ESTRO: Essex Student Research Online

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EDITORIAL

We are proud to welcome you to the second issue of the sixth volume of ESTRO for this academic year. It has, once again, been a great pleasure to collect exceptional student research papers representing the range of disciplines taught at Essex. This edition of the journal invites you on an intellectual journey through the realms of the psychological, the medical, the political and the allegorical, in the hope of broadening your academic horizons and challenging your critical perspectives on a variety of topics.

We start in a somewhat different way compared to previous issues of ESTRO, and are delighted to introduce 'In Memory', a creative piece written by Sadie Lummis. 'In Memory' is a poem following the life of the protagonist for as long as she remembers and does *not* remember, and we see her memories simultaneously constructed and unravelled through the narrative. The author marries attributes of Alzheimer's disease with key historical events, producing poetry which - using repetition and beautifully minimalistic language - is heart breaking in its effect. In a similar vein, our second article is also immersed in the inner workings of the mind and the memories it collects. Here we move away from Lummis's game of words and lyricism to Espen Sjoberg's exploration of the scientific methods used to detect the condition of amnesia. Sjoberg employs a particular focus on the malingering of this disease, and examines the way in which some patients can 'fake' symptoms in order to pursue their own agendas.

Adeleke Fowokan's 'Outbreak Control of Ebola Haemorrhagic Fever' continues our sequence of articles on medical conditions that can affect the human body. Fowokan relies on recent scientific research to clearly explain the social and contextual issues related to outbreaks of the Ebola virus to non-specialised readers. The author is also critical of the various ways in which such issues have been managed, suggesting alternative methods for outbreak control and thus taking the essay beyond mere factual recitation into the region of practical application. Similarly, Ayowumi Ogunjobi continues to address virus outbreaks with 'Bordetella Pertussis in Children in the United States of America', focusing on the threat of infection still occurring in the country. The author argues for a better recognition of the disease, as well as either the introduction of a new vaccine to strengthen immunity or the improvement of the current acellular vaccination.

We remain in the U.S. with our next essay, in which Frazer Merritt establishes a symbolic parallel between Captain Ahab's pursuit of the elusive white whale in Herman Melville's *Moby Dick* and the Bush administration's invasion of Iraq. Merritt creates a web of landmark events, including the Second World War, 9/11 and Iraq War, and explores the way in which the reception of *Moby Dick* has evolved in accordance with these historical pinnacles. While fictional characters provide the main focus in this piece, Merritt reveals their allegorical potentiality and their representation of political ideas. He skilfully highlights the way in which, 160 years on, Melville's gargantuan novel still holds an important bearing on contemporary America.

In our next article, 'Power in Lewis Carroll's *Alice* Books', Amalia Mihailescu also examines the provocative function of allegory in literature and succeeds in shedding a new light on these popular tales. In the first part of her analysis, Mihailescu skilfully interrogates the complex language and imagery in Carroll's novels and focuses on the distribution of power between Alice and the fictional creatures. In the second part, she delves deep into the nonsensical machinations of Wonderland and presents the novels as meditation on Victorian society, of the anxieties over emerging modernity and its distorting effect on their existing conception of reality. The theme of power is continued in our next essay by Daniel Devine, in which he addresses party competition in the conflict state of Northern Ireland. Devine asserts that existing literature concerning the Northern Irish party system is limited in its scope. However, through extensive research and in-depth analysis, he is able to critically assess the varying theoretical approaches to party competition and concludes in favour of the 'ethnic tribune' model.

We hope you find this edition of ESTRO as enjoyable and inspiring to read as we have done. Each author's engagement with their topic offers a fascinating perspective and has the potential to make you think outside of your comfort zone. We would like to thank all of our writers and reviewers for their continuous hard work and commitment to the journal. ESTRO is run by students for students and depends on your submissions to remain the high quality journal it is.

Sofia Parunova and Jessica Houlihan, Editors

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‘In Memory’

Sadie Lummis

ABSTRACT

‘In Memory’ is a poem inspired by Joe Brainard’s 1970 publication ‘I Remember’ and Oulipian, George Perec’s ‘Je Me Souviens’ (1978). Like these works, the piece explores the use of literary constraints such as repetition and memory; it reflects the memoirs of a female Alzheimer’s sufferer, once a nurse in the Second World War, as she battles with the daily distortions of memories she both can and cannot remember. In constructing the work, the involvement of women during World War II was thoroughly researched, and the segregation that continued to exist between the fighting troops and (most importantly, for the purpose of this piece) the women that nursed them. Further investigation was carried out on the progressive symptoms of Alzheimer’s disease so as to be as accurate as possible in depicting the memories of the protagonist. Finally, ‘In Memory’ attempts to explore the question of writing from the perspective of one who cannot remember, or whose memory is constrained by means beyond their control.

She remembers childhood.

She remembers a farmhouse in Georgia, white cladding, green shutters.

She remembers a tin bath in the yard, sharing the water with her brother, the dog who circled playfully as they bathed.

She remembers her mother, “You children behave now”, her skirts carried by the breeze from the porch. “You mind yo’ manners”

She remembers a schoolyard, lined by trees, Sycamore trees.

She remembers how she would stand and watch the other children climb during recess.

She remembers when her brother, seven years old, fell from a tree at dusk one summer and sprained his leg; he hobbled around the neighbourhood for days on a crutch her father built.

She remembers village boys, who would kiss at her across the street and then chase her with spiders.

She remembers riding the horse beside her father, a fleshy toddler, bare-legged and wearing no underwear.

She remembers the smell of the saddle: sweat and horsehair.

She remembers a hall of brown faces, dancing The Hop in time to a band.

She remembers the taste of liquor.

She remembers a hand up her skirt in the darkness of trees, how she was late home and had broken curfew.

She remembers the condemnation of grass stains. Her mother: “Girl, you been actin’ a damned *fool*.”

She remembers white cladding, green shutters.

She remembers a radio broadcast.

She remembers a neighbourhood, their ears pressed close to the wireless.

She remembers, all on porches, in kitchens, in hallways, in yards, in attics and in the street, the community gathered, waiting.

She remembers white children climbing Sycamore trees.

She remembers: a date that would “live in infamy”.

She remembers young men in uniform, marching through streets, military arms and legs swinging in perfect unison.

In Memory – Sadie Lummis

She remembers a public service announcement: "Your country needs *you!!!"*

She remembers a radio broadcast.

She remembers an enrolment.

She remembers the very first division of coloured nurses in the war effort.

She remembers her mother: "Girl if I'ma say it once, then I'ma say it again, you actin' like a damned *fool.*"

She remembers sisters dressed in nursing attire: Ada, Adelaide, Cora, Etta, Helen, Ivy, Jemimah, Lorraine, Millicent, May, Pearl, Ruth, Rene, Sydney and Yvonne.

She remembers, 1943 and eighteen years old.

She remembers the Army Nurse Corps, 1943 and segregated; the senior sister told her: "Don't you be treatin' no white man."

She remembers the 25th Station Hospital Unit.

She remembers black troops in Liberia, men writhing in hospital beds, drenched in Malaria.

She remembers the heat.

She remembers jaundice, convulsions, blood in bed pans.

She remembers 1944.

She remembers the disembodiment of the Army's quota system: coloured women tending white soldiers.

She remembers a unit of sixty-three coloured women serving the American Convalescent Hospital in Warrington, England.

She remembers 1944.

In Memory – Sadie Lummis

She remembers her first white soldier.

She remembers his body on the stretcher, his face contorted and his head matted with haemoglobin, screaming, screaming, screaming to no one.

She remembers cleaning, bandaging, hot cloth and needlework.

She remembers alarm bells, casualties; artillery, landmines, snake bites, accidents, and fatigue.

She remembers white sheets covering the bodies of the dead.

She remembers the soldier's first conscious breath, the rise and fall of a ghostly chest in a hospital bed.

She remembers "a date that would live in infamy."

She remembers letters, written to and from the United States.

She remembers a surrender.

She remembers May 8th 1945.

She remembers the feel of old, American soil beneath her boots.

She remembers a land, changed but nonetheless beautiful.

She remembers her mother: "Damn, girl, you' *shrunk!* What they bin' feedin' you?'

She remembers the absence of a brother: Missing in Action.

She remembers a wedding, a military man with pale skin.

She remembers a church, choir, confetti and roses.

She remembers a lake-house, a honeymoon.

She remembers the rise and fall of a white chest in the darkness.

In Memory – Sadie Lummis

She remembers babies, three of them, one after another.

She remembers contractions.

She remembers diapers, bottles, piles of laundry.

She remembers school shoes, backpacks, tailored shorts and skirts.

She remembers infant tantrums, teenage bickering and adolescent brawls.

She remembers her hands flailing in the air, always the peacemaker.

She remembers the dull ache that remained in her breast, for months, when they left her.

She remembers the years, burying a white soldier, an American flag.

She remembers men, women and children gathered by a graveside.

She remembers hands upon her back, comforting; "We're *so* sorry for your loss."

She remembers an influx of time, slowing down, speeding up.

She remembers cups of coffee, "Corinne, where'd I put that sugar?"

She remembers losing her door keys.

She remembers her youngest, her daughter: "Mama, you sure yo' alright, out here, on yo' own?"

She remembers milk in the cupboard, eggs in the dresser.

She remembers prizing toast with a knife, from the toaster.

She remembers her sons: "Mama, you goin' crazy! What the hell you doin'?"

She remembers cleaning the windows with white wine vinegar – "See those marks? Look at all them marks! I'll bet it was the bugs. Bugs love leavin' marks."

She remembers photographs of a white soldier.

She remembers smoke, cigarettes in the waste-paper basket.

She remembers boxes piled high in the kitchen.

She remembers a hospital car in the driveway.

She remembers arms leading her through alien space.

She remembers: “Welcome to Fairhill Mrs -.”

She remembers a room with a window-seat.

She remembers the daughter who visits often, with Jonathan – “Mama, this is Marcus, your grandson. Johnny didn’t come back from war, remember?”

She remembers lunch on plastic trays, spoon-feeding, napkins wet with saliva.

She remembers…

She remembers.

She does not remember retirement.

She does not remember four-hundred and seventy-three days of misplaced time; two people in deckchairs on the back porch.

She does not remember baths assisted by nursing staff – “Hold still, hold still now Cela, it’s alright.”

She does not remember the trees that line the fence outside. Sycamore trees.

She does not remember the man on crutches who limps from corridor to corridor, muttering softly to himself about the price of postage stamps, a mysterious garbage truck…

She does not remember that her husband is gone.

She does not remember kissing the doctor who served her medication this morning.

She does not remember violently seizing his white face and calling him Jerry.

She does not remember pleading with him; “But you’re Jerry! You look just like him.”

She does not remember asking, after a pause, “Who’s Jerry?”

She does not remember the smell of daily bleach and air freshener.

She does not remember the faces that stare in the day-room, the taste of Semolina.

She does not remember falling in the gardens, grass stains on her skirt.

She does not remember the names of songs on the radio: ‘Vogue’, ‘Escapade’, and ‘Opposites Attract’.

She does not remember what happened to Doris Day.

She does not remember her grandchildren.

She does not remember the date.

She does not remember who is in the White House.

She does not remember what anybody is talking about.

She does not remember the names and faces of nurses in uniform, doctors in white coats; Victoria, Valerie, Susanna, Robert, Nigel, Mercy, Michael, Jeannie, Joanne, Harriet, Gwen, Esther, Clarence, Betty, Andrew.

She does not remember the weather yesterday.

She does not remember rising at 5AM and dressing in her best clothes; “My daughter is arriving. She just graduated from University.”

She does not remember being led back to bed, a fresh face of make-up, “Listen! I told you, my daughter is arriving!”

She does not remember asthma, incontinence, mess in bedpans.

She does not remember the onset of disease.

She does not remember the world outside of her window.

She does not remember countries, continents, states or counties.

She does not remember 1984.

She does not remember wandering the hallways at night, repeating to herself, "My name… Cela. That's right, my name…my name…"

She does not remember the screaming elderly in their beds.

She does not remember the faeces, the fever, the arthritic fingers.

She does not remember the weather, yesterday.

She does not remember the sound of the fire alarm when someone burns the toast.

She does not remember how it sends her crazy.

She does not remember telling staff over and over, for the thousandth time: "I was a nurse… in the war. I was a nurse."

She does not remember the nicotine stains above the armchair in her bedroom.

She does not remember the white sheets, covering the bodies of the dead.

She does not remember the rise and fall of her own depleted chest.

She does not remember the letters her daughter anxiously pens to nursing staff – "Tell me, really, is Mama doing okay?"

She does not remember surrendering herself to life.

She does not remember her body, changed, perhaps less beautiful.

She does not remember the face of the lady in the mirror who stares ruefully back at her, sometimes angry, screeching blaspheme, at other times, crying, “Hush, hush chile, hush.”

She does not remember if Johnny will visit again.

She does not remember 1984.

She does not remember diapers, medicine bottles, piles of soiled laundry.

She does not remember fighting off the nurse at dinner, her arms flailing; “I don’t know who I am. I don’t know who I am!”

She does not remember years gone by.

She does not remember time.

She does not remember decades, years, months, weeks, days, hours, and minutes.

She does not remember hands on her back; “Shhh, Cela. There now.”

She does not remember Coffee, Sugar.

She does not remember Milk and Eggs.

She does not remember how she came to this place.

She does not remember 1984.

She does not remember white cladding, green shutters.

She does not remember.

Bibliography

Alzheimer's Society. [Online] Available at <http://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=100> [Accessed: 27 February 2014]

Bellafaire, J. A. The Army Nurse Corps: A Commemoration of World War Two Services. *Hyper War Foundation*. [Online] Available at <http://ftp.ibiblio.org/hyperwar/USA/USA-Nurse/index.html> [Accessed: 27 February]

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Faking Amnesia and How to Detect It

Espen Sjoberg

ABSTRACT

Malingering amnesia is a phenomenon in which patients simulate or exaggerate their symptoms of memory loss. The purpose behind faking amnesia is usually for financial gain through insurance fraud or avoiding criminal punishment. This essay outlines various tests that are available to detect patients who may be simulating anterograde amnesia (inability to learn new information) and retrograde amnesia (inability to remember information about the past). Faking amnesia has been linked to increased brain activity in the prefrontal cortex of the brain, and increased pupil dilation. On tests of chance, simulators tend to remember the correct answer and deliberately choose the wrong answer, scoring below chance and worse than the baseline of genuine amnesiacs. Patients simulating retrograde amnesia will tend to perform worse than genuine amnesiacs on tests that assert their knowledge of past events. Using a variety of these tests will give an indication of whether a patient is faking symptoms or not.

A patient's deliberate falsification of symptoms of amnesia is known as malingering. Such simulation or exaggeration of symptoms is usually associated with financial gain, such as increased insurance claims (Binder & Rohling, 1996). It may also occur if the patient is faced with criminal charges; in 1994, for example, 29% of all criminals sentenced to life imprisonment claimed amnesia at their trials and some later admitted to feigning their memory loss (Pyszora et al., 2003). Faking amnesia can be used to avoid financial obligations or criminal punishment, and so this article aims to outline ways to detect patients who may be simulating symptoms of either retrograde or anterograde amnesia.

The two types of amnesia

There are two different types of amnesia caused by brain damage or psychological trauma. Firstly, *retrograde amnesia* refers to an inability to remember anything that happened before the onset of the injury. The patient may still remember certain aspects of their life,

such as their name or how to ride a bike, but the patient has no recollection of personal events or explicit experiences. For instance, a patient may remember that they went to school but forgotten everything about the school itself, including information about events attended or information about schoolmates. Secondly, *anterograde amnesia* is the inability to learn something new. In popular media this is often incorrectly referred to as short-term memory loss. Patients with anterograde amnesia have a very short attention span and will forget any newly learned information once their attention shifts.

If a patient claims to suffer from retrograde or anterograde amnesia, despite brain scans revealing no injury, this is by itself no indication of malingering. The injury sustained may simply have gone undetected, or the patient may be suffering from amnesia for psychological reasons, such as trauma or stress, known as functional amnesia. Tests for anterograde amnesia are plentiful, and there also exists several tests specifically designed to detect malingering. For retrograde amnesia, fewer tests exist and malingering is much harder to identify.

General tests for detecting malingering

Some tests are available that are specifically aimed at detecting malingering in patients who may be feigning injury symptoms. Such tests are referred to as Symptom Validity Tests (SVT) and often involve chance. Patients who feign their performance will often neglect the properties of chance and tend to perform below chance, while genuine brain injury patients perform at chance level or above. One such test is the Test of Memory Malingering (TOMM), which aims to detect malingering without giving patients cues as to the nature of the test (Tombaugh, 1997). Another is the Word Memory Test (WMT; Green, Allen, & Astner, 1996), which assesses verbal memory using pair-word recognition tasks, as well as consistency with delayed recognition tasks (Green et al., 2003). In other words, a patient with amnesia will display consistently bad performance on memory tasks, but a malingerer is likely to vary their performance and also score below chance.

Teichner and Wagner (2004) argue that the TOMM is only a useful measure for detecting malingering if dementia is ruled out, as the test is sensitive to the cognitive dysfunction associated with dementia. This was illustrated by Staniloiu and Markowitsch (2012), who reported a patient that scored below chance on several malingering detection trials, but the authors attributed this to global cognitive deterioration or that the patient did not understand the instructions.

