentionality, and perception. In contrast, imagined events are marked for “their cognitive operations” (Szpunar et al. 2013, 2).

Klein et al., (2012) notice that familiarity and personal experience are important factors to enhance future simulation and motivate the “mnemonic advantage associated with future-oriented encoding processes ,” in the phraseology of Szpunar et al. (2013, 2). More recently, based on associative processing, whose primary outcome is the generation of predictions, Bar [29] pointed out that the central role of mental time travel is to create scenarios by combining past memories and future projections and to store those —mental memories that will be used similarly to real memories, to provide scripts for plausible future situations.

Szpunar discusses subjective time, also known as chronesthesia, derived ‘chronos’ (time) and ‘aisthesis’(to feel) according to (Tulving 2002), the capacity to be aware of subjective time, and the relation between subjective time and the brain. He argues that there is an increase in the studies in psychology and neuroscience that examine the relation between remembering the past and imagining the future, metaphorically known as ‘mental time travel’ (Suddendorf and Corballis 1997, 2007). This is all related to the concept of time in which we live. Subjective time is related to ‘past’ and ‘future’, which physically do not exist, but are simply an invention of the human mind (Szpunar 2011). So, this sort of time is not the clock time we are familiar with in the physical world, it makes our sense of continued existence in the world.

Furthermore, Szpunar argues that in order to understand subjective time, it is important to distinguish between the capacity to be aware of subjective time or ‘chronesthesia’ and the associated mental activities that come with it. Tulving and Kim (2007) call these two facets of mental time travel, the medium and message. The medium (capacity) empowers the message (mental activities). Chronesthesia enables the mind to remember past events and imagine future plans and incidents.

Chronesthesia is related to Dalla Barba’s concept of temporal consciousness which involves a “temporal existence for the subject” (cited in Szpunar 2011, 409). A similar term for chronesthesia is Tulving’s ‘auto-noetic concept’ (cited in Szpunar 2011, 409). Both concepts denote an awareness of subjective time in which one exists, whereas the other focuses on the self-existing in subjective time. This peculiar difference

is important because each time and the self can be studied independently. However, the bond between time and self is a significant one because of the capacity chronesthesia or auto-noetic consciousness empowers the individual to self-project "the self to re-experience or pre-experience life events or subjects" (Szpunar, 2011, 410).

More relevant to our concern in this study, Arzy et al. (2009) argue human experience is marked in line of mental time (MT) and is established by self-projection of the individual self to different points of time in the past or future. They go beyond this concept to add self-projection of one's face at different time points in the past and the future. They notice that the event and face oriented self-projection have major features that indicate (a) similarity between past memory and future imagination, (b) making possible the judgments related to the future as compared with the past, (c) making possible evaluation of various time points distant from present. These effects show that mental mechanisms of MT are not related to whether the actual episode belongs to the past or the future. Self-projection in time is a major aspect of MT drawing on a neural network that encodes memory, mental imagery, and the self.

Human mind has the ability to remember past events and imagine future plans indicating subjective mental time (Tulving 1985; Schacter et al. 2007). MT relies on an autobiographical memory that enables the user to project themselves into the past and relive previous events. Future memory is the ability to advance in time and experience an event before it happens (Tulving 1985). This way self-projection in time means changing the habitual location in time past or future, and the imagination of different episodes.

Arzy et al. (2009) argue that "the activation of neural regions, the importance of self-projection for MT processing is also suggested by the activation of brain regions outside the classical memory areas that were found to be recruited for MT, including the posterior parietal cortex, which is probably related to visual imagery and autobiographical memory" (p. 2009). This study investigates the role of self-projection in time to the past and future using event-related functional magnetic resonance imaging (fMRI) with respect to two different kinds of stimuli (faces and events). Arzy et al. (2009) studied the role of self-projection in time to the past and the future employing "the event-related functional magnetic resonance imaging (fMRI) with respect to the two stimuli of faces and events. In the experiment, the sample did self-projection in time with regard to their face and the face of a famous actor. Three time points (past, present, and future) were presented. Participants were asked to project themselves to one of these points and to indicate if changes of face or events have occurred or yet to occur. They were asked to judge if the presented faces and events were self-related. This process enabled the researchers to test re-experiencing and pre-experiencing independent of past, present, and future with regard to the stimuli of faces and events. Participants were also asked to assess the same face and event without changing self-location in MT. The results show that functional magnetic resonance imaging behavior had the same pattern for faces and events and recruit almost the same neural activities.