The MMPI-2 Fake Bad Scale (FBS) is a true/false statement test sensitive to paradoxical claims, which can assess whether a patient is exaggerating their responses (Lees-Haley et al., 1991). A meta-analysis by Nelson et al., (2006) concluded that the FBS is an adequate measure of malingering detection. Again, people who feign amnesia will perform particularly poor on such tests, deliberately creating a weak performance which is actually lower than chance. A study by Hashish et al. (2011) further compared the FBS with other measurements of malingering in head injury claims and found that the FBS is the most effective scale for detecting malingerers. However, Meyers and Volbrecht (2003) argue that the best malingering detection tests are those that can perform double-duties, meaning the tests can also assess some cognitive function in patients with genuine neurological impairments. They argue that there are two tests - the Forced Choice Test (Hiscock and Hiscock, 1989) and the Portland Digit Recognition Choice Test (Binder, 1993) - both of which are used to detect malingering, but are otherwise useless for neuropsychological evaluations. McCaffrey and Weber (1999) argue that, while malingering assessment is still a somewhat inaccurate science, a combination of measurements is best used to assess malingering in patients, especially if the patient has potential external gains by simulating.

Neuro-imaging and physiological techniques

As malingering involves deception, some neuro-imaging studies suggest that fMRIs may aid malingering detection. Spence et al. (2004) found that deception depends on activation of key brain structures such as the ventro- and dorsolateral prefrontal cortex. Browndyke et al. (2008) also found that on tests such as TOMM, deception was associated with increased brain activity and slower response time. This is similar to the results found by van Hooff et al. (2009) where simulators (participants told to mimic symptoms of amnesia) show slower and more variable reaction times on a memory task. However, brain-imaging measures cannot establish with certainty if malingering is occurring, as mediating factors may be at play; e.g. impaired executive control as a result of psychological stress is causally linked to dysfunctional autobiographical retrieval (Fujiwara et al., 2008; Kopelman, 2000).

Heaver and Hutton (2010) measured pupil size during a memory task and found that, during the recognition stage, the pupil was larger when old items were presented in comparison to new items. As all participants were told to feign amnesia, the authors argue that pupil size measurement may be an indicator of malingering as it is an unconscious action. However, as this study did not compare the results with brain injured patients, it is not clear if this effect prevails in genuine amnesia cases.

Tests for detecting malingering in anterograde amnesia

Suspicion of malingering with anterograde amnesia usually involves a patient scoring below chance on forced choice tests (Jelicic et al., 2004) or below the baseline of patients with amnesia as a result of acquired brain injury, known as asorganic amnesia (Greiffenstein et al., 1994). Since anterograde amnesia is the inability to remember new information, a large variety of tests are available.

With the help of an insurance company, Greiffenstein et al. (1994) identified probable malingering patients and compared their results with objectively brain-injured patients on a variety of tests. They found that the traditional Wechsler Memory Scale (Wechsler, 1945) and its revised edition were unable to detect differences between malingering patients and brain-injured patients. In contrast, the Rey Auditory Verbal Learning Test (AVLT; Invik et al., 1990) displayed significant differences between malingering and brain-injured patients on free recall, delayed recall, and recognition, with malingering patients performing poorly by comparison. The AVLT is a five-trial learning procedure in which participants read a list of 15 words followed by free recall. Subsequently, a second word list is read and recalled before finally the initial list is recalled again, which allows for a measure of interference. As patients who fake amnesia tend to exaggerate their symptoms, they perform worse on this task than patients with organic amnesia.

Greiffenstein et al. (1994) also conducted a series of tests: Rey's Word Recognition List (Lezak et al., 2004) involves recognising previously presented words; Rey's 15-item Memory Test (Lezak et al., 2004) has the participant drawing symbols from memory; the Portland Digit Recognition Test (Binder, 1993) involves remembering words through different trials of backwards counting; and the Reliable Digit Span is a serial recall task forwards and backwards. On all of these tests it was found that suspected malingerers scored poorly compared to brain injured patients. To assist clinicians in assessing malingering in patients, Greiffenstein et al. (1994) suggested a conservative rule of suspicion when performance was 1.3 standard deviations below an objective brain injury baseline. Nevertheless, they warned that this included a 10% chance of false negatives.

Greiffenstein et al. (1994) warned against labelling malingering too early, as there are third variables that account for poor performance. Previous neurological conditions, such as being in a coma or suffering from internal brain haemorrhaging, can reduce cognitive performance (Schretlen et al., 1991). Another complication can arise if a patient has existing brain damage while simultaneously exercising malingering. The motivation behind this may be increased financial restitution following an initial injury. However,

this phenomenon is incredibly rare, with only 9% of brain injured patients performing worse than poor-performing malingering patients (Binder, 1993).

Hanley et al. (1999) found that the coin-in-the-hand task (Kapur, 1994) is a good indicator of malingering in amnesia patients. During this task, the participants briefly observe which hand is holding a coin. They are then asked to count backwards from 10 before they are asked which hand the coin was in. It was found that organic amnesiacs score excellently on this task, while simulators score only at chance level or below. Another test used was the distraction/no distraction task (Baker et al., 1993) in which participants read words from cards, followed either by a silent pause or backwards counting. Finally, participants are asked to recall the word items based on semantic cues. Hanley et al. (1999) found that simulators perform poorly compared to controls and organic amnesiacs on this task, which again supports the idea that patients who fake their condition tend to exaggerate their symptoms and perform worse than patients with genuine amnesia.

A more implicit measure of malingering is to see if the patient shows the usual primacy and recency effect in free recall. The primacy effect is the tendency to remember the first item in a list of items in a memory test, while the recency effect involves remembering the final item in the list. Wiggins and Brandt (1988) found that patients with genuine amnesia will not show a primacy effect while simulators do. Such indicators can be useful as the results are difficult for malingerers to fake.

Tests for detecting malingering in retrograde amnesia

It is more problematic to assert whether a patient is feigning retrograde amnesia as this involves loss of memory prior to the onset of the condition. The variables in question are therefore largely out of the examiner's control. For this reason, there are relatively few tests that show promise of malingering detection within retrograde amnesia assessment. Kapur (1999) argues that this is because retrograde amnesia is less frequently reported by patients compared to anterograde amnesia (presumably because it is harder to fake), and for this same reason there is also little research on the topic. The difficulty in detecting malingering is further convoluted by the possibility of unconscious (or hysterical) malingering, where the patient, in a sense, is self-sabotaging their own performance without realising it (Ross, 2000).

Tests that aim to specifically assess retrograde amnesia with malingering in mind are rare. Jenkins (2009, cited in Jenkins et al., 2009) is one of few studies to compare performance

between brain injured patients, controls, and instructed malingerers on retrograde amnesia. Among the tests used was the Autobiographical Memory Interview (AMI), which uses samples of personal semantic memories across the lifespan, such as information from schooldays (Kopelman et al., 1989). Another test was the dead/alive test, in which a subject is asked whether a famous person is still alive or dead, and if they know the circumstances of the death (Kapur et al.,1992). Jenkins (2009) found that malingerers typically scored lower on both the AMI and the dead/alive test compared to brain injured patients. This suggests that malingerers can be detected using these two tasks, though one aspect that has not been investigated is whether malingerers will score differently than patients with functional retrograde amnesia (amnesia due to psychological reasons) on these tasks.

There are other tests designed to assess retrograde amnesia, such as the Famous Events Tests (Leplow & Dierks, 1997, cited in Fujiwara et al., 2008), which involve recall and recognition of public news events. However, few tests have been used in the context of malingering retrograde amnesia patients. Even if strong suspicions occur, it is difficult to make accurate conclusions without patients confessions, which are rare. Fujiwara et al. (2008) tested five patients on a series of memory tests and strongly suspected that one of the patients was simulating functional retrograde amnesia, but was unable to conclude with conviction without the patient's confession. Their studies posited that patients with retrograde amnesia may also perform poorly on theory of mind tasks, which they suggest may be linked to poor autobiographical memory recall. Jenkins et al. (2009) argue that more research is needed on standardised measures to distinguish performances between organic, functional, and malingering amnesia before malingering can be reliably detected in retrograde amnesiacs.

Conclusion

To summarise, a wide variety of tests are available to assess malingering if a patient claims anterograde amnesia. A performance of worse than chance or below the baseline of organic amnesiacs is a cause for suspicion of malingering. Malingering in retrograde amnesia is comparatively more difficult to assess. There are some tests available and trends suggest that simulators perform worse than patients with organic amnesia. The best way to investigate malingering is to use a combination of tests and see if the patient reliably scores below chance or the organic amnesia baseline across the tests. If so, this is strong reason to suspect the patient is feigning. While one cannot say with absolute certainty that the patient is simulating without a confession, the variety of tests available makes it difficult for simulators to consistently fake the symptoms. Someone faking

amnesia tends to ignore chance and is unlikely to display consistent and reliable symptoms throughout different test. In tests of chance, simulators tend to remember the correct answer and deliberately choose the wrong one, while genuine amnesiacs will randomly choose an answer. Using a variety of such tests will make it very difficult for simulators to reliably fake symptoms.

Bibliography:

Baker, G.A., Hanley, J.R., Jackson, H.F., et al. (1993). Detecting the Faking of Amnesia: Performance Differences between Simulators and Patients with Memory Impairments. *Journal of Clinical and Experimental Neuropsychology,* 15, pp. 668-684.

Binder, L.M. (1993). Assessment of Malingering with the Portland Digit Recognition Test after Mild Head Trauma. *Journal of Clinical and Experimental Neuropsychology*, 15, pp. 170-182.

Binder, L.M., and Rohling, M.L. (1996). Money Matters: a Meta-Analytic Review of the Effects of Financial Incentives on Recovery after Closed-Head Injury. *American Journal of Psychiatry,* 153, pp. 7-10.

Browndyke, J.N., Paskavitz, J., Sweet, L.H., et al. (2008). Neuroanatomical Correlates of Malingered Memory Impairment: Event-Related fMRI of Deception on a Recognition Memory Task. *Brain Injury,* 22(6), pp. 481-489.

Fujiwara, E. et al. (2008). Functional Retrograde Amnesia: a Multiple Case Study. *Cortex,* 44, pp. 29-45.

Green, P., Allen III, L.M. and Astner, K. (1996). *The Word Memory Test*.
Durham: Cognisyst.

Green, P., Lees-Haley, P.R., and Allen III, L.M. (2003). The Word Memory Test and the Validity of Neuropsychological Test Scores. *Journal of Forensic Neuropsychology,* 2, pp. 97-124.

Greiffenstein, M.F., Baker, W.J., and Gola, T. (1994). Validation of Malingered Amnesia Measures with a Large Clinical Sample. *Psychological Assessment,* 6 (3), pp. 218-224.

Hanley, J.R., Baker, G.A., and Ledson, S. (1999). Detecting the Faking of Amnesia: a Comparison of the Effectiveness of Three Different Techniques for Distinguishing Simulators from Patients with Amnesia. *Journal of Clinical and Experimental Neuropsychology,* 21(1), pp. 59-69.

Hashish, R.K., Yossef, I.M., Moustafa, A.A., et al. (2011). Comparison between Infrequency (f), Fake Bad Scale (fbs), and Infrequency Psychopathology (f(p)) Scales in Diagnosis of Malingering among Post Head Trauma Disability Claims. *Egyptian Journal of Forensic Sciences,* 1, pp. 13-18.

Heaver, B. and Hutton, S.B. (2010). Keeping an Eye on the Truth: Pupil Size, Recognition Memory and Malingering. *International Journal of Psychophysiology,* 77(3), pp. 306.

Hiscock, M. and Hiscock, C. (1989). Redefining the Forced Choice Method for the Detection of Malingering. *Journal of Clinical and Experimental Neuropsychology,* 11, pp. 967-874.

Ivnik, R.J., Malec, J.F., Tangalos, E.G., et al. (1990). The Auditory-Verbal Learning Test (AVLT): Norms for ages 55 Years and Older. *Psychological Assessment,* 2(3), pp. 304-312.

Jelicic, M., Merckelbach, H., and van Bergen, S. (2004). Symptom Validity Testing of Feigned Amnesia for a Mock Crime. *Archives of Clinical Neuropsychology,* 19, pp. 525-531.

Jenkins, K.G., Kapur, N., and Kopelman, M.D. (2009). Retrograde Amnesia and Malingering. *Current Opinion in Neurology,* 22, pp. 601-605.

Kapur, N. (1994). The Coin-in-the-Hand Test: a New "Bedside" Test for the Detection of Malingering in Patients with Suspected Memory Disorder. *Journal of Neurology, Neurosurgery and Psychiatry,* 57, pp. 385-386.

Kapur, N. (1999). Syndromes of Retrograde Amnesia: a Conceptual and Empirical synthesis. *Psychological Bulletin,* 125(6), pp. 800-825.

Kapur, N., Ellison, D., Smith, M.P., et al. (1992). Focal Retrograde Amnesia Following Bilateral Temporal Lobe Pathology. *Brain,* 115, pp. 73-85.

Kopelman, M.D. (2000). Focal Retrograde Amnesia and the Attribution of Causality: an Exceptionally Critical View. *Cognitive Neuropsychology,* 17(7), pp. 585-621.

Kopelman, M.D., Wilson, B.A., and Baddeley, A.D. (1989). The Autobiographical Memory Interview: a New Assessment of Autobiographical and Personal Semantic Memory in Amnesic Patients. *Journal of Clinical and Experimental Neuropsychology*, 11(5), pp. 724-744.

Lees-Haley, P.R., English, L.T., and Glenn, W.J. (1991). A Fake Bad Scale on the MMPI-2 for Personal Injury Claimants. *Psychological Reports,* 68, pp. 203-21.

Lezak, M.D., Howieson, D.B., and Loring, D.W. (2004). *Neuropsychological Assessment.* 4th ed. New York: Oxford University Press.

McCaffrey, R.J. and Weber, M. (1999). A Clinical Approach to Evaluating Malingering in Forensic Neuropsychological Evaluations. *Revista Español de Neuropsicologia,* 2(3), pp. 21-36.

Meyers, J.E. and Volbrecht, M.E. (2003). A Validation of Multiple Malingering Detection Methods in a Large Clinical Sample. *Archives of Clinical Neuropsychology*, 18, pp. 261-276.

Nelson, N.W., Parsons, T.D., Grote, C. L., et al. (2006). The MMPI-2 Fake Bad Scale: Concordance and Specificity of True and Estimated Scores. *Journal of Clinical and Experimental Neuropsychology*, 28, pp. 1-12.

Pyszora, N,M., Barker, A.F., Kopelman, M.D. (2003). Amnesia for Criminal Offences: a Study of Life Sentence Prisoners. *Journal of Forensic Psychiatry and Psychology,* 14(3), pp. 475-490.

Ross, S.M. (2000). Profound Retrograde Amnesia Following Head Injury. *Cortex,* 36, pp. 521-537.

Schretlen, D., Brandt, J., Krafft, L.,. et al. (1991). Some Caveats in Using the Rey 15-item Memory Test to Detect Malingered Amnesia. *Psychological Assessment,* 3(4), pp. 667-672.

Spence, S.A., Hunter, M.D., Farrow, T.F.D., et al. (2004). A Cognitive Neurobiological Account of Deception: Evidence from Functional Neuroimaging. *Phil. Trans. R. Soc. Lond. B,* 359, pp. 1755-1762.

Staniloiu, A. and Markowitsch, H. J. (2012). Towards Solving the Riddle of Forgetting in Functional Amnesia: Recent Advances and Current Opinions. *Frontiers in Psychology,* 3(403), pp. 123.

Teichner, G. and Wagner, M.T. (2004). The Test of Memory Malingering (TOMM): Normative Data from Cognitively Intact, Cognitively Impaired, and Elderly Patients with Dementia. *Archives of Clinical Neuropsychology,* 19, pp. 455-464.

Tombaugh, T.N. (1997). The Test of Memory Malingering (TOMM): Normative Data from Cognitively Intact and Cognitively Impaired Individuals. *Psychological Assessment,* 9(3), pp. 260-266 .

Van Hooff, J.C., Sargeant, E., Foster, J.K., et al. (2009). Identifying Deliberate Attempts to Fake Memory Impairments through the Combined Use of Reaction Time and Event-Related Potential Measures. *International Journal of Psychophysiology,* 73, pp.246-256.

Wechsler, D. (1945). A Standardized Memory Scale for Clinical Use. *Journal of Psychology: Interdisciplinary and Applied,* 19 (1), pp. 87-95.

Wiggins, E.C. and Brandt, J. (1988). The Detection of Simulated Amnesia. *Law and Human Behaviour*, 12(1), pp. 57-78.

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Social and Contextual Issues Involving Outbreak Control of Ebola Haemorrhagic Fever

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ABSTRACT

Ebola haemorrhagic fever, a zoonotic disease, represents a major global public health threat. Although endemic to parts of sub-Saharan Africa, it poses a global threat due to globalization activities as well as its potential use as a biological terrorist agent. Since its emergence onto the global health scene in the first recorded outbreak in the Democratic Republic of Congo (1976), outbreaks of the Ebola virus have resulted it high fatality rates. Over the years, significant research advances have been made in regards to understanding the morphology and the biology of the virus. However, challenges in identifying the natural host and the absence of a known cure make the virus a major public health challenge. The first and subsequent outbreaks of the virus have largely been characterized by features such as large scale hospital infections and spread through contact with cadavers. Due to general improvements in outbreak management of the virus, some of these characteristic features have been addressed through the concerted efforts of stakeholders. However, if outbreaks are to be completely eradicated, certain factors still have to be addressed. This paper reviews the evidence of the July and November 2012 Ebola outbreaks and its management, emphasizing what was done right and what needs to be improved upon.

Introduction

Ebola haemorrhagic fever, caused by the Ebola virus, is a severe zoonotic disease and is one of the most deadly infectious diseases known to man (CDC 2010, WHO 2013). The high case fatality rate of Ebola haemorrhagic fever, which ranges from 25 to 90 per cent, alongside the lack of any vaccination or treatment, make it a significant global health threat (Feldmann and Geisbert 2011, Geduld et al 2012, WHO 2013). Although all of the Ebola haemorrhagic fever outbreaks have occurred in African countries, Ebola constitutes a major worldwide threat largely due to its potential of being used as a biological terrorist agent and also through threat posed via infection spread across countries (Feldmann and

Geisbert 2011, MacNeil and Rollin 2012). With no precise natural reservoir of the Ebola virus, the first case in an outbreak is sometimes attributed to infection through contact with animal fluids or carcasses (CDC 2010, Muyembe-Tamfum et al 2012). However, human to human infections are spread through contact with body fluid, secretions or blood from an infected person (Geduld et al 2012, WHO 2013). Contact with cadavers while burying the dead or washing the dead due to cultural practices in countries affected have also been reported as a common factors affecting infection outbreak (Feldmann and Geisbert 2011, WHO 2013). Nosocomial spread of Ebola virus has largely occurred in hospital settings due to lack of adequate outbreak response, and also the lack of protective outfits for health care workers in settings where outbreaks have occurred (Feldmann and Geisbert 2011). The lack of any known location or identity of the natural reservoir for the Ebola virus has put a restraint on the type of preventive measures that can be provided. Furthermore, the social conditions in countries where Ebola virus outbreak is dominant have also made it possible for outbreaks to thrive, especially across health care settings (CDC 2010, Muyembe-Tamfum et al 2012). Although the Ebola virus is virulent, basic infection control methods to breaking the chain of transmission can help control infection spread, control measures which have been previously lacking in most of the settings in which outbreaks of Ebola have occurred (MacNeil and Rollin 2012). This essay aims to appraise the evidence on the recent outbreak control process, emphasizing the social and other contextual issues which have largely aided the spread of Ebola outbreaks as a means to improve future outbreak control measures.

Addressing the Social and Contextual Issues Involved in Ebola Outbreaks

Ebola haemorrhagic fevers in humans are caused by the four members of the filo viruses, namely Zaire Ebola virus (ZEBOV), Sudan Ebola Virus (SEBOV), Bundibguyo Ebola virus (BEBOV) and the Ivory Coast Ebola virus (CEBOV) (Vanessa and Matthias 2012, Mbonye et al 2012, Muyembe-Tamfum et al 2012). Since the year 2000, there have been five reported outbreaks of the Ebola virus in Uganda with two of the different filo virus strains (SEBOV and BEBOV) responsible for all five outbreaks (Mbonye et al 2012, Vanessa and Matthias 2012). Two of these outbreaks occurred during the year 2012: The first began in July in the western part of Uganda, recording 24 cases including 16 deaths, while the other started in November in the capital city (Kampala), recording 7 cases with a total of 4 deaths (WHO 2013). Of the reported cases during the July outbreak, a health care worker was said to have been infected while taking care of a patient, and another was infected through participation in burial practices (WHO 2012a). These practices have previously been recorded as risk factors aiding the spread of infection (CDC 2010, Kinsmann 2012, Muyembe-Tamfum et al 2012). Effective outbreak control of the Ebola

virus, as with other infectious diseases, is based on breaking this transmission chain and can therefore be achieved through the isolation of cases, the use of protective outfit in health care settings and safe handling of burial practices (Muyembe-Tamfum et al 2012, Vanessa and Matthias 2012). However, for all these to be implemented there has to be an effective and regulated surveillance process in place that enables adequate response delivery. Public health surveillance involves the sustained, systematic collection of health data for the use of health care planning, monitoring and evaluation processes (WHO n.d). Surveillance measures are a key aspect of outbreak control and can help curb the spread of the Ebola virus. So far however, these measures have been found to be lacking in settings where the disease has been known to thrive (MacNeil and Rolin 2012, Vanessa and Matthias 2012).

Of the total number of deaths reported in the July Ugandan outbreak, nine were said to have occurred in a single household (WHO 2012a). While this may seem alarming, situations such as this have been characteristic of the Ebola virus and further stress the need for heightened outbreak surveillance and adequate community awareness in settings where Ebola outbreaks have occurred. For surveillance to be effective, members of the community have to be able to identify possible cases. One major challenge with case recognition of the Ebola virus is the similarity of its symptoms with other diseases (MacNeil and Rolin 2012, Vanessa and Matthias 2012). While the symptom dilemma might make it challenging for community members to identify cases, the weak public health system in these settings has also enhanced the difficulties (MacNeil and Rolin 2012, Vanessa and Matthias 2012). One of the previously identified challenges to health systems across these settings is the distance of health care centres from remote communities where outbreak has occurred. This might hinder community members from promptly seeking health care services, and inevitably results in the late detection of possible cases (MacNeil and Rolin 2012). The delay in identification of cases, especially with the filo viruses, would ultimately result in disease exposure across communities and complicate outbreak control procedures.

Coordination of most Ebola viral outbreaks has usually been conducted by a team of international aid agencies, with the World Health Organisation overseeing activities (Muyembe-Tamfum et al 2012). One key feature of previous outbreaks has been the over reliance on foreign agencies in order to coordinate effective response. While the input of foreign agencies like the Centres for Disease Control and Prevention (CDC), the World Health Organisation (WHO) and the Doctors without Borders (MSF) during the 2012 Ugandan outbreak is highly commendable (WHO 2013), one of the key criteria for effective outbreak management is prompt response and general preparedness (CDC 2011).

General preparedness should involve having a readily available team of local outbreak experts to help initiate prompt and effective response which could help minimise outbreak spread (CDC 2011, WHO 2012B). Such was the case with the July outbreak as health members from the local team were involved in surveillance procedures and management activities; this was invariable one of the reasons why there was no travel restrictions placed on Uganda, as the WHO felt the response initiated by the local health team was appropriate (Wassawa 2012, WHO 2012a). Local health workers were reportedly involved in community mobilisation and the enforcement of rules such as banning any sort of mass gathering in markets which might aid outbreak spread (Disaster Relief Emergency Fund 2013). This, followed by the input of aid agencies, proved to be highly effective in mitigating the spread of the outbreak in the regions which the Ebola virus outbreak has occurred. In addition, both the July and November Ugandan outbreaks were successful in the coordinated response between aid agencies and local health officials. The ability of the local health officials to collaborate with aid agencies and coordinate prompt response after cases had been reported was highly laudable. The multi-sectorial collaboration with various agencies proved to be effective in managing the outbreak. Aid agencies like the Doctors without Borders helped in building isolation wards in the affected regions and also assisted in logistical procedures (WHO 2012d), while the WHO and CDC helped coordinate response with local team members. The ability to effectively collaborate with different members of the outbreak team is a key step in outbreak management (CDC 2011).

Furthermore, in previous outbreaks due to the lack of proper diagnostic facilities, samples had usually been carried out of the country to confirm the presence of the Ebola virus strain (Roddy et al 2012, Shoemaker et al 2012). However, this wasn't the case in the Ugandan outbreaks as the government had established a viral research institute which helped in quick disease diagnosis, and thus enabled effective control measures (WHO 2012a). Proper laboratory diagnostics is an important aspect of effective outbreak surveillance (MacNeil and Rollin 2012). The timeliness of case confirmation in both outbreaks was a key factor in aiding the delivery of appropriate response and also eliminating probable cases. This helped reduce the case load in hospital settings, thereby making hospital resources available for the confirmed cases that needed it most (Shoemaker et al 2012).

One key step in the control of Ebola haemorrhagic fever is the prevention of nosocomial infection spread. Since the first Ebola virus outbreak in 1976, health care associated spread has been a key feature of the outbreak, and has largely been due to the lack of protective gears and the use of recycled syringes across the low resource settings (WHO

1976). In both July and November 2012 outbreaks, there was wide spread mobilisation of protective gears as soon as the outbreak started. Aid agencies also helped in the area of protective outfits, with the World Health Organisation supplying protective equipment to the health care centres in affected areas (WHO 2012d). In both outbreaks, there was only one reported case of clinical infection that occurred while a clinical officer was taking care of her patient (WHO 2012a). This is evidence of the evolution in Ebola outbreak management since the first outbreak in Zaire (1976) and the outbreak in Kikwit (2000), both resulting in high instances of health care related deaths and the shutting down of a hospital (WHO 1976, Kerstiëns and Matthys 1999, Muyembe-Tamfum 2012).While this marks a significant improvement in outbreak management for the Ebola virus, waiting for outbreaks to occur before the mobilisation of protective gears needs to be improved upon (MacNeil and Rollin 2012, Vanessa and Matthias 2012). The inability to detect the exact reservoir for the Ebola virus proves that outbreaks of the Ebola virus can occur anytime and thus, there needs to be a reliable outbreak control process in place to effectively deliver the right type of response across health care settings (Borchert et al 2011). Readily equipping hospitals with protective gears should not only be done during the course of an outbreak but regularly in order to facilitate improved outbreak control (Vanessa and Matthias 2012).

A distinct feature of early Ebola viral outbreaks has been widespread infection through various cultural practices such as washing of the dead before burial (Muyembe-Tamfum 2012, WHO 2013). Infection spread through these cultural practices is due to the fact that Ebola virus remains in secretions and body fluids of corpses for many days after their death (WHO and CDC 1998, Roddy et al 2012). Throughout the duration of both outbreaks in Uganda, there was only one reported case who contacted the virus through participation in burial rites (WHO 2012a). The person, said to be in stable condition of health, participated in burial rites for the index case during the July Ebola virus outbreak (WHO 2012a). This might be evidence of how much response activities in the region have curtailed the effect of cultural practices on Ebola transmission. Since the discovery of the first Ebola case in Zaire, a significant effort has been made towards safe burial practices through decontamination using chemical solutions and sealing corpses in bags before burying them (WHO and CDC 1998, Vanessa and Matthias 2012). These burial practices are usually conducted by burial teams from health departments in the regions where outbreak occurs. This, however, has been said to cause controversy with family members of the deceased, claiming the use of health officials without family involvement is an avenue to steal organs from the dead. Consequently, affected family members have been reported to revolt, thereby causing interruption to outbreak control activities (Hewlett and Amola 2003, Raabe et al 2010, Vanessa and Matthias 2012). There may be a

need for health officials to involve family members in burial practices in order to avoid protests virus. Proactive measures that include bio-safety precaution in burial ceremonies, as well as family involvement, should be considered to strengthen population trust in outbreak management.

The cost burden of the Ebola virus has also restricted the implementation of effective control measures. This was evident in the November Ebola outbreak, with the Director General of the Health Services declaring that the financial burden of the Ebola virus has put a strain on the control measures that can be affected, as the outbreak was unexpected (Relief Web 2012). This was primarily because the resources had been expended in the July outbreak and ultimately had put a strain on health care finances (Relief Web 2012). The financial burden was also said to put a limit on the amount of health officials in hospital settings, proper coordination of burial practices and other surveillance procedures (Relief Web 2012) and could potentially have facilitated the spread of the disease (MacNeil and Rolin 2012, Vanessa and Matthias 2012). To effectively implement outbreak control through surveillance and breaking the transmission chain, financial input is of course required; therefore the financial constraints in settings where Ebola haemorrhagic fever has thrived are a significant factor in poor outbreak management and disease surveillance across these regions (MacNeil and Rollin 2012).

Of additional importance is the challenge to surveillance, which lies in the detection of the natural reservoir of the Ebola virus and is how the primary transmission in most of Ebola occurs (Vanessa and Matthias 2012, Muyembe-Tamfum et al 2012). There have been various theories postulated on the natural reservoir of the Ebola virus and how the index case gets infected. However, existing evidence indicates that the Ebola virus is zoonotic in nature, suggesting animal interaction in infection transmission (CDC 2010, Feldmann and Geisbert 2011, Muyembe-Tamfum 2012, WHO 2013). Rodents and bats have been suggested as natural reservoirs for the virus, while ape, chimpanzees and other primates said to be accidental hosts (Feldmann and Geisbert 2011, Vanessa and Matthias 2012).

Certain behavioural factors have been identified as primary aids for animal to human transmission of the Ebola virus. These behavioural risk factors are associated with traditional and economic activities across settings in which outbreaks have occurred. Handling of infected dead carcasses of chimpanzees and gorillas was identified in Gabon and Congo as the cause of human outbreak in these respective countries (LeRoy et al 2005, Muyembe-Tamfum et al 2012). These have been possible due to activities predominant across the settings where infection spread has occurred, such as hunting,

farming and gold digging in forests (Rouquet et al 2005, LeRoy et al 2009, Hartman et al 2010, Feldmann and Geisbert 2011).

In one case, scientific activity was associated with animal to human spread as is the case of the etiologist who got infected in Ivory coast in 1994 (Feldmann aand Geisbert 2011, Muyembe-Tamfum et al 2012). Additionally, there seems to be a theory that has associated changes in forest ecology due to deforestation and human activities to an increase in outbreak, and also as a possible source for animal to human transmission (Muyembe-Tamfum et al 2012). These activities have been linked to animal to human transmission of the Ebola virus from the natural reservoir of the virus which is a key factor in outbreak occurrence. Investigations conducted to identify the animal reservoir have largely been unsuccessful because they have usually been done retrospectively (Muyembe-Tamfum et al 2012). Large scale animal studies would need to be conducted in order to identify the precise animal reservoir. This is paramount if there is going to be improvement in disease surveillance and effective outbreak management of the Ebola virus. There also needs to be adequate measures set up by policy makers to stop these activities or to incorporate biological safety measures to the continuance of these activities. This would effectively break the transmission chain of infection which is associated with the spread of the Ebola virus.

Conclusion

One area which needs to be addressed for future purposes is community awareness and social mobilisation. This will help inform community members of the action mechanism of the Ebola virus, even in the absence of outbreaks, to aid prompt case identification and improve future control procedures. Community members also need to be educated on possible transmission routes and activities which are possible means of primary transmission. Burial practices which have largely aided infection spread need to be pro-actively addressed by policy makers in order to effectively improve outbreak management.

There also seems to be an association between underfunded healthcare services and the spread of the Ebola virus. Inadequate protective equipment in hospitals and poorly funded healthcare systems has previously put restraints on proper disease surveillance and outbreak management. The fact that the Ebola virus has largely occurred in low resource settings should not be overlooked, as effective all round outbreak control involves financial investment. Constant investment in healthcare systems needs to be adopted, as it is not enough for members of community to be aware of possible symptoms.

There has to be well-equipped and available health care services capable of delivering appropriate outbreak response. This is in line with Alma Ata and Ottawa charter principles of investment in health sectors and provision of adequate healthcare services that addresses the health challenges of the population (WHO 1978, WHO 1986).

In conclusion, while the two recent outbreaks in Uganda showed substantial improvement and evolution in the outbreak management of the Ebola virus, there is still more to be done if outbreaks of the Ebola haemorrhagic fever are to be effectively combated.

Bibliography

Borchert, M. et al. (2011) Ebola haemorrhagic fever outbreak in Masindi District, Uganda: Outbreak description and lessons learned. *BMC infectious diseases*, *11*(1), pp. 357.

United States Department of Health and Human Services: Centre for Disease Control and Prevention (2011) Public Health Emergency Response Guide for State, Local, and Tribal Public Health Directors. [Online] Available at: <http://emergency.cdc.gov/planning/pdf/cdcresponseguide.pdf> (Accessed 1 April, 2013).

Centres for Disease Control and Prevention (2009). Ebola Haemorrhagic Fever Information Packet [Online] Available at: <http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/Fact_Sheets/Ebola_Fact_Booklet.pdf > (Accessed 18 March, 2013).

Disaster Relief Emergency Fund (DREF) (2012). *DREF Operation Update Uganda: Ebola Outbreak*. [Online] Available at: <http://goo.gl/x4Xmx> (Accessed 11th April 2013).

Feldmann, H. & Geisbert, T. (2011). Ebola haemorrhagic Fever. *The Lancet*. *377* (9768), pp. 849-862.

Geduld, J., Spilchak, P. & Groot, E. (2012). Ebola Haemorrhagic Fever Travel- Health Fact Sheets *Public Health Agency of Canada*. [Online] Available at: <http://www.phac-aspc.gc.ca/index-eng.php> (Accessed 3rd April 2013).

Hartman A. L., Towner, .J S. & Nichol, S.T. (2010). Ebola and Marburg Haemorrhagic Fever. *Clinics in Laboratory Medicine: Emerging Pathogens*, *30*(1), pp. 161-177.