These results demonstrate that self-projection in time is essential for activating mental time regardless of faces and events, depending on neural mechanisms of memory, intellectual imagery, and identity. In general, memory plays an important role in mental maneuvering between the past and the future, or what Suddendorf and Corballis (1997, 2007) call mental time travel (MTT). This is what scientists call subjective time (Szpunar 2011).

Discussion

Though Shakespeare was not a neuroscientist, nor was neuroscience known at his time as it is nowadays, anticipates and verifies what neuroscientists like Arzy et al. say about the role of memory in MTT by projecting the self to moments and events in the past and predicting future experiences. These researchers argue that self-projection for MT processing is suggested by the activation of brain regions outside the classical memory areas that were found to be recruited for MT, including the posterior parietal cortex, which is probably related to visual imagery and autobiographical memory. Their and other studies point out two types of memory: memory of the past and memory of the future. Reliving experiences of the past are necessary for anticipating and preparing for future incidents. Neuroscience indicates that the network

of neural activities activated while pre-living an experience in the past is very similar to the neural network activated while re-living a past experience.

Shakespeare is shrewd observer of life in a way that brings him close to what scientists do in diagnosing natural phenomena like memory and neurological activities of the brain. We see his characters in action in life-like situations. In fact, Shakespeare goes beyond the limits of modern science by experimenting with additional elements not available to science, such as preternatural and supernatural factors or forces that scientists cannot include in their labs and empirical studies.

This article means to show that in *Macbeth*, there is no place in the protagonist's mind for past memory, even at moments of mind wandering, and the major character is hooked with the blueprints of his future delivered to him by the witches towards the beginning of the play. *Macbeth* is shown to be hooked with the supernatural intelligence of his destiny. The play also shows that not everybody can be so hooked by supernatural prophecies, as in the case of Banquo who witnesses the prophecies of the witches and has his share of them (1.3). In *Macbeth*, Shakespeare portrays a character with total engagement in the realization of the predictions related by external forces. Unlike the type of future memory of Ingvar's, *Macbeth*'s prospective memory is not based on previous experiences or present reality. In fact, he is disconnected from the past and is rather engaged with the future. The only time there is a mention of past events is the mumbo jumbo of broken sentences uttered by the Lady *Macbeth* during her somnambulist fits in Act V.

Mind Wandering in Macbeth

Raichle et al. (2001) argue that neurologically mind wandering provokes a network of activities in the frontal and parietal regions of the brain (Corballis 2013). Corballis notices that the blood flow during mind wandering is 5-10% slower than when the brain is engaged, and it covers wider cortices of the brain. Killingsworth and Gilbert (2010) hold the conviction that people usually spend around 50% of their waking hours mind wandering.

In *Macbeth*, Shakespeare dramatizes the phenomenon known as mind-wandering in modern neuropsychology. This neurological phenomenon occurs when the mind is left undisturbed on the immediate situation or on a particular issue (Corballis 2013, 2). Mind wandering in modern neuropsychology is a passive version of MTT (Corballis 2013, 1) in which the mind travels aimlessly in time. In contrast, Shakespeare performs this mental phenomenon in *Macbeth* as an active phenomenon in which the protagonist contemplates the future in light of the received the prospective blueprints from the witches.

Macbeth shows himself liable to the equivocal prophecies of the witches. We learn of *Macbeth*'s reaction to the predictions of the witches from Banquo's comments that persistently register those reactions very closely. *Macbeth*'s mind wandering is the initial state of building what Ingvar (1985) calls future memory.