Hewlett, B. & Amola, R. P. (2003). Cultural Contexts of Ebola in Northern Uganda. *Emerging Infectious Diseases*, *9*(10), pp. 1242.

Kerstiëns, B. & Matthys, F. (1999. Interventions to control virus transmission during an outbreak of Ebola hemorrhagic fever: Experience from Kikwit, Democratic Republic of the Congo, 1995. *Journal of Infectious Diseases*, *179* (Supplement 1), pp.S263-S267.

Kinsman, J. (2012). "A Time of Fear": Local, National, and International Responses to a Large Ebola Outbreak in Uganda. *Globalization and health*, *8*(1), pp. 1-12.

Leroy, E. M. et al. (2009). Human Ebola outbreak resulting from direct exposure to fruit bats in Luebo, Democratic Republic of Congo *Vector-borne and Zoonotic Diseases*, *9*(6), pp.723-728.

MacNeil, A. and Rollin, P. E. (2012). Ebola and Marburg Haemorrhagic Fevers: Neglected Tropical Diseases? *PLoS Neglected Tropical Diseases*, *6*(6), p. 546.

Mbonye, A. et al. (2013). Repeated Outbreaks of Viral Haemorrhagic Fevers in Uganda. *African Health Sciences*, *12*(4), pp. 579-589.

Muyembe-Tamfum, J. J. et al. (2011). Ebola Virus Outbreaks in Africa: Past and Present. *The Onderstepoort Journal of Veterinary Research*, *79*(2), pp. E1-8.

Raabe, V. N. et al. (2010) Infection Control During Filo Viral Haemorrhagic Fever Outbreaks: Preferences of Community Members and Health Workers in Masindi, Uganda. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, *104*(1), pp. 48-50.

Relief Web (2012) Fresh Ebola Outbreak Burdens Health System. [Online] Available at: <http://reliefweb.int/report/uganda/fresh-ebola-outbreak-burdens-health-system> (Accessed 3 April 2013).

Roddy, P., Howard, N., Van Kerkhove M D, et al. (2012). Clinical Manifestations and Case Management of Ebola Haemorrhagic Fever Caused by a Newly Identified Virus Strain, Bundibugyo, Uganda, 2007–2008. *PloS one 7*(12), p. e52986.

Shoemaker T., MacNeil, A., Balinandi, S., et al (2012). Re-emerging Sudan Ebola Virus Disease in Uganda, 2011 *Emerging Infectious Diseases*, *18*(9), p. 1480.

Vanessa, N. R. & Matthias, B. (2012. Infection control during filo viral haemorrhagic fever outbreaks. *Journal of Global Infectious Diseases*, *4*(1), p. 69.

Wasswa, H. (2012). Uganda gears up to contain Ebola epidemic as fears of spread cause panic. *BMJ: British Medical Journal*, *345,* p. *e5210*.

World Health Organisation (1976). *Ebola Haemorrhagic Fever in Zaire, Report of an International Commission*. [Online] Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2395567/pdf/bullwho00439-0113.pdf> (Accessed 1 April 2013).

World Health Organisation (2012a). *Global Alert and Response (GAR): Ebola in Uganda*. [Online] Available at:<http://www.who.int/csr/don/2012_07_29/en/index.html> (Accessed 18 March 2013).

World Health Organisation (2012c). *Global Alert and Response (GAR): End of Ebola Outbreak in Uganda* [Online] Available at: <http://www.who.int/csr/don/2012_10_04/en/index.html> (Accessed 18 March 2013).

World Health Organisation (2012d). Global Alert and Response (GAR): Ebola in Uganda (Update). [Online] Available at: <http://www.who.int/csr/don/2012_08_03/en/> (Accessed 18 March 2013).

World Health Organisation (2013). Global Alert and Response: Ebola Haemorrhagic Fever. [Online] Available at: <http://www.who.int/csr/disease/ebola/en/index.html>(Accessed 18 March 2013).

World Health Organisation (WHO) (2012b). Outbreak Surveillance and Response in Humanitarian Emergencies: WHO Guidelines for EWARN Implementation. [Online] Available at:<http://whqlibdoc.who.int/hq/2012/WHO_HSE_GAR_DCE_2012_1_eng.pdf> (Accessed 1st April 2013).

World Health Organisation and Centre for Disease Control and Prevention (1998) Infection Control for Viral Haemorrhagic Fevers in the African Health Care Setting. [Online] Available at:

<http://www.who.int/csr/resources/publications/ebola/whoemcesr982sec1-4.pdf> (Accessed 1st April 2013).

World Health Organisation (n.d) Health Topics: Public Health Surveillance. [Online] Available at: <http://www.who.int/topics/public_health_surveillance/en/> (Accessed 1st April 2013).

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A Critical Evaluation of Factors Related to the Recent Outbreak of Bordetella Pertussis in Children in the USA

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ABSTRACT

The recent outbreak of bordetella pertussis in the US confirms that the infection is still very much endemic in the country. Outbreaks were recorded despite rates of immunization at more than 80% among the population. While it could be argued that declining immunity is a contributory factor to the increase in the incidence of pertussis, evidence suggests that the cause goes beyond this one issue. High incidence of pertussis can therefore be seen as multi-factorial, including dramatic shifts in age distribution during large epidemics, improved detection as well as increased awareness in the reporting and better diagnosis of the disease. Hence, the control measures for pertussis have to be modified or vaccination schedules changed to reflect the current reality. Since eradication of vaccine-preventable communicable diseases such as pertussis remains important internationally, it is posited here that efforts should be geared towards assessing long-term immunogenicity of the booster vaccine.

Introduction

Pertussis, commonly known as whooping cough, is caused by the bacterium Bordetella Pertussis (Faulkner et al 2011) and was first isolated at the beginning of the 20th Century (Brooks & Clover 2005). Bordetella Pertussis (B. Pertussis) is an exclusively human pathogen which can affect people of all ages. Transmission of the organism occurs as a result of close direct contact with an infected person (Dodhia et al 2002). It is a highly contagious disease of the respiratory tract, with up to 90% of household contacts developing the disease (Hodder et al 1992, WHO 2013). Pertussis is an endemic disease with an estimated 16 million cases world-wide; there were approximately 195,000 pertussis-related deaths in 2008 alone, with 95% of cases occurring in developing countries (Halpering 2001, WHO 2010). Recently however, there have also been outbreaks of pertussis in some developed countries. In England and Wales for example, there were 1,614 laboratory-confirmed cases of whooping cough in October 2012,

bringing the total number of cases in the regions up to 7,728 (HPA 2012a). Pertussis, although a vaccine-preventable infection, is still an endemic disease in the US (Wendelboe et al 2005, Hewlett et al 2005, Klein et al 2012), but the prevalence of the disease has reportedly been under control since the 2005 outbreak (Rohani & Drake 2011).

The Centre for Disease Control and Prevention (CDC) reported that the overall incidence of pertussis peaked at 27,550 cases in 2010 but stabilised at 18,719 cases in 2011 (CDC 2012). However, increased cases of pertussis were reported in the majority of states in the US in 2012 and, in January 2013, 49 states had reported increases in whooping cough in 2012 compared to 2011 (CDC 2013a). The United States is currently experiencing what may turn out to be the largest outbreak of reported pertussis in recent times (CDC 2012). Provisional counts from the pertussis surveillance system put the number at more than 41,000, including 18 pertussis-related deaths (CDC 2013a). The outbreaks were recorded despite rates of immunization at more than 80% among the population (Hewlett et al 2005). Receipt of five doses of diphtheria, tetanus and acellular pertussis (DTaP) is mandatory for children in the US (Klein et al 2012). Yet, despite pertussis being a vaccine preventable disease (HPA 2013, CDC 2013b) as demonstrated, the US has recorded an increase in the incidence of pertussis. This essay will argue that pertussis outbreak in the US is due to declining immunity and therefore vaccination schedules need to be redefined. The epidemiological triangle will be used to demonstrate the implications of this decline.

Discussion

While adolescents and adults tend to display mild symptoms of pertussis, young unimmunised infants, especially under six months of age, are the most vulnerable group with the highest rates of complication and death (Altamirano et al 2012, Health Protection Agency 2012). Also, while pertussis vaccines are highly recommended to children of less than seven years of age (Ward et al 2005), the disease is also frequent among adults. Because pertussis continues to circulate among older persons, this creates a source of contagion through respiratory secretion for young children, with parents identified as the most common source of transmission (Birsgard et al 2004, de Greeff et al 2010, Jardine et al 2010 and CDC 2013b). As will be further laterly, evidence suggests that transmission of pertussis may result from declining immunity (Forsyth et al 2004). This may be due to a modest decrease in vaccine effectiveness, although the results on long-term vaccine protection are not fully available yet (CDC 2013c).

In 2010, California experienced its highest incidence of pertussis in more than 60 years (Klein et al 2012, Misegades et al 2012). The disease was found to be highly prevalent in the 8 to 11 year old age group despite high vaccination coverage (Klein et al 2012). A study of association between childhood pertussis and vaccination (receipt of all five dose of DTaP) conducted by Misegades et al (2012) concluded that, as the time elapsed since the last DTaP dose increases, so too does the chance of contracting pertussis. This therefore demonstrates that routine childhood immunisations are successful in reducing incidence levels of pertussis.

Another study was conducted by Klein et al (2012), the aim of which was to assess and quantify the waning of DTaP protection against pertussis over time in a highly vaccinated child population who received DTaP rather than a whole-cell pertussis vaccine between the ages of 3 and 7 years. The waning immunity after DTaP was assessed using two analyses. The primary analysis compared Polymerase Chain Reaction-positive (PCR) case patients with PCR-negative controls, while the secondary analysis compared PCR-positive case patients with a matched control. The first and secondary analyses reveal similar results: there is a 42% increase each year in the chance of acquiring pertussis after the fifth dose of DTaP (Klein et al 2012). This suggests that immunity against pertussis wanes as the time elapsed since the DTaP increases. A very recent study assessing the risk of pertussis by time since vaccination in the two states of Minnesota and Oregon was conducted by Tartof et al (2013). The study identifies an increase in incidence rates and risk ratios of reported pertussis in the six years after receipt of the fifth DTaP dose. This also strongly suggests waning of immunity against pertussis in the US (Tartof et al 2013).

A similar study was carried out in Norway, a country with relatively high immunisation levels. The study showed that immunity against pertussis has declined with time, a decline more evident in recent years despite a considerable variance of waning immunity among the studied population (Lavine et al 2012). Previous outbreaks of pertussis necessitated change within many countries-including Canada, the US and Norway- from the use of whole-cell pertussis vaccine to a multi component acellular pertussis (DTaP) (Vickers et al 2006). Although DTaP has proven to be effective in the prevention of confirmed cases of pertussis infections and is associated with fewer adverse effects than whole-cell pertussis (Romina & Edwards 2012), this effectiveness has not been very profound given the recent pertussis outbreaks in the US (Klein 2012), Norway (Lavine et al 2012) and UK (HPA 2012a). This is despite the high nation-wide coverage of the multi-component acellular pertussis vaccine in these countries. The three mentioned studies (Misegades et al 2012, Klein et al 2012 & Tartof et al 2013), therefore assert that declining immunity after the fifth dose of DTaP among children played a key a role in fuelling the

recent pertussis outbreak in the US. Also, there is consistency in the position of the three studies which demonstrates that there is a progressive decrease in estimated vaccine effectiveness each year after the final dose of pertussis vaccination. Vaccine effectiveness may therefore not be the only factor fuelling outbreak of pertussis.

Since the eradication of vaccine-preventable communicable diseases such as pertussis remains an important international public health goal, various studies have asserted that waning immunity is a contributory factor to the rising incidence of pertussis globally. It is therefore pertinent to assess the implications of this factor on public health. One such study was carried out in 2000 in the Netherlands, which, using a mathematical model, investigated the role of sub-clinical infection and waning immunity in the transmission force of B. pertussis (van Boven et al 2000). Analysis of the model reveals that waning immunity tends to increase susceptibility among the population, and so tends to decrease the dynamics of the infection. On the other hand, the study also states that if most infections are sub-clinical, the true incidence of pertussis will be higher than the observed incidence, hence increasing the force of infection (van Boven et al 2000). The results of this study are thereby contingent on two factors: the rate at which immunity is lost and the percentage of infections that are sub-clinical (van Boven et al 2000). Since vaccination remains a major preventative measure against pertussis, this also has implications for public health. Based on empirical data from sixty four countries across the five continents, frequent outbreaks of pertussis are associated with vaccine coverage (Broutin et al 2010). A mathematical model of the analysis posits that if there is herd immunity, inter-epidemic periods of pertussis are expected to increase (Broutin et al 2010). Does this therefore imply that pertussis is no longer vaccine-preventable?

While it could be argued that declining immunity is a contributory factor to the increase in the incidence of pertussis, the recent increase cannot be attributed to declining immunity alone. As the study by Klein et al (2012) reveals, there has been a sharp increase in the incidence of pertussis among children 8 to 11 years in California, followed by a sharp decrease among children aged 12 to 15 years. This result is not characteristic of the epidemiology of pertussis in previous outbreaks (Klein et al 2012) and so may confirm the assertion of Cherry et al (2012) that the infection rate burden of pertussis is unknown. This could partly be due to other pathogens which cause symptoms similar to pertussis (Faulkner et al 2011, CDC 2013a); hence, determining who has pertussis and who does not is difficult to ascertain. Due to differential diagnoses across different areas, there is also no standardised laboratory diagnosis for B. pertussis (Kretsinger et al 2006 von Konig et al 2002), and cultural studies which are the main standard, have been superseded by the speed of PCR (Mandal et al 2012). The study, while investigating the laboratory

contamination responsible for the pseudo-outbreak in the US in 2009, suggests that the lack of PCR cut-offs for detecting weakly contaminant DNA is a contributory factor for the outbreak (Mandal et al 2012).

However, a recent clinical case definition has been designed to increase sensitivity for detecting pertussis cases when a confirmatory laboratory test is negative (Faulkner et al 2011). The increase in the incidence of pertussis therefore could also be due to improved detection, as well as increased awareness in the reporting and better diagnosis of the disease (Forsyth et al 2004, Faulkner et al 2011). A similar study based on the data collected in England and Wales suggests that loss of natural immunity may not be the primary driver of the rising incidence of pertussis (Wearing & Rohani 2009). The study proposes that attention should be focused on pathogen evolution and perturbations in vaccine manufacture, uptake and efficiency (Wearing & Rohani 2009). Similarly, a recent study in Sweden suggested that waning immunity appears to be a less important factor for high incidence of pertussis. The study asserts that age-specific contact patterns, with high levels in certain age-groups and between parents and children, are all that that is necessary to explain the epidemiology of prevalence of pertussis (Rohani et al 2010).

Another recent study in the US revealed that the rising incidence of pertussis can be explained beyond age-specific contact patterns and declined immunity (Schmidtke et al 2012). The study divided 661 B. pertussis isolates collected in the US between 1935 and 2009 into eight periods relating to introduction of novel vaccines or change in vaccination schedule. It found a degree of variation in B. pertussis population in period three (1970s and 1980s) and also further suggested that, given the fact that B. pertussis has no non-human hosts or environmental niches, vaccine-mediated immunity is the most likely factor for the selective pressure against B. pertussis. The study concludes that vaccine-induced virulence evolution may be a factor responsible for the variation in B. pertussis population (Schmidtke et al 2012). This conclusion is similar to the evidence found in World Health Organisation's (WHO) position paper, stating that B. Pertussis may alter their phenotypic state, thereby showing different expressions of virulence factors (WHO 2010). This virulence evolution may therefore be responsible for the high incidence in pertussis.

As evidenced above, the high incidence of pertussis in the US go beyond the issue of declining immunity in the population. High incidence of pertussis therefore may be multi-factorial and include dramatic shifts in age distribution during large epidemics (Klein et al 2012). In line with this, the control measures for pertussis have to be modified or vaccination schedules changed to reflect the current reality. The existing control

measures in the US recommend that the first three shots of DTap be given to infants at 2, 4 and 6 months of age. The fourth and fifth shots are given at 15 through 18 months and 4 through 6 years respectively (CDC 2013b). Preteens and adults in the US, who missed the earlier vaccinations, are to be given a single dose of Tdap booster vaccine (Kretsinger et al 2006).

Several positions have been put forward for mass vaccination of the population (Forsyth et al 2004, Lavine et al 2012). With parents and close family members serving as sources of contagion to young infants, vaccination of adults with Tdap has been recommended, especially for those who have close contact with infants (de Greeff et al 2010, Jardine et al 2010). Tdap as a booster immunization was licensed in the US for persons aged 11 – 64 years (Kretsinger et al 2006). It has been proven to be effective and safe, particularly if the recipients have received tetanus diphtheria or tetanus toxoid immunization (Td/TT) more than 2 years earlier (Kretsinger et al 2006, Talbot et al 2010). As part of the control measure and in addition to adult booster immunization (Tdap), the Advisory Committee on Immunization Practice (ACIP) of the CDC also recommended cocooning of infants (Kretsinger et al 2006).

Cocooning is the targeted immunization of post-partum women and all contacts of their infants during the first year of life, before their birth or during hospital discharge (Healy & Baker 2012). The ACIP recommendation is based on similar proposal from other countries and is in line with the recommendation from Global Pertussis Initiative (GPI) (Forsyth et al 2007). Cocooning may be cost-effective but, as Healy & Baker (2012) posit, it has some fundamental constraints. It is limited in its ability to prevent infant pertussis in the first few weeks of life because the disease may be circulating in a household at the time of birth. Secondly, cocooning is a logistically difficult measure to implement (Healy & Baker 2012), a position supported by a similar study conducted in Canada by Skowronski et al (2012). The study revealed that pertussis related morbidity is uncommon; hence the clinical course typically includes full recovery without residual disability; therefore, the number needed to vaccinate (NNV) estimates that parental pertussis cocoon immunization can be used to produce some estimate costs. Multiplying the NNV by immunization costs (vaccine + administration > $20 [Canadian Dollar]) shows that the cost per infant hospitalization (~$200 000), intensive care unit (ICU) admission (>$2 million), or death (>$20 million) prevented through parental pertussis immunization seems to be significantly high (Skowronske et al 2012). However, evidence shows that even if mass pertussis vaccination including cocooning is embarked upon, some constraints still exist. The fact that pertussis susceptibility increases as the interval

from the last scheduled vaccination increases, will lead to a reduced level of herd immunity, resulting in greater risk of acquisition (Witt et al 2012).

According to Romina & Edwards (2012), it is not entirely clear what the implication of widespread uptake of the booster doses (Tdap) in the recommended age groups in the US will be, but data from Australia asserts that Tdap could have an impact on the total disease burden. A study by Witt et al (2012) further suggests that the current vaccine doses do not seem to be sufficient enough to prevent outbreaks of pertussis. This is similar to conclusion reached by Romina & Edwards (2012), that it is not evident that a single booster dose of Tdap in adolescents and adults can confirm lifelong immunity. The question now, then, is how best can we protect the populace from high incidence of pertussis?

Witt et al (2012) and Romina & Edwards (2012) state that the possibility of earlier or numerous doses (initial vaccination and booster vaccination) of acellular vaccine for both infants and adults should be considered as part of routine immunization schedules. Additionally, since evidence portends that pertussis is most severe among young infants (Altamirano et al 2012, HPA 2012b), the current vaccination schedule, which administers the first dose of pertussis vaccine no earlier than six weeks, leaves some windows of susceptibility. This reinforces the conclusion of Romina & Edwards (2012) that the possibility of clinical administration of pertussis vaccination to infants younger than 6 weeks should be explored.

In conclusion, pertussis continues to exert a considerable burden on public health, with significant morbidity in highly vaccinated populations and despite the fact that pertussis remains a vaccine-preventable disease. While evidence that declining immunity is responsible for increased incidence of pertussis in the US is not conclusive, it is however certain that declining immunity plays some role in influencing the rising incidence of the disease. To this extent, vaccination remains an effective global measure against pertussis. In the meantime, efforts should be geared towards assessing long-term immunogenicity of the booster vaccine, which will help in determining whether there is a need for repeated doses or not. If the immunogenicity is found to be relatively short, a pertussis containing vaccine that provides long-lasting immunity should be advocated. However, because the development of a new vaccine remains in the distant future, the need to intensify on-going assessments of the determinants of declining immunity with acellular vaccine is of immediate importance.

Bibliography

Altamirano, C.M. et al. (2012). 'Booster vaccination against bordetella pertussis during pregnancy.'*Gineco Obstet Mex,* 80(5), pp. 341-347.

Bisgard, K.M. et al. (2004). 'Infant Pertussis: Who was the Source?' *Pediatric Infectious Disease Journal,* 23(11), pp. 985–989.

Brooks, D.A. and Clover, R. (2005). 'Pertussis infection in the United States: role for vaccination of adolescents and adults.' *Journal of the American Board of Family Medicine* 19(6), pp. 603-611. [Online] Available at: <http://www.jabfm.org/content/19/6/603.full> [Accessed 22 April 2013].

Broutin, H. et al. (2010). 'Impact of vaccination and birth rate on the epidemiology of pertussis: a comparative study in 64 countries.' *Proceedings of the Royal Society of Biological Science,* 277(1698), pp. 3239-3245. [Online] Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2981935/> [Accessed 25 April 2013].

Centres for Disease Control and Prevention. (2012). Surveillance and Reporting. [Online] Available at: <http://www.cdc.gov/pertussis'/surv-reporting.html> [Accessed 19 March 2013].

Centres for Disease Control and Prevention. (2013a). Pertussis (Whooping Cough). [Online] Available at: <http://www.cdc.gov/pertussis/outbreaks.html> [Accessed 19 March 2013].

Centres for Disease Control and Prevention. (2013b) Pertussis (whooping cough) – What you need to Know. [Online] Available at: <http://www.cdc.gov/Features/Pertussis/> [Accessed 20 March 2013].

Cherry, J.D. et al. (1988). 'Pertussis Immunization-1988.' *Pediatrics,* 81(6) pp.933-984.

Cherry, J.D. et al. (2012). 'Clinical definitions of pertussis: Summary of a global pertussis initiative roundtable meeting, February 2011' *Clinical Infectious Diseases,* 54(12), pp. 1756-1764. [Online] Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3357482/> [Accessed April 2013].

Dodhia, H. et al. (2002). 'UK guidelines for use of erythromycin chemoprophylaxis in persons exposed to pertussis'. *Journal of Public Health Medicine.* 24(3), pp. 200-206.

Faulkner, A. et al. (2011). Pertussis *VPD Surveillance Manual* , 5th edn, 2011, Chapter 10. [Online] Available at: <http://www.cdc.gov/vaccines/pubs/surv-manual/index.html > [Accessed: 19 May 2014]

Forsyth, K.D. et al. (2004) 'New pertussis vaccination strategies beyond infancy: Recommendations by the global pertussis initiative'. *Clinical Infectious Diseases.* 39, pp. 1802-1809.

Forsyth, K.D. et al. (2007). 'Prevention of pertussis: recommendations derived from the second global pertussis initiative roundtable meeting.' *Vaccine,* 25(14), pp. 2634-2642.

de Greeff, S.C. et al. (2010). 'Pertussis disease burden in the household: how to protect young infants.' *Clinical Infectious Diseases,* 50(10), pp.1339–1345.

Jardine, A. et al. (2010). 'Who gives pertussis to infants? Source of infection for laboratory confirmed cases less than 12 months of age during an epidemic Sydney, 2009'. *Clinical and Developmental Immunology,* 34(2). [Online] Available at: <http://www.health.gov.au/internet/main/publishing.nsf/content/cda-cdi3402-pdf-cnt.htm/$FILE/cdi3402e.pdf> [Accessed 22 April 2013].

Halperin, S.A. (2001). 'Pertussis immunization for adolescents: what are we waiting for?' *Canadian Journal of Infectious Diseases,* 12(2) pp. 74-76. [Online] at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2094806/pdf/JID12074.pdf< [Accessed 20 March 2013].

Health Protection Agency (2012a). Whooping Cough Cases Continue to Increase. [Online] Available at: <http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/131713724019> [Accessed 19 March 2013].

Health Protection Agency (2013). Cases of Whooping Cough Continue to Decrease. [Online] Available at: http://www.hpa.org.uk/NewsCentre/NationalPressReleases/2013PressReleases/130301Casesofwhoopingcoughcontinuetodecrease/ [Accessed on: 20.03.2013].

Health Protection Agency (2012b). HPA guidelines for the public health management of pertussis. [Online] Available at: <http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1287142671506> [Accessed 18 March 2013].

Healy, C.M. and Baker, C.J. (2012). Infant pertussis: what to do next? *Clinical Infectious Diseases,* 54(3), pp. 328-330.

Hewlett, E.L. and Edwards, K.M. (2005). Pertussis-not just for kids. *The New England Journal of Medicine,* 352**,** pp.1215-1222.

Hodder, S.L. and Mortimer, E.A. (1992). Epidemiology of pertussis and reactions to pertussis vaccine. *Epidemiological Review,* 14, pp. 243-267.

Klein, N.P. et al (2012). Waning protection after fifth dose of acellular pertussis vaccine in children. *The New England Journal of Medicine,* 367(11), pp. 1012-1019. [Online] Available at: <http://idahoimmune.org/pdfs/NEJMoa1200850.pdf> [Accessed 23 April 2013]

Kretsinger, K. et al. (2006). Preventing tetanus, diphtheria, and pertussis among adults: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine recommendations of the advisory committee on immunization practices (ACIP) and recommendation of ACIP, supported by the healthcare infection control practices advisory committee (HICPAC), for use of Tdap among health-care personnel. *Morbidity and Mortality Weekly Report,* 55(RR-17), pp. 1-37. [Online] Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5517a1.htm< [Accessed 24 April 2013].

Lavine, J. et al. (2012). Short-lived immunity against pertussis, age-specific routes of transmission and the utility of a teenage booster vaccine. *Vaccine,* 30(3), pp. 544-551 Online at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3246080/pdf/nihms340699.pdf> [Accessed on: 23 April 2012].

Mandal, S. et al (2012). Pertussis pseudo-outbreak linked to specimens contaminated by bordetella pertussis DNA from clinic surfaces. *Pediatrics,* 129, pp. e424-e430. [Online] Available at: <http://www.pediatricsdigest.mobi/content/129/2/e424.full.pdf+html> [Accessed 24 April 2013].

Misegades, L.K. et al (2012). Association of childhood pertussis with receipt of 5 doses of pertussis vaccine by time since last vaccine dose, California, 2010. *The Journal of American Medical Association*, 308(20): 2126-2132

Rohani, P. and Drake, J.M. (2011). 'The decline and resurgence of pertussis in the US.' *Epidemics*, 3(3), pp. 183-188.

Rohani, P. Zhong, X. and King, A.A. (2010). Contact network structure explains the changing epidemiology of pertussis. *Science,* 330(600), pp. 982–985.

Romina, L. and Edwards, K.M. (2012) Re-emergence of pertussis: what are the solutions? *Vaccines,* 11(11), pp. 1331-1346. [Online] Available at: <http://www.medscape.com/viewarticle/777012_6> [Accessed 24 April 2013].

Schmidtke, A.J. et al (2012). Population diversity among bordetella pertussis isolates United States 1935-2009. *Emerging Infectious Diseases*18(8), pp. 1248-1255. [Online] Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3414039/> [Accessed 24 April 2013].

Skowronski, D.M. et al. (2012). The number needed to vaccinate to prevent infant pertussis hospitalization and death through parent cocoon immunization. *Centre for Infectious Diseases,* 54(3), pp. 318-327 [Online] Available at: http://cid.oxfordjournals.org/content/54/3/318.full.pdf+html [Accessed on: 25 April 2013].

Talbot, E.A. et al (2010). The safety of immunizing with tetanus-diphteria-acellular pertussis vaccine (Tdap) less than 2 years following tetanus vaccination: experience during a mass vaccination campaign of healthcare personnel during a respiratory illness outbreak. *Vaccine,* 28(50), pp 8001-8007.

Tartof, S.Y. et al. (2013). Waning immunity to pertussis following 5 doses of DTap. *Pediatrics* 131(4) [Online] at: <http://files.sld.cu/inmunologia/files/2013/03/2013-03-17-para-files-sld.pdf> [Accessed 24 April 2013].

van Boven, M. et al. (2000). Waning immunity and sub-clinical infection in an epidemic model: Implication for pertussis in The Netherlands. *Mathematical Biosciences,* 164, pp. 161-182. [Online] Available at: <http://elmu.umm.ac.id/file.php/1/jurnal/M/Mathematical%20Biosciences/Vol164.Issue2.Apr2000/6181.pdf> [Accessed 24 April 2013].

Vickers, D. et al. (2006). Whole-cell and acellular pertussis vaccination programs and rates of pertussis among infants and young children. *Canadian Medical Association Journal,* 175(10). [Online] Available at: <http://www.ecmaj.ca/content/175/10/1213.full> [Accessed 24 April 2013].

von Konig, C.H. et al. (2002). Pertussis of Adults and Infants. *The Lancet Infectious Diseases,* 2(12), pp. 744-750.

Ward, J.I. et al. (2005). Efficacy of an Acellular Pertussis Vaccine among Adolescents and Adults. *The New England Journal of Medicine,* 353(15), pp. 1555-1563.

Wearing, H.J. and Rohani, P. (2009). Estimating the Duration of Pertussis Immunity using Epidemiological Signatures. *PLoS Pathogen,* 5(10). [Online] at: <http://www.plospathogens.org/article/info%3Adoi%2F10.1371%2Fjournal.ppat.1000647> [Accessed 24 April 2013].

Wendelboe, A.M. et al. (2005). Duration of Immunity against Pertussis after Natural Infection or Vaccination. *Pediatric Infectious Disease Journal,* 24(5), pp. S58-S61.

WHO (2010). Pertussis vaccines: WHO position paper. *Weekly Epidemiological Record*, 40(85), pp. 385-400. [Online] Available at: <http://www.who.int/wer/2010/wer8540.pdf> [Accessed on: 25 April 2013].

WHO (2013). Pertussis. [Online] Available at: <http://www.who.int/topics/pertussis/en/> [Accessed 20 March 2013].

WHO (2010). Pertussis vaccines: WHO position paper. *Weekly Epidemiological Record,* 40(85), pp. 385-400. [Online] Available at: <http://www.who.int/wer/2010/wer8540.pdf> [Accessed 20.03.3013].

Witt, M.A. Katz, P.H. and Witt, D.J. (2012). Unexpected limited durability of immunity following acellular pertussis vaccination in preadolescents in a North American outbreak. *Clinical Infectious Diseases,* 54(12), pp. 1730-1735. [Online] Available at: <http://kpbs.media.clients.ellingtoncms.com/news/documents/2012/08/14/Clin_Infect_Dis.-2012-Witt-1730-5.pdf> [Accessed 24 April 2013].

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Captain Bush and the White Whale of Mass Destruction: *Moby-Dick* as a Meditation on America

Frazer Merritt

ABSTRACT

Since its publication 160 years ago, Herman Melville's *Moby-Dick* has had an ever-evolving relationship with the American people, particularly at key moments in history. When first published, the novel encountered total rejection, for the populace could not yet understand its profound message. However, with the advent of World War II and Hitler's monomaniacal quest against "The Other", the American people saw parallels with Captain Ahab. They also saw themselves as the White Whale, illegitimately attacked. The novel's symbolism resonated with the collective psyche and its popularity soared.

There was also a *Moby-Dick* revival after 9/11. The American people were again attacked by a man in the thrall of his own projections, Osama bin Laden. Like Ahab, though, President George Bush became obsessed with his own whale – Iraq. Bush wanted to wage war against evil itself—the "Axis of Evil"—and projected the nation's shadow onto Saddam Hussein. Manipulation and lies mislead the American people into a disastrous war that arguably crippled the nation, much like Ahab manipulated his crewmates and destroyed the *Pequod*; Melville's nightmare about America finally became reality.

When *Moby-Dick* was published in 1851, the American people did not know how to interpret this giant novel, filled with cryptic symbolism and allegory. One newspaper critic said it was "Not worth the money asked for it, either as literary work or as a mass of printed paper" (Delbanco 1988, p. xii), and another declared, "[I]t repels the reader instead of attracting him" (Garber, 2013). It was panned as an unreadable flop and earned Melville a paltry $556 (Garber, 2013). Melville was "bitterly shocked" (Delbanco, 1988, p. xiii) that his book encountered such rejection, for it represented the culmination of his meditation on America; more importantly, though, he was despondent because he had

written it with the intent of saving the country from itself (Delbanco, 1988). In the explosive politics of the mid-nineteenth century, Congress grappled with the Compromise of 1850, which defused a confrontation between slave states and free states, but it was clear to many observers, including Melville, that the legislation served as a stop-gap and future conflict was inevitable (Heimert, 1963; Delbanco, 1988). It was this crisis over slavery, along with concerns about expansionism, industrialism, and commercialism, that induced Melville to warn his fellow countrymen that the "Ship of State" (an oft-used phrase at the time [Heimert, 1963]) was on a path to self-destruction (Delbanco,1988).