Macbeth's very early distraction or mind wandering (1.3.51-7) indicates that *Macbeth* takes the prophecies to heart and that makes the embryo of his future memory. Banquo's words suggest a rational evaluation of the prophecies. He perceives them as an outward "show" that "sound[s] so fair" and those who believe in them are "fantastical." For juxtaposition, Shakespeare dramatizes Banquo's opinion of them. He says that he "neither beg nor fear/ Your favours nor your hate" (1.3.60-1)

After the prophecies for Banquo, especially the one related to the cluster of kings from his progeny, *Macbeth* rushes to interrogate the witches about the authenticity of their "strange intelligence" (1.3.76) response to his questions, the witches merely disappear, leaving *Macbeth* to his distraction. He wishes that they stayed to explain his queries: "Would they had stay'd!" (1.3.82). After the disappearance of the witches, another ingredient of *Macbeth*'s future memory is coined at this point as clear from the following exchange: *Macbeth*: Your children shall be kings. / *Banquo*: You shall be king (1.3.86-7).

Macbeth's future mindset grows illogical. On the one hand, he is eager to realize his own share of the prophecy, but, on the other hand, he has grudges against the children of Banquo's share. This irrationality

will have a serious grave impact on action of the play. Indeed, it will turn into a serious concern for Macbeth that will severely dictate his future memory which ends up in arranging an ambush to murder Banquo and his son Fleance in the aftermath of Duncan's murder⁰⁺.

The immediate realization of the Cawder prophecy in the royal messages conveyed by Ross and Angus at the outskirts of the town enkindles Macbeth's ambition. In an aside, which is a form of mind wandering, he states: "Glamis, and thane of Cawdor! / The greatest is behind" (1.3.117- 18). Later, he contemplates in an aside: Two truths are told, /

As happy prologues to the swelling act / Of the imperial theme.--I thank you, gentlemen(1.3.128-30).

Contemplating The Future

This is the first time a plan is born in his ambitious mind to think of the crown. His remark to Banquo about the future of his sons pulls the double thread of his plan: the crown for him and the kingship of Banquo's progeny. This construction of an early plan gives birth to a future memory of Ingvar's brand. Future memory, according to Ingvar (1985), draws on past experience and future prediction of events to come. It is also different from Schacter's and Addis' (2007) formation of hypothesis which enables combination of past events and future scenarios supported by the hippocampus. The authors argue that the hippocampal region reconstructs fragments from the cortices in a coherent simulation of prospective events.

In Macbeth's case, future memory does neither draw on previous experiences, nor on stored fragments in the cortices of the brain, but rather draws on the blueprints of the future delivered by supernatural agents who "can look into the seeds of time, / And say which grain will grow and which will not" (1.3.58-9).

His steps towards prospective royalty and glory become immediately a cognitive concern. He does not develop an immediate plan of how to realize his destined future. He finds the prophecies equivocal as they can be malevolent or benevolent. If malevolent, he argues, why has a part of them been realized? But if the prophecies are true and indicate his destiny, then he should not do any because destiny will unveil itself and make him king without any effort on his part. In an aside, he argues that "If chance will have me king, why, chance may crown me, / Without my stir" (1.4.144-45).

Even his letter to his wife does not indicate any plan for the realization of the prophecy pertinent to the crown. However, he expresses certitude that he will be what he has been promised.

Notably, the realization of the first prophecy ignites the ambitions of Macbeth for the future, but, simultaneously, engages his brain in a mind wandering process indicated by his cluster of asides and Banquo's recurrent observations of his distractions and introverted cognition.

The future memory designated by the blueprints of the future delivered by the Weird Sisters mesmerizes his brain on the thought of " the swelling act / Of the imperial theme" (1. 3.129-30). Thus, he finds in Duncan's appointment of his son Malcolm as the Prince of Cumberland an hurdle that he needs to clear from his path to the crown (1.4.48-53).