Few paid attention. Perhaps it was because there was no clear connection between *Moby-Dick* and the politics and culture of the day, or perhaps it was the conservative nature of society, but people were not yet ready for such a radical literary experiment (Placha, 2008). Melville died in 1891, almost entirely forgotten (PBS, n.d.). It was not until the "Melville Revival" in the 1920's that the little-known author was given a second examination—and the message in *Moby-Dick* finally began to be appreciated in academic circles (Dunlap-Smith, 2013). In addition, positive critiques of the novel were published, as well as the first interpretations of the novel's symbolism (Placha, 2008). Regardless, the Roaring Twenties was a time of post-war economic prosperity, artistic flourish, and political "Normalcy" (The White House website, 2014)—and perhaps these societal factors can explain why *Moby-Dick* did not strike a cultural cord or gain mass appeal. The zeitgeist of the 1920's was more in alignment with *The Great Gatsby* or *The Waste Land.*

This changed with the advent of World War II. Americans watched in horror as the German leader, Adolf Hitler, enthralled and manipulated the masses into a vengeful quest against "The Other"—communists, Jews, homosexuals, and so on—because it was they who were the "personification of the devil as the symbol of all evil" (Hitler 1943, p. 57), it was they who were to blame for destroying "beauty and sublimity … [and] the noble and the good" (Hitler 1943, p. 296). This mad, raw-faced hatred, clearly being projected onto a group of innocents, drew obvious parallels with Captain Ahab and his monomaniacal revenge against the White Whale. In one of the clearest examples of projection, Ahab declares, "All visible objects, man, are but as pasteboard masks… I see in him outrageous strength, with an inscrutable malice sinewing it. That inscrutable thing is chiefly what I hate; and be the white whale agent, or be the white whale principal, I will wreck that hate upon him." (Melville 1988, p. 178) He is essentially claiming that the external world (the "visual objects") is something that *appears* to display emotions but this is merely a product of the mind; indeed, it is interesting that Ahab says, "I *see in him*… inscrutable malice" (my emphasis), thereby subtly implying Moby Dick is not inherently nor

objectively evil. Rather, the whale is a blank canvas upon which the unacknowledged aspects of Ahab's mind—his self-hatreds and weaknesses—are manifest. Later in the passage, Ahab says, "Sometimes I think there's naught beyond [the pasteboard masks]. But 'tis enough." (Melville 1988, p. 178) For a creature who Ahab raises to demonic proportions, something that he is willing to risk his life to try to kill, it is fascinating that he is admitting that his projections may be wrong, and that behind them may be nothing. Ultimately, "'tis enough", it doesn't matter as it is his own vendetta and personal redemption that is of sole importance.

What most Americans did not appreciate was that the psychotic Ahabian figure wreaking havoc in Europe would soon direct his violence against them because they, too, belonged to Hitler's conception of "The Other." In one of Hitler's more provocative statements about the U.S., he said, "[M]y feelings against Americanism are feelings of hatred and deep repugnance… Everything about the behaviour of American society reveals that it is half Judaised, and the other half negrified." (Trevor-Roper 2008, p. 145) Furthermore, Americans failed to recognize the real threat of Japan's proclamation to establish a "Greater East Asia Co-Prosperity Sphere", the primary objective being to capture Asia's resources, such as oil, which Japan itself lacked (Japanguide.com, n.d.). To establish hegemony, they needed to remove any military threats—which meant America's naval fleet (Coakley, n.d.). This is similar to the original reason Captain Ahab wanted to kill Moby Dick, for it was rumored that he contained vast quantities of spermaceti oil. Interestingly, Ahab fails to realize that it was his own violence that instigated the animal's aggression: the whale acted in defense of its life when it devoured the captain's leg. Regardless, Ahab entirely blames the whale for his crippled body. He asserts, "[I]t was Moby Dick that dismasted me; Moby Dick that brought me to this dead stump I stand on now... And this is what ye shipped for, men! to chase that white whale… till he spouts black blood and rolls fin out" (Melville 1988, p. 177).

Hitler's bloodthirst for revenge against his own projected phantoms and Yamamoto's craving for resources (which eventually led to the Pearl Harbour attack) reflect the two prime factors as to why Ahab hunted Moby Dick. America, united in its resolve to muster its military force, entered the war against these destruction-obsessed "captains", and soon the populace began to think of the nation as the White Whale, giant and powerful. America identified with Moby Dick, illegitimately attacked yet not destroyed, and now they must find and exact vengeance on the perpetrator who dared challenge them (Placha, 2008). The comparison with Hitler-Yamamoto being Captain Ahab and America as the unbeatable White Whale became so strong in the collective psyche that "Moby Dick as America" became a coined term in society (Placha, 2008).

The U.S. did indeed give Japan an ivory leg with the triumph in the Battle of Midway and, ultimately, it sent Japan and Germany's demagogues and their followers (like those on the *Pequod*) to their perdition. With the economic and political empowerment that followed the war, this, too, helped strengthen Americans' perspective of themselves as the White Whale (Placha, 2008). As author Nick Selby wrote, "*Moby-Dick* was now read as a text that reflected the power struggles of a world concerned to uphold democracy, and of a country seeking an identity for itself within that world" (Selby 1999, p. 53). With such a deep psychological resonance, a proliferation of positive critiques appeared about the novel, a large readership developed, and, nearly 100 years after its publication, America appreciated the profundity of Melville's message (Placha, 2008). This was the result of mythological symbolism lining up more succinctly with external reality.

In a dramatic turn in America's history—and for America's relationship with *Moby-Dick*—terrorists attacked the Twin Towers on September 11th, 2001. Once again, like Pearl Harbor, U.S. citizens felt they were victims of a madman's obscene projections: those of Osama bin Laden. But unlike World War II, the U.S. president, George Walker Bush, did not merely want retribution on the perpetrators: he wanted to wage war on Evil itself. Rather than invading Afghanistan to search and destroy Al Qaeda—a legitimate battle—he wanted to expand the war in order to, in his words, wage a "crusade" against the "evil-doers" (Perez-Rivas, 2001). This "holy war" (my extrapolation) was to be fought against a nation and a man that did not harbour terrorists, did not have affiliations with Bin Laden, and did not strike the U.S. on 9/11.

As the Frontline documentary *Bush's War* (2008) shows, within hours of the terrorist attacks, neo-cons in the Bush administration (like Rice and Wolfowitz) immediately blamed Saddam Hussein, regardless of the lack of evidence and the CIA director asserting it was Bin Laden who had formulated the attack (*Bush's War*, 2008). Donald Rumsfeld, head of the Pentagon, even argued with vice president Dick Cheney for a retaliatory attack on Iraq (*Bush's War*, 2008). The dangerous obsession, and insanity, had begun. In the months that followed, false evidence of yellowcake uranium for weapons of mass destruction were used to mislead the public, threats of a "mushroom cloud" were made, and vials of sugar and piles of exaggerations were brought to the United Nations to construct a faulty case for war (Stein and Dickinson, 2006).

Parallels between the Bush administration and Captain Ahab are eerie. After Ahab's first confrontation with Moby Dick, Captain Peleg says, "ever since he lost his leg last voyage by that accursed whale, he's been a kind of moody—desperate moody, and savage sometimes" (Melville 1988, p. 89). Indeed, Ishmael later discovers Ahab had been more

than just moody. He recounts that after the injury, "Ahab and anguish lay stretched together in one hammock… then it was, that his torn body and gashed soul bled into one another; and so interfusing, made him mad." (Melville 1988, p. 200) Ahab was so delirious that his shipmates were forced to put him in a "straight-jacket, [where] he swung to the mad rockings of the gales" (Melville 1988, p. 201). Bush and the neo-cons went from a deep concern about Saddam to full blown fixation after the 9/11 attack.

As journalist Michael Brenner (2013) observes "The great white whale had maimed Ahab—in soul as well as body. Ahab was consumed by the passion to restore his sense of self, and make himself whole again, by killing his nemesis". He goes on to liken Ahab's quest to America's War on Terror, which "has become our national mission for restoration" because 9/11 is a "psychic wound [that] grieves us; it inflames our collective passion for vengeance." (Brenner, 2013) The terrorist attacks struck deep into the American psyche, scarring it forever. The nation's strong sense of individualism, unquestionable power and might, and unique prestige was suddenly held up before the eyes of the world, wounded, now hideously deformed. September 11th was not merely an attack against the financial district in New York**;** it was an assault against the nation's very core, its sense of selfhood. Likewise with Ahab, he lost more than just a leg: his soul was emasculated. One night, in an apparent accident, the captain is found lying semi-conscious on the ground and "his ivory limb having been so violently displaced, that it had stake-wise smitten, and all but pierced his groin" (Melville 1988, p. 505).

Bush, a master of demagoguery, was able to tap into the nation's humiliation and wounded selfhood by aggrandizing the terrorist attacks, as previously noted, to posit them well beyond the actions of men into a purely malignant entity: the "Axis of Evil". He was able to capitalize on the emotion that many citizens felt: such a deeply shocking attack could not have been committed by nineteen men with boxcutter knives and a lone Saudi man "squatting around a campfire" (*Bush's War*, 2008). Bush manipulated the American public into believing there *must* be a greater pernicious force behind it all, no hard proof required. As he said in his infamous State of the Union address:

> The Iraqi regime has plotted to develop anthrax, and nerve gas, and nuclear weapons for over a decade. This is a regime that has already used poison gas to murder thousands of its own citizens—leaving the bodies of mothers huddled over their dead children… States like these, and their terrorist allies, constitute an Axis of Evil, arming to threaten the peace of the world. By seeking weapons of mass destruction, these regimes pose a grave and

> growing danger. (The White House website, 2014)

Ahab, too, could not accept that his body, his soul, was ruined by an "inferior" creature such as a whale. Only a Higher Power who had singled him out in the universe could explain the source of such an ego-shattering and soul-deforming wound. As in Bush's State of the Union address (as well as his other numerous declarations, like, "This is about good vs. evil" [Pinkerton, 2003], and "[I]f you want to join the war against evil, do some good." [The White House website, 2014]), the captain elevates the whale's perceived crime to satanic spiritual dimensions, rather than accepting that the loss of his leg was the common consequence of his dangerous profession. This is demonstrated in the way Ahab equates Moby Dick to "That intangible malignity which has been from the beginning; to whose dominion even the modern Christians ascribe one-half of the worlds; which the ancient Ophites of the east reverenced in their statue devil" (Melville 1988, p. 200). Ishmael also recounts that

> [A]ll evil, to crazy Ahab, were visibly personified, and made practically assailable in Moby Dick. He piled upon the whale's white hump the sum of all the general rage and hate felt by his whole race from Adam down; and then, as if his chest had been a mortar, he burst his hot heart's shell upon it. (Melville 1988, p. 200)

The Bush administration told innumerable lies and committed underhanded actions to mislead the American public into believing that Saddam Hussein was an infinitely graver threat than he actually was. Prime examples include the administration claiming that aluminum tubes were being used to enrich uranium (both the CIA and IAEA discredited the assertion before the war) (Stein and Dickinson, 2006), Dick Cheney's pressuring of the CIA to "cook the intelligence book" (Stein and Dickinson, 2006; *TIME* magazine, 2003), the assertion that US soldiers would "be greeted as liberators" (Stein and Dickinson, 2006), and that the war would only cost 60 billion dollars (Stein and Dickinson, 2006).
Machiavellian tactics were also skilfully used by Ahab to influence shipmates of the *Pequod* to undertake his self-conceived war against Evil. Ahab did not inform crewmembers until they had set sail that their actual purpose was not commercial whaling, but rather "to chase that white whale on both sides of land, and over all sides of earth" (Melville 1988, p. 177); he secretly hides below deck sinister "aboriginal natives" (Melville 1988, p. 236) and the devil-like Fedallah, who are to help him kill Moby Dick; and he gets the crew to participate in his zealous hunt and quells dissent by offering them a golden doubloon (much like Bush's 2.3 trillion dollar tax cuts and 550 billion dollar Medicare program) (Zakaria, 2010; The Boards of Trustees, 2009). It is important to note

that Ahab did not achieve his aims by overtaking the *Pequod* by force and becoming a dictator; he did so with the consent of the crewmembers, and even those who disliked him, like Starbuck, failed to muster opposition. Melville intended the *Pequod* to represent America (Robinson, 2013) as a democracy with elected leaders—and Ahab was "elected", chosen by the shipping company. Therefore, Melville was not concerned with a Hitler or Pol Pot or any other tyrant overtaking the US; he was worried about a leader with the collective support of the people using Machiavellian tactics and seductive demagoguery.

Ishmael, along with a majority of the American people, fell prey to magnetic leadership and a full-throated battle cry against none other than Evil itself. As the protagonist admits, "I, Ishmael, was one of that crew; my shouts had gone up with the rest; my oath had been welded with theirs… A wild, sympathetical feeling was in me; Ahab's quenchless feud seemed mine." (Melville 1988, p. 194) His tale is told as a retrospective, a man looking back on his earlier life, and in so confessing his involvement which resulted in hellish destruction and death, he is exorcising his past demons and coming to terms with the dark aspects of himself. *This* is what Melville worked with "messianic fervour" (Delbanco 1988, p. xiii) to warn the nation about—America's own evil that resided within, waiting to burst out into the world.

The nation still has not fully come to terms with its dreadful acts committed in pursuit of Bush's White Whale, the Iraq War—115,000 Iraqi civilians murdered (Blair, 2013), 4,500 US soldiers killed (Thompson, 2014), potentially six trillion dollars squandered (Foster, 2013)—however, there is now, it seems, a Second Melville Revival. Articles have appeared in the *New York Times* (Kristof, 2007), *San Francisco Chronicle* (Vardamis, 2007) and *The Guardian* (Kinzer, 2008), all comparing Bush's mad plight to Captain Ahab. Now more than the 1850's, 1920's, or 1940's, *Moby Dick* is a book of paramount importance, for, by identifying an intrinsic part of the nation's identity, Melville predicted the fate of America, a nightmare previously unimaginable.

Bibliography

Blair, D. (2013). Iraq 10 Years On: At Least 116,000 Civilians Killed. *The Telegraph*, 15th March.

Brenner, M. (2013). America's *Moby Dick:* The Exterminators. *Counterpunch.org*. [Online] Available from: <http://www.counterpunch.org/2013/07/29/the-exterminators-2> [Accessed: January 02 2014].

Bush's War (2008). Film. Directed by Michael Kirk. USA: PBS Home Video.

Coakley, R. (n.d.) World War II: The War Against Japan. *US Army Center of Military History*. [Online] Available from: <http://www.history.army.mil/books/amh/AMH-23.htm> [Accessed: 09 January 2014].

Delbanco, A. (1988). "Introduction," in *Moby-Dick, or The Whale.* New York: Penguin Books.

Dunlap-Smith, A. (2013). Raymond Weaver, Melville Revival Pioneer: An Annotated Checklist. *Leviathan*, Volume 15, Number 1.

Foster, P. (2013). Cost to US of Iraq and Afghan Wars Could Hit $6 Trillion. *The Telegraph*, 29th March.

Garber, M. (2013). 'It Repels the Reader': Tech Glitches Led *Moby-Dick*'s First Critics to Pan It. *The Atlantic.*

Heimert, A. (1963). Moby-Dick and American Political Symbolism. *American Quarterly*, Vol. 15, No. 4.

Hitler, A. (1943). *Mein Kampf*, trans. Ralph Mannheim. Boston MA: Houghton Mifflin.

JAPANGUIDE.COM (n.d.) *Militarism and WW2 (1912-1945)* [WWW] Japan Guide. [Online] Available from: http://www.japan-guide.com/e/e2129.html [accessed 09/01/2014].

Kinzer, S. (2008). Call Me Bush. *The Guardian*, 8th December.

Kristof, N. (2007). Et tu, Bush?. *The New York Times*, 23rd January.

Melville, H. (1988). *Moby-Dick, or The Whale*. New York: Penguin Books.

PEREZ-RIVAS, M. (2001) *Bush Vows to Rid the Word of 'Evil-doers'* [WWW] CNN.com. Available from: <http://edition.cnn.com/2001/US/09/16/gen.bush.terrorism/> [accessed 01/01/2014].

PINKERTON, J. (2003). *Century In, Century Out—It's Crusade Time* [WWW] Newsday.com. Available from: <http://www.newsday.com/columnists/james-p-pinkerton/century-in-century-out-it-s-crusade-time-1.281113> [accessed 03/01/2014]

Placha, I. (2008). *Moby-Dick as an Icon for America.* Thesis (Bachelor's), Masaryk University Faculty of Arts: Department of English and American Studies

PBS (n.d.) *Into the Deep: America, Whaling, and the World* [WWW] Public Broadcasting Service. Available from: <http://www.pbs.org/wgbh/americanexperience/features/biography/whaling-melville> [accessed 05/01/2014]

Robinson, O. (2013). *Lecture on Moby Dick (Herman Melville)*, from LT203: United States Literature Since 1850. University of Essex on 15 October 2013.

Selby, N. (1999). *Herman Melville: Moby-Dick*. New York: Columbia UP.

Stein, J. and Dickinson, T. (2006). Lie by Lie: A Timeline of How We Got Into Iraq. *Mother Jones*. (September/October).

THE BOARDS OF TRUSTEES OF THE FEDERAL HOSPITAL INSURANCE AND FEDERAL SUPPLEMENTARY MEDICAL INSURANCE TRUST FUNDS (2009) *2009 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*. Washington: 2009.

THE WHITE HOUSE (n.d.) *29. Warren G. Harding* [WWW] The White House. Available from: <http://www.whitehouse.gov/about/presidents/warrenharding> [accessed 05/01/2014].

THE WHITE HOUSE (n.d.) *President Delivers State of the Union Address* [WWW] The White House. Available from: <http://georgewbush-whitehouse.archives.gov/news/releases/2002/01/20020129-11.html> [accessed 09/01/2014].

THE WHITE HOUSE (n.d.) *President Rallies the Troops in Alaska* [WWW] The White House. Available from: <http://georgewbush-whitehouse.archives.gov/news/releases/2002/02/20020216-1.html> [accessed 07/01/2014].

Thompson, M. (2014). Why U.S. Troop Deaths in Iraq Were Worth It. *TIME*, 8th January.

TIME Magazine (2003). "Bush and Iraq: Follow the Yellowcake Road," *TIME*, 9 July.

Trevor-Roper, H.R. (2008). *Hitler's Table Talk 1941 – 1944: Secret Conversations*. London: Enigma Books.

Vardamis, A. (2007). Fractured Foreign Policy: President Bush and Captain Ahab—Psychological Soul-Mates. *San Francisco Chronicle*, 26th February.

Zakaria, F. (2010). To Deal With the Deficit, Let the Tax Cuts Expire. *The Washington Post,* 2 August.

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Power in Lewis Carroll's *Alice* Books

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ABSTRACT

Nonsense is a genre many have experimented with but few have succeeded in mastering in fine detail. In a world and a time in which change was imminent, Lewis Carroll skilfully employed the mechanisms of nonsense in his children's books *Alice in Wonderland* and *Through the Looking-Glass*. This essay takes a closer look at how Carroll approaches the topic of authority and power within the social context of nineteenth century England. The first part of the analysis focuses on how power is initially distributed in the relationship between Alice and the imaginary creatures. It examines the girl's physical and mental development that allows her to gain control over the unknown she is faced with. In the second part, the paper shifts its emphasis to language, investigating the power that meaning or no meaning (associated with nonsensical language) can have over the reader. Power is revealed to be an object of the imagination that can redesign itself according to each person's intellectual context and background.

At a social level, the 'survival of the fittest' implied by Charles Darwin and later defined by Herbert Spencer has developed into social Darwinism, with people defining the notions of rank and power according to the conceptual background they are familiar with. In order to have power, they need to feel in a position of control so they can survive the trials they are submitted to. But, at the same time, they feel resentment for the unknown that presents a barrier for evolution. This limited view of the world thus creates a problem the majority might refuse to see, but Carroll explores it further and tries to depict the image of British society by following the reactions of Alice, a product of Victorian society, in the face of the unknown and the irrational realm of the fictional creatures. Therefore, this analysis of the two stories shall question how power is established in a world that is apparently without order and has no recognizable rules to be guided by and if Alice has the ability to understand and surpass the limits she is accustomed to.

An important factor in the dynamics of the story that can be noticed throughout the two books is the creatures' hostility towards the girl. She is seen as an intruder and treated as such. The episode of the battle between the Lion and the Unicorn presents an example of how the inhabitants of the fictional world see Alice:

> "What-is-this?" he said at last. "This is a child!" Haigha replied eagerly, coming in front of Alice to introduce her . . . "We only found it today. It's as large as life, and twice as natural!"/ I always thought they were fabulous monsters!" said the Unicorn. "Is it alive?"/ "It can talk," said Haigha solemnly./ The Unicorn looked dreamily at Alice, and said "Talk, child." (Carroll, 2001, p. 241)

The unfamiliarity therefore affects both parties and renders them powerless. However, the Unicorn, being in charge in his own environment, urges Alice to talk, thus re-establishing his authority. In a similar scene, Alice takes advice from the Caterpillar, eats a part of the magic mushroom and starts growing. The pigeon that sees her thinks she is a serpent, as much as Alice tries to reason with it. But the rules of reason do not apply here in the same manner as in the real world so she is further seen as a threat to the realm: "(…) little girls eat eggs quite as much as serpents do, you know."/ "I don't believe it," said the Pigeon; "but if they do, why, then they're kind of serpent; that's all I can say."" (Carroll, 2001, p. 57). There is a neutral territory where representations of authority and power are eliminated and that is in the Wood of No Names. Here, Alice is not menacing anymore and as proof, the fawn walks alongside her all the way through the forest. However, as soon as they leave the margins of the woods and the fawn remembers Alice is a "human child", the animal runs away. This is an example of how human dominance crosses the boundaries of fiction and establishes itself as a given in the fictional universe. Nonetheless, this also shows how language interferes in the relationship between the two worlds, seeing that labelling Alice as a 'human' and himself as a 'fawn', his immediate instinct is to flee as far away as possible from the girl.

Alice is confused by the meaning of power and authority partly because her education presented her with a rigorous set of laws that are no longer available in the imaginary realm. Society has taught her manners, etiquette and the rules of conversation, but has also dictated that adults are in charge and she has to obey them. When she finds herself in a new and strange situation, her only solution seems to consist in defining the unknown by what is recognizable to her, meaning the rules of Victorian society. Therefore, the relationship between the girl and the creatures might not only be influenced by the defensive attitude of the latter, but can also be induced by Alice's own vision of authority

that automatically appoints the fictional characters in positions of power. When the White Rabbit orders her to give him a new pair of gloves, for example, Alice follows his order, without being convinced of its logic: "And Alice was so much frightened that she ran off at once in the direction it pointed to, without trying to explain the mistake that it had made" (Carroll, 2001, p. 58). The fact that she is seen as a child and, as a result, inferior to them, is clearly stated in Lory's simple statement: "I'm older than you, and must know better" (Carroll, 2001, p. 30). This is said even though there is no evidence to support the declaration.

The type of interaction between Alice and the creatures is remarked by the girl herself: "Everybody says 'come on!' here," thought Alice (…) "I never was so ordered before, in all my life, never!" (Carroll, 2001, p. 99). Her indignation towards authority is thus a feeling which slowly emerges towards the surface. Paradoxically, nothing and no one is considered as important or in control, although the fictional realm's ruling is similar to reality, with Queens and Kings on the highest level of authority and laws and regulations to help govern the rest of the subjects. The Gryphon confirms that, although the Queen frequently condemns the creatures to death, this is just a "fancy" of hers and nobody is actually beheaded.

The lack of strict rules and confirmed figures of power to which Alice is accustomed and the fact that she is a child in the process of growing up lead the girl to having an identity crisis. The changes she is going through are very puzzling, not only to the creatures, but also to her. When the Caterpillar demands to know who she is, Alice is not entirely sure what to answer: " I- I hardly know, Sir, just at present – at least I know who I was when I got up this morning, but I think I must have been changed several times since then" (Carroll, 2001, p. 49). She is however certain she has changed and this change involves a development in how power is distributed between the two worlds. As the story progresses, the attitude of the creatures does not vary; but Alice's view of them does, showing her development towards adulthood. Slowly, she begins to regain control over her own actions and questions the plausibility of the other characters' words, but not without going through a period of transition.

Before she re-establishes her authority, she struggles between two identities: that of a child and an adult: "She generally gave herself very good advice (though she very seldom followed it), and sometimes she scolded herself so severely as to bring tears into her eyes; and once she remembered trying to box her own ears for having cheated herself in a game of croquet she was playing against herself, for this curious child was very fond of pretending to be two people" (Carroll, 2001, p. 18). But this is natural for a growing child

whose personality is not yet defined. She slowly starts to fight back against the absurd oppression of the imaginary characters. An example can be found in her conversation with the Duchess, who forbids her to think: "I've a right to think," said Alice sharply, for she was beginning to feel a little worried. "Just about as much right," said the Duchess, "as pigs have to fly" (Carroll, 2001, p. 97). Here, the duchess undermines the power of rational thought by creating a nonsensical simile, but Alice does not accept it as easily as before.

However, a turning point in her transition is the court trial where the girl directly confronts the King and Queen about the way in which the trial is presided over:

> Rule Forty-two. All persons more than a mile high to leave the court." Everybody looked at Alice. "I'm not a mile high," said Alice. "You are," said the King. "Nearly two miles high," added the Queen. "Well, I sha'n't go, at any rate," said Alice: "besides, that's not a regular rule: you invented it just now." "It's the oldest rule in the book," said the King. "Then it ought to be Number One," said Alice (Carroll, 2001, p. 125).

Although she is neither allowed to grow up nor to get out of being under the Crown's authority, Alice manages to overturn the King's sovereignty and decides for herself what has to be done. Her development, as it can be seen, is not only on the level of the psyche, but also physical, thus emphasising her evolution towards adulthood.

Starting with *Through the Looking Glass*, Alice's character seems stronger and she resumes power over her journey through the fictional world. Although it is not the same realm as Wonderland, she is already prepared to face the abnormalities and peculiarities that an imaginary world could confront her with. Although she is just a pawn at the beginning of her journey, she is determined to become a Queen. Even before she goes through the looking-glass, her defiance of authority and drive to overthrow the known commanding entity is depicted through a cruel and violent phrase she once addressed to her nurse: "Nurse! Do let's pretend that I'm a hungry hyæna, and you're a bone!" (Carroll, 2001, p. 247).

Alice's evolution does not go unnoticed among the creatures that, until then, had power over her. Beginning with the caterpillar's remarks when Alice expressed her desire to grow up in the first book, and followed by a similar one by Humpty Dumpty later on, the girl is subjected to resentful treatment. This resistance is seen as a response to the fear of having Alice in a more important role in the imaginary world:

> "Seven years and six months!" Humpty Dumpty repeated thoughtfully. "An uncomfortable sort of age. Now if you'd asked my advice, I'd have said 'Leave off at seven'—but it's too late now." "I never ask advice about growing," Alice said indignantly (Carroll, 2001, pp. 221-2).

Humpty Dumpty uses wordplay to convince Alice to give up her power. Her reply is proof that Alice is adamant about defending her own identity, independent of the fictional universe.

Another change in attitude noticed in Alice is related to her reaction to the Tweedle brothers' poem, "The Walrus and the Carpenter". In this case, she does not side with the victims anymore, the oysters, and tries to decide who of the two protagonists was a better and fairer character. James R. Kincaid argues further on this matter that Alice tries to identify with the power figures of the poem (1973, p. 95). What it could mean is that Alice wants to leave her powerless self behind and reverse the balance of power between her and the fictional characters. Her cruel attitude towards the victims is emphasised at the end of the story where the girl is planning to repeat the poem to her kitten, comparing the oysters to her pet's breakfast.

There are certain paradoxes to deal with in this new rapport of power between Alice and the creatures. Firstly, there is the issue of how Alice is treated once she becomes a queen. Although her title should mean that she has absolute power, her limits are clearer than ever. She is not allowed to enter her own palace and is confused with a commoner. When she does enter the place, she is under the strict supervision of the two Queens, who continue to give her orders: "'Make a remark,' said the Red Queen: 'it's ridiculous to leave all the conversation to the pudding!" (Carroll, 2001, p. 276). But this authority matter is solved in the end while the fictional dream falls apart and Alice takes control of the Red Queen, who is now the size of a doll: "I'll shake you into a kitten, that I will!" (Carroll, 2001, p. 280). A certain cycle is being completed by this event. Whereas earlier, the girl grew physically as a sign of her growing power, now the Red Queen reduces its size, diminishing its authority at the same time.

The twin brothers mention another issue related to power, saying Alice is only a product of the King's imagination. This could nullify all of Alice's efforts to gain her independence from the magical world. Carroll makes sure that this remains a question until the end of his book, possibly to let the readers think of how power, as any other concept defined by man, is rooted in the human imagination.

W. H. Auden wrote that "in both worlds, one of the most important and powerful characters is not a person but the English language. Alice, who had hitherto supposed that words were passive objects, discovers that they have a life and will of their own" (1971, pp. 9-10). His opinion would help to explain why language becomes a source of power in itself within the two stories, a power applied to both character and reader. As far as Alice is concerned, she does not have the capacity, like the reader, to stop and try to understand what she is faced with and then continue with her journey. She has to move on whatever the obstacles. Her weakness comes from not understanding the nonsensical language used by the creatures, which becomes her main impediment while dealing with the fictional worlds. For example, when Alice talks to the Duchess about the Earth turning around its axis, the woman suddenly changes the subject by linking the homophone 'axes' to 'axis' and screaming "chop off her head!" (Carroll, 2001, p. 63).

There are many examples of wordplay in the two texts that work with the relationship between the signifier, the real representation of the word, and the signified, the abstract notion attributed to the object of representation. There is an example in the Red Queen's speech about the 'hill': "When you say 'hill' (…) I could show you hills, in comparison with which you'd call that a valley" (Carroll, 2001, p. 171). Therefore, language has an arbitrary function and can be associated with a different meaning depending on what the speaker wants to say. This theory is emphasised by Humpty Dumpty's words who claims that "when *I* use a word (…) it means just what I choose it to mean, neither more, nor less." (Carroll, 2001, p. 224). The explanations given by the characters themselves define how nonsense works in their world, a process that Alice will learn to understand throughout the two stories.

As she grows up, the little girl begins to recognize nonsense in the creatures' speech and this gives her power over them because, by knowing what nonsense is or looks like, she can participate in conversations with the fictional characters. As some define nonsense literature, it is not the absence of sense but "a clever subversion of it that heightens rather than destroys meaning" (Anderson and Apseloff, 1989, pp. 4-5). Hence, by defining the nonsensical language, Alice manages to break into the imaginary worlds and understand their different mechanisms, thus evolving from her previous limited knowledge without destroying it.

There are several instances in which Alice recognizes the use of nonsense. For example, in her conversation with the twins about the King's dream, she says: "'I know they're talking nonsense,' Alice thought to herself: 'and it's foolish to cry about it.'" (Carroll, 2001, p. 198). She even talks about nonsense during the trial, when the Queen of Hearts wants: "Sentence

first – verdict afterwards" (Carroll, 2001,p. 129). To regain control over the situation, Alice asks Humpty Dumpty to initiate her in this art of nonsense by letting him explain the meaning of the words in "Jabberwocky". After this, it is much easier for her to establish her authority, seeing that she is thus able to rationalise, by a new means of rationalising, the events that are happening in the imaginary universes.

For the reader, the author prepares a background and a setting that are not available in Alice's case. The flexibility of his language is not meant to encrypt his text, but to allow a multitude of interpretations, all of which could form a description of Victorian society. The author gives the reader numerous clues as to how nonsense is used by the characters. For example, when the conversation between Alice and Humpty Dumpty continues and Humpty decides to change the subject, Alice thinks "He talks about it just as if it was a game" (Carroll, 2001, p.221). The readers have access to the characters' inner thoughts which allows them to further explore the meaning of language.

Another way Carroll's linguistic experiment interacts with the reader's reality consists of all the parodies of real texts of the nineteenth century. This creative craft gives the reader the power to understand the context in which the *Alice* books were written so that the references from the text are clearer to them. The examples given above have shown that power, authority, and the balance between reality and imagination are closely connected with Alice's journey towards adulthood. As a product of the Victorian society, she enters the fictional worlds with a certain limitation, which renders her inferior to the creatures at first. Once she is accustomed to the mechanics of this apparently chaotic world, she begins to regain her strength and achieve power in front of the creatures, the best way of her doing that being by means of mastering the language of nonsense itself. Therefore, language is the key to power and Alice manages to use it in order to transcend her limits and familiarise herself with the unknown.

By playing with language, Lewis Carroll emphasises that power is an object of the imagination, meaning that the definition of the term varies according to the theoretical paradigms possessed by each human being. When Alice grows up, her knowledge develops and she learns how to redefine power in the context of the imaginary world that is now familiar to her. She thus gains control over what happens to her. However, this linguistic experiment not only benefits the little girl in the stories, but is also a step in the evolution of literature as it is perceived in the second half of the nineteenth century.

Bibliography

Auden, W. H. (1971). *Today's 'Wonder-World' Needs Alice*. In Phillips, R. (ed.). *Aspects of Alice: Lewis Carroll's Dreamchild as Seen Through the Critics' Looking-Glasses*. New York: Vanguard Press, pp. 9–10.

Carroll, L. (2001). *The Annotated Alice*, ed. M. Gardner. London: Penguin Books.

Catlett Anderson, C. and Apseloff, M. (1989). *Some Definitions of Nonsense*. In *Nonsense Literature for Children: Aesop to Seuss.* Hamden CT: Library Professional Publications, pp. 4–5.

Henkle, R.B. (1981). *Carroll's Narratives Underground: Modernism and Form*. Guiliano, E. (ed.) *Lewis Carroll, a Celebration*. New York: Clarkson N. Potter.

Juin, H. (1979). *Take care of the sense, and the sounds will take care of themselves*. In: Parisot, H. *Lewis Carroll*. Paris: L'Herne,

Kincaid, J. R. (1973). *Alice's Invasion in Wonderland*. *PMLA*, 88(1), pp. 92-99.

Lecercle, J.-J. (1994). *Philosophy of Nonsense*. London : Routledge.

Sewell, E. (1952). *The Field of Nonsense*. London: Chatto and Windus.

Tigges, W. (1988). *An Anatomy of Literary Nonsense*. Amsterdam: Rodopi.

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Party Competition in a Conflict State: Northern Ireland

Daniel Devine

ABSTRACT

Northern Ireland is a unique unit of analysis for academic study. Despite a history of conflict and civil war, it is nevertheless an open and free country, with a rich amount of data allowing researchers to study the effects of the conflict. This paper analyses party competition within Northern Ireland, arguing that party competition is differentiated across different arenas of competition, such as electoral or executive level. Looking deeper into the electoral level, the paper critically assesses two theoretical approaches to party competition. Using a range of data, the paper argues in favour of the 'ethnic tribune' model, whereby parties compete over who will be the 'strongest voice' for their chosen group.