Macbeth has a seed of evil ambition in his soul. However, this seed in Macbeth has not developed into a heinous plan to murder King Duncan till it is nurtured by his malicious wife who prepares the plot of removing Duncan from the way towards their royal achievement. In fact, Lady Macbeth, encouraged by this and promises a prosperous future which can be wrongly won, nourishes the evil spark in him. When he hesitates to execute her vicious plan, she reproaches him for lack of bravery and manhood which are the source of his pride. She scolds him for reluctance and fear as he looks "green and pale" (1.7.37), to which he responds that he "dare[s] do all that may become a man; / Who dares do more is none" (1.7.46-7).

The Plan to Beguile Time

Lady Macbeth contrives the prescription that will lead to the promised glory by beguiling the time to come: "To beguile the time, / Look like the time; bear welcome in your eye, / Your hand, your tongue: look like the innocent flower, / But be the serpent under't" (1.5.61-5). Harping on his manhood, Lady Macbeth succeeds in pushing the hesitant Macbeth to murder the royal visitor.

This atrocious murder leads to the realization of the two prophecies pertinent to Macbeth revealed by the witches, namely the title of Cawdor and the crown. This heinous murder finally constructs the blueprints delivered the extraterrestrial forces.

Consolidation of Sovereignty

The prophecies pertinent to Macbeth are realized and he is finally inaugurated king in Scone after the flight of Malcolm, the Prince of Cumberland, and his brother Donalbain from Inverness, the nest of evil, to England and Ireland respectively, lest they suffer a fate similar to that of their father. However, Macbeth feels that his achievements are insecure and need consolidation. "To be thus is nothing; / But to be safely thus" (3. 1. 48-9), he asserts. He contemplates that his authority in Scotland can only be secured in two ways: firstly, the removal of Banquo from his way to be able to rule with confidence, and, secondly, the prevention of Banquo's progeny from succeeding him to the throne of Scotland as revealed by the supraterrrestrial agents in Act 1, Scene 3.

Clearly his future memory expands after the accomplishment of his own part of the revelation. He falls into contradictory perception and logic. He holds the conviction that he is destined to be the king and uses a short cut to the usurpation of the crown by malicious means. Subsequently, he further develops his notorious plan to remove Banquo, the only eye-witness to the supernatural prophecies of the witches, and prevent the realization of the prophecies pertinent to Banquo's offspring. He welcomes his share of the prophecies, but endeavors to stop the destiny of Banquo's descendants.

Macbeth looks at Banquo as a threat to his power and admits that he genuinely fears Banquo. He confesses without equivocation that "[t]here is none but he / Whose being do I fear: and, under him / My genius is rebuked" (3.1. 54-5). He is scared of Banquo because of his royal nature, courage, dauntless temper, and wisdom. He explains:

...Our fears in Banquo
Stick deep; and in his royalty of nature
Reigns that which would be fear'd: 'tis much he dares;
And, to that dauntless temper of his mind,
He hath a wisdom that doth guide his valour
To act in safety.

(3.1.49-54)

Worse is Macbeth's awareness that he has contaminated his soul with the foul murder of Duncan to secure the crown that he will hand down to Banquo's descendants not to his own progeny. In reality, he keeps harping on this issue from the moment he hears the prophecies about Banquo and his children. After his accession to the throne, he complains:

They hail'd him father to a line of kings:
Upon my head they placed a fruitless crown,
And put a barren sceptre in my gripe,
Thence to be wrench'd with an unlineal hand,
No son of mine succeeding. If 't be so,
For Banquo's issue have I filed my mind;
For them the gracious Duncan have I murder'd;
Put rancours in the vessel of my peace

Only for them; and mine eternal jewel
 Given to the common enemy of man.
 (3.1.59-69)

Macbeth bewails the eternal disturbance of his soul which will end up in the satanic kingdom in the Inferno. He laments that his malevolent adventure is to secure the crown for Banquo's children.

Based on his firsthand input of the prophecies, Banquo suspects that Macbeth has "play'dst most foully for" (3.1.3) the realization of the royal prophecy. These results gather credibility of the witches and their divinations in the mind of the skeptic Banquo. They kindle his ambitions to ponder on his own share of the prophecies. He contemplates in an aside:

...; yet it was said
 It should not stand in thy posterity,
 But that myself should be the root and father
 Of many kings. If there come truth from them--
 As upon thee, Macbeth, their speeches shine--
 Why, by the verities on thee made good,
 May they not be my oracles as well,
 And set me up in hope? (3.1.1-10)

Driven by fear and jealousy of Banquo and his descendants, Macbeth's quest for securing satisfaction, full authority, and sovereignty breeds the malicious plan of murdering Banquo and his son Fleance by having murderers set an ambush for them on their way to home meant to stop the realization of their share of the prophecies. The failure of the plan disturbs Macbeth tremendously. Firstly, the ghost of the murdered Banquo spoils the banquet he gives to celebrate his inauguration, and secondly and more seriously, the escape of Fleance prevents Macbeth from thwarting the destiny of Banquo's offspring of becoming kings of Scotland. He expresses his annoyance to his wife after the banquet: "O, full of scorpions is my mind, dear wife! /

Thou know'st that Banquo, and his Fleance, lives" (3.2.36-7).

Thus, his plans for the future based on the prospective blueprints delivered to Banquo go in vain. His failure leads to frustration and severe mental annoyance. He explains:

We have scotch'd the snake, not kill'd it:
 She'll close and be herself, whilst our poor malice
 Remains in danger of her former tooth.
 But let the frame of things disjoint, both the worlds suffer,
 Ere we will eat our meal in fear and sleep
 In the affliction of these terrible dreams
 That shake us nightly: better be with the dead,
 Whom we, to gain our peace, have sent to peace,
 Than on the torture of the mind to lie
 In restless ecstasy. (3.2. 13-22)

Recharging Macbeth's Future Memory

With this loss of direction, the disturbed Macbeth finds no other way but to resort to the witches for further future information and guidance. He seeks to recharge and reconstruct his future memory and guide his future action in the aftermath of his recent failure with Banquo. He is resolved:

... for now I am bent to know,
 By the worst means, the worst. For mine own good,
 All causes shall give way: I am in blood
 Stepp'd in so far that, should I wade no more
 Returning were as tedious as go o'er:
 Strange things I have in head, that will to hand;
 Which must be acted ere they may be scann'd. (3.5.132-140)

His second encounter with the witches is confusing and disastrous. The witches this time provide a second set of prophecies uttered by their masters who appear as apparitions. First, the First Apparition warns him against his new rival Macduff: “Macbeth! Macbeth! Macbeth! beware Macduff; / Beware the thane of Fife” (4.1.71-72).

This warning intensifies his desperation. The Second Apparition gives him a false assurance that he will not be killed by a man born naturally of a woman: “Be bloody, bold, and resolute; laugh to scorn / The power of man, for none of woman born / Shall harm Macbeth” (4.1.79-81).

The second prophecy gives him an assurance against the warning of the First Apparition. This reduces the edge of the warning against Macduff. He consoles himself:

Then live, Macduff: what need I fear of thee?
 But yet I'll make assurance double sure,
 And take a bond of fate: thou shalt not live;
 That I may tell pale-hearted fear it lies,
 And sleep in spite of thunder. (4.1.82-86)

He feels safe despite the warning against Macduff, however, to be doubly sure, he decides to murder the new opponent. The Third Apparition gives him a more elusive promise of safety:

Be lion-mettled, proud; and take no care
 Who chafes, who frets, or where conspirers are:
 Macbeth shall never vanquish'd be until
 Great Birnam wood to high Dunsinane hill
 Shall come against him. (4.1.90-4)

The two apparitions encourage him to be ruthless, violent, and reckless, and not to worry about his enemies or any man for this matter.