The literature on the Northern Irish party system and party competition within it is not extensive, and insufficient attempts have been made to explain the mechanics of party competition, particularly at the executive level or for smaller parties.[1] It is, nevertheless, theoretically rich and provides solid grounding for further analysis. This essay will examine party competition within Northern Ireland, arguing that real insight is lost when attempting to explain party competition in the Northern Irish polity at large (Evans and Duffy, 1997). I also argue that party competition is differentiated amongst different arenas (Bardi and Mair, 2008). Looking into the electoral blocs, I assess two approaches to party competition in Northern Ireland, beginning by briefly setting the analysis in context. This paper then moves onto breaking down party competition by viewing the polity in its entirety, before delving deeper into the mechanics of party competition at an electoral level. I briefly view the effect of smaller, cross-communal parties, with focus on the Alliance Party of Northern Ireland, before concluding.

[1] There have been some rigorous empirical studies at the electoral level. In particular, see: Evans, G., and Mary Duffy, (1997) Beyond the Sectarian Divide: The Social Bases and Political Consequences of Nationalist and Unionist Party Competition in Northern Ireland, *British Journal of Political Science,* 27:1, 47-81; and for a more contemporary study, see: Tilley, J., Geoffrey Evans and Claire Mitchell, (2008) Consociationalism and the Evolution of Political Cleavages in Northern Ireland, 1989-2004, *British Journal of Political Science,* 38:4, 699-717

Northern Ireland's Troubled Past

In 2007, Sinn Fein and the Democratic Unionist Party entered a power-sharing government together. This was deemed previously unthinkable. The Northern Irish conflict was seen as one of the most bitter and prolonged in any advanced democracy, and the paramilitary organisations that worked within it were some of the most well-armed in the world. Some scholarly work argued that the intensity and severity of the conflict meant it was best categorised as a war (Poole, 1995).

Despite the existing 'no war, no peace' situation (Ginty *et al*, 2007), the conflict has left its scar on Northern Irish society. The opposing sides of the conflict, pillarised along ethno-religious lines, operate within their own subcultures – each group has its own schools, newspapers and sporting organisations, and 90% of people live where their own confessional identity is the majority (*Ibid*). Moreover, the fragile peace is still punctuated by sporadic violence and civil disturbance (*Ibid).*[2] This troubled history has left a marked effect on the political system. The remainder of the essay will explain party competition in this troubled environment.

Classifying the Northern Irish Political System

Following the work of Giovanni Sartori (1976, pp.43-4), a party system can be defined as 'the *system of interactions* resulting from inter-party competition'.[3] Defining the party system helps narrow down the interactions of party competition. Within this definition, I classify a party system based on the framework posited by Sartori, in which we look at party fragmentation and ideological distance on the assumption that differently structured party systems produce different interactions (*Ibid,* pp.131-145; pp.173-185). This is outlined in Figure 1 below (*Ibid,* p.292). There are other methods to classify party systems in the literature[4], but this seems like the most useful way to understand party competition *within* the classifications due to its theoretical expectations resulting from the party system.

Observing the data from recent elections, Northern Ireland can be characterised as a segmented multipartist polity, consisting of moderate fragmentation but containing parties which are ideologically similar. The key indicators of party fragmentation, the

[2] See, for example: http://www.theguardian.com/uk-news/2013/aug/21/northern-ireland-police-injuries

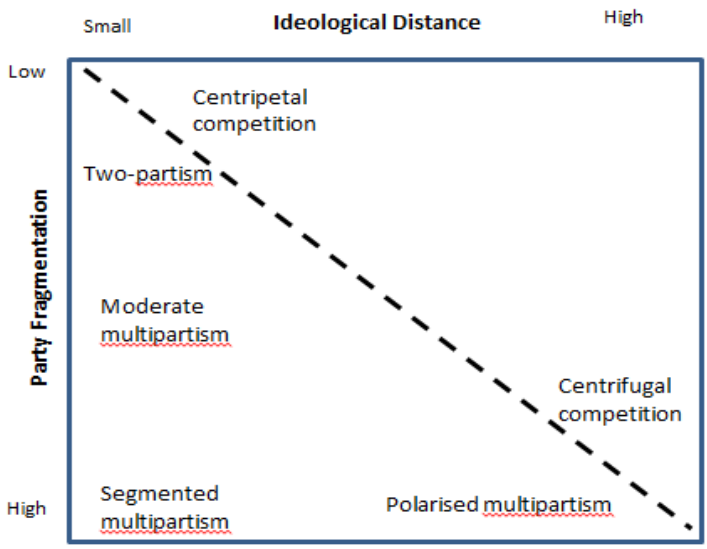
[3] For an interesting argument against and rebuttal in favour of Sartori's typology, see: Evans, Jocelyn, 'In Defence of Sartori: Party System Change, Voter Preference Distributions and Other Competitive Incentives' *Party Politics* 8(2) (2002), pp.155-174

[4] Some simply count the number of parties, for example, or base it on ideological groupings.

effective number of parliamentary parties (ENPP)[5] and the effective number of electoral parties (ENEP), are both between four and five as of 2011, with the ENEP slightly higher at 4.8 with ENPP at 4.2 indicating between four and five effective parties. This has remained fairly stable over time, with a spike for both in the 1998 election most likely due to it being the first election. There is a non-trivial amount of ideological polarisation, as can be seen from the data on the Northern Ireland Election Study. On a scale of 1-10, where the median voter is at 5.3, Sinn Fein are on the left at 2.2, whilst the Democratic Unionist Party are at 6.8. The Ulster Unionist Party is positioned at 6.9, whilst the Social Democratic Labour Party is at 2.8; polarisation within the blocs is clear.

This classification helps narrow down the structure of party competition. Most importantly, Sartori argues that this type of system has two characteristics of competition: bipolar coalitional configurations and centripetal competition (Sartori, 1976, p.179). This model is well suited to Northern Ireland. Competition is segmented along two blocs, the Protestant Unionists and Catholic Nationalists, in which there is little competition between the blocs – ethnic parties have captured 80% of the vote since the 1970s (Evans and Tonge, 2009). A simple model can predict that 98% of Catholic Nationalists will vote for their ethnic party, and 91% of Protestant Unionists will vote for their ethnic party (*Ibid).* Just two per cent of Catholics support Unionist parties, whilst just four per cent of Protestants back Nationalist parties (*Ibid).* One could be led to conclude that the explanatory power behind party competition in Northern Ireland is the ethno-religious cleavage.

Figure 1 - Sartori's Classification of Party Systems (Source: Sartori, 1976)



[5] This is given by the inverse of $1/\Sigma s_i^2$ where s_i represents seats (ENPP) or votes (ENEP).

Indeed, some scholars have argued that the Catholic-Protestant cleavage is the *only* politically relevant cleavage in Northern Ireland (Bellof and Peele, 1985). But this approach fails to explain the majority of political phenomena in Northern Ireland. In particular, it does not explain why the main party in both blocs has changed hands (the DUP overtaking the UUP, and SF overtaking the SDLP). We cannot understand why the extreme parties have become the leaders whilst also moderating their policies.[6] For this, political scientists must look within the blocs and analyse the system of party competition within them. Additionally, party competition is differentiated at the executive level as well. This is what Peter Mair and Luciano Bardi referred to as 'functional differentiation', where party competition varies across arenas (Bardi and Mair, 2008, p.154).

Electoral Arena

Some scholars have argued that the dual bloc structure of party competition in Northern Ireland along with the almost non-existent inter-bloc competition means we cannot say that Northern Ireland has 'a' party system (*Ibid).* The implication of such an analysis is that outcomes at the executive level are a result of party competition within blocs, rather than between them. It is useful to conceptualise this structure in a Venn diagram, with two independent circles intersected by a smaller one representing those parties which attempt to build cross-communal relations (*Ibid*). For the rest of this analysis, the Northern Irish party system will be said to be a dual-bloc party system, in which party competition occurs within the blocs rather than between them (Tilley *et al*, 2008; Coakley, 2008; Jefferson, 2011).

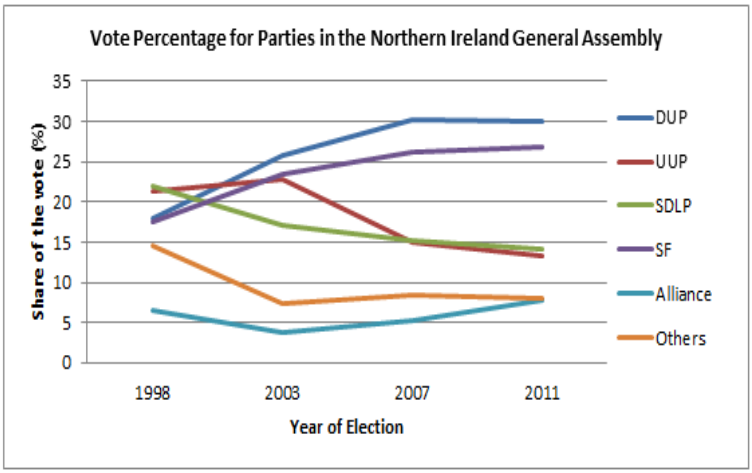
There has been a similar trend in both blocs, in which the more extreme parties in both become the primary parties amongst the blocs. This is depicted in Figure 2 presented below. Two approaches have been posited in the contemporary literature to explain these trends and how party competition has caused these outcomes.[7] I will expand on both of these approaches before applying them to the different arenas. What both of these models try and explain is why the smaller parties, whom before the 1998 agreement would not

[6] For a good, albeit now outdated, overview of how the parties became more centrist following the GFA, see: Mitchell, Paul, Brendan O'Leary and Geoffrey Evans, 'Northern Ireland: Flanking Extremists Bite the Moderates and Emerge in Their Clothing', *Parliamentary Affairs* 54(4) (2001), pp.725-742

[7] It is out of the scope of this paper, but an interesting and more nuanced approach could be to look at the effect of party activists and supporters on the position of the parties. It may be that the general de-radicalising of members of Sinn Fein – by disassociating itself with the IRA – has contributed to its centrist position, and the same to a lesser extent for the DUP. This could complement or contradict the 'median voter' hypothesis. See: Ezrow, Lawrence, Catherine De Vries, Marco Steenbergen and Erica Edwards, 'Mean voter representation and partisan constituency representation: Do parties respond to the mean voter position or to their supporters?', *Party Politics* 17(3) (2010), pp.275-301

have dreamed of being the leading parties, now find themselves the leading party within their bloc.

Figure 2- Vote Share for Parties in the Northern Ireland Assembly



i. The Spatial Approach

This approach typically relies on the traditional determinants of voting behaviour, but more precisely, it argues that voters identify themselves on a left-right continuum, and vote for the party closest to them, with social class being key (Adams *et al,* 2005). Control variables, primarily demographics, are also included in the model. In the case of Northern Ireland, however, this approach is given a caveat. In particular, exponents of this approach concede that these determinants are only 'a conditioner of electoral choice *after* national identity and religious affiliation have effectively pre-determined the parameters of the voting choice' (Evans and Tonge, 2009, p.1020; McGarry and O'Leary, 1995). Whilst this suggests the predominance of the ethno-religious cleavage, class is important for voters deciding between parties which stand on similar constitutional platforms.

ii. The Ethnic Tribune Approach

This model's key variable concerns which party is most effective in representing ethno-national interests (Mitchell *et al*, 2009). It suggests that the consociational arrangement since the Good Friday Agreement (GFA) has meant that voters look to their strongest voice in representing their views. Although this does not necessarily contradict the spatial model, they differ theoretically. The ethnic tribune model argues that voters look at policy outcomes, not just positions, and thus factor in the diluting effect of executive

bargaining (*Ibid*; Orit, 2005). Moreover, it would predict that the most extreme parties benefit electorally, whilst the spatial model, by definition, would argue that parties nearest to the median voter would benefit (assuming a normal distribution of voters) (Downs, 1957). Both models therefore seem applicable. The question that remains, then, is which model has the most explanatory power?

iii. The Protestant-Unionist Bloc

Typically, competition between the Unionist parties has been how they place themselves on a spatial continuum, with left-right politics being particularly important. The DUP has taken a left-of-centre position on most issues, whilst the UUP has positioned itself on the conservative right (Evans and Tonge, 2009). Both parties seem cognisant of their social basis, with the DUP being considered more a party of the working class compared to the middle-class credentials of the UUP (*Ibid).* What we have seen, as Evans and Tonge show, is a move away from class-based politics; there has been almost entire convergence on different social classes voting for the DUP – whilst the working class are still the most likely. The salariat, who in 1989 had almost zero probability of voting for the DUP, were now 40 per cent likely to vote for the DUP *(Ibid).*[8] This trend of voting behaviour could be due to the DUP pulling itself to the centre ground in an effort to capture the most votes, from a simple spatial approach, coupled with its strong constitutional stance on the GFA attracting former UUP voters.

However, this analysis is missing something. In particular, these parties were not much different on bread-and-butter issues in the first place, and it would be considered peculiar to see the DUP pick up votes simply by moving to the centre given that the UUP's position had not changed – in fact, they may have been punished. There would be no reason for the typical voters for the UUP to switch to the typically more extreme DUP whilst the UUP still offered polices closer to them *if* the left-right continuum was important. Public opinion was much more moderate during the DUP's rise (Mitchell *et al,* 2009), and some authors even predicted the inevitable break-up of the DUP as a result (McGarry and O'Leary, 1999). As Evans and Tonge (2009) point out, the loosening of structural constraints, such as class, does not account for the overall change in vote between the two parties, which could not be explained with the variables they included. The analysis is missing something that is motivating voters to switch parties and fuelling competition amongst the two parties.

[8] Tilley *et al* (2008) find similar trends.

The ethnic tribune approach explains party competition more succinctly. The authors of the paper extend figure 2 above back until the 1970s, and show that the GFA in 1998, and the run up to it, was the critical point for the rise of the DUP (Mitchell *et al,* 2009). Thus, they give institutional change key explanatory power. The diluting effect of power-sharing means that voters will want the strongest voice to represent them – and this, invariably, means the most extreme party. What the institutional change did was shift policy positions to policy outcomes. The UUP continued to campaign on spatial issues, which were no longer as relevant to the electorate; the parties were now competing on 'relative perceptions of how *effective* each party was […] in representing ethnonational interests' (*Ibid,* p.411). Table 1 below shows how the electorate perceived each party (including the nationalist parties) (*Ibid,* p.412).

Table 1 - Which party has been the most effective voice?

Party ID	Voice for Nationalists (%)		Voice for Unionists (%)	
	SF	SDLP	DUP	UUP
Alliance	77	23	42	58
DUP	83	17	93	7
UUP	71	29	40	60
SDLP	53	47	41	59
SF	100	0	64	36
Other	81	19	59	41
Total	*75*	*25*	*61*	*39*

The data from the table supports the claim made by the ethnic tribune model. The model helps predict, much more precisely, the switch in votes from the UUP to the DUP, and why the DUP are picking up votes from previous non-voters. Party competition in the Unionist bloc had moved from a focus on class voting and spatial issues to which party can best represent best the ethno-national interests. And the DUP have been rewarded for it.

iv. The Catholic-Nationalist Bloc

Unlike in the Unionist bloc, spatial issues and class politics was never a fundamental part of party competition (Tilley *et al,* 2008). The constitutional issue offered a much more uni-dimensional structure of party competition even before the GFA. Nevertheless, the spatial approach can offer a good analysis for the rise of Sinn Fein and decline of the SDLP. In particular, there has been an unprecedented rise in middle-class voters voting for SF (Evans and Tonge, 2009). This is largely down to Sinn Fein moderating its views, such as disassociating itself with the IRA (a factor which has led to a large influx of young

voters who do not remember SF's association with political violence) (*Ibid*). Given demographic change, with a younger overall Catholic population, this explains some of the increase in SF's vote compared to the SDLP (Mcallister, 2004). The problem for this thesis is that the divides were never as strong between SF and the SDLP as they were for the Unionist parties. Thus, competition was always centred on the constitutional divide.
As such, the ethnic tribune model is more effective in this case. Sinn Fein, by shifting to a more centrist agenda, appealed to a wider base of people who would have been turned off by its extreme politics (Evans and Tonge, 2009). Nonetheless, this only worked because of the institutional change, which allowed it to exploit its role as the tribune party, and made its move to the centre more credible. When competition moved from simply the constitutional issue, on which the parties were only divided on tactics, to which party would fight strongest for the bloc *on* constitutional issues, the only conceivable winner was the newly moderated Sinn Fein.

v. Minor parties

Despite the party system being an ethnic one, with the primary divide being the confessional cleavage, smaller parties have managed to garner some votes. Interestingly, even though the ethnic tribune approach, as defended above, argues for the hardening of the ethno-religious cleavage, and consociational theory also suggests theory suggests the divide will be more clear (Tilley *et al,* 2008; Dixon, 2002), the cross-communal Alliance Party has also gained in the last three elections, after a steady decline.[9] This is illustrated in figure 2 above and in the cross-tabulation of vote share, outlined in table 2 below.

Table 2 - Vote Share for Parties in Assembly Elections 1998-2011

Party	Vote Share for Assembly Elections 1998-2011 (%)			
	1998	2003	2007	2011
DUP	18	25.7	30.1	30
UUP	21.3	22.7	14.9	13.2
SDLP	22	17	15.2	14.2
SF	17.6	23.5	26.2	26.9
Alliance	*6.5*	*3.7*	*5.2*	*7.7*
Others