So far Macbeth's future memory is charged and is well set. He knows what he wants and plans accordingly. However, he still has something in mind he wants to clear in order to feel safe:

Yet my heart
 Throbs to know one thing: tell me, if your art
 Can tell so much: *shall Banquo's issue ever*
Reign in this kingdom? (4.1.101-03; italics mine)

To his disappointment, the apparitions give a holographic demonstration of eight kings succeeded by the ghost of Banquo to indicate that a succession of this number of kings of the progeny of Banquo will follow to the throne of Scotland. With this heartbreaking show, Macbeth is assured that his endeavor to prevent Banquo's descendants from accession to the throne is gone in vain and will never succeed. He is upset and curses the witches for this horrible parade.

Updated Future Plan

The components of the updated memory include a plan to murder Macduff and to be void of fear of anybody since no man born of a woman can hurt him, neither can he be killed till Birnam Wood moves to Dunsinane. His next step is to send his men to the castle of the Thane of Fife to take him out of his way. There they find only his wife and child and kill them brutally. Macbeth's brutality is driven by his desperation with regard to the future of Banquo's children and the reassurance he is promised by the apparitions.

Later as he watches his enemies mobilized from England led by Malcolm and Macduff approaching and camping in Birnam Wood, he behaves with confidence that he will not be vanished according to the prophecies. As a messenger informs him that it looks like Birnam Wood moving towards Dunsinane: "As I did stand my watch upon the hill, /

I look'd toward Birnam, and anon, methought, /The wood began to move" (5.5.31-3).

"Liar and slave" is his hysterical and insane response. He realizes that he has been cheated by the perplexing and paradoxical prophecies. He hopelessly states:

I pull in resolution, and begin
To doubt the equivocation of the fiend
That lies like truth: 'Fear not, till Birnam wood
Do come to Dunsinane:' and now a wood
Comes toward Dunsinane. (5.5.41-5)

He is left with choice after this recognition, but to fight desperately: "arm, arm, and out" (5.5.46). There is the last hope for him not to be killed by anyone, because there is no man not born of a woman. He fights courageously and madly till he finds himself face to face with Macduff. His astonishment and despair culminate when Macduff tells him that he "was from his mother's womb / Untimely ripp'd " (5.8.15-6).

Final Recognition

In response, Macbeth has a final awareness of the trap he finds himself in after believing and being guided by the paradoxes of the witches. He admits: "Accursed be that tongue that tells me so, / For it hath cow'd my better part of man! / And be these juggling fiends no more believed, /

That palter with us in a double sense" (5.8.17-20). He fights desperately till he is killed and beheaded by Macduff. The result of Macbeth's effort to put the crown on his head is to lose his head for the crown.

Conclusion

Shakespeare in Macbeth presents his own version of future memory which is different from St. Augustine that is based on philosophy and the logical understanding of human time vs. eternal time. In human time the present turns into past and therefore it is no more and does not exist. The future has not yet come and thus it does not exist. Memory in St. Augustine and the Theology of Hesiod is a means to empower the brain against the irreversible flux of time ((Liliann et al., 2013). As for eternal time, the present remains present and there is no past and future.

St. Augustine's views on human time has a genuine impact on modern theories of neuropsychology of future memory and mental time travel, such as those of Ingvar (1985), Arzy (2009), Tulving (1985); and Schacter et al. (2007) among others. These scholars have empirical studies on the brain and study the method the brain functions physically to retain memory of the past and predict or imagine memory of the future.

Shakespeare was a neuropsychologist, neither was he worried about the dichotomy between the eternal and human time. He rather depends on the culture of his age that gives weight to the supernatural and supra-terrestrial forces that intervene in human life and guide the deeds of men. Such is the case of Macbeth who acquires knowledge of the future from such forces. He trusts the supernatural revelations that construct his memory and his action for the future. However, Shakespeare demonstrates the reception of the paradoxical revelations from these agents is interpreted differently from one character to another depending on the fabric of the human soul of the given individual.

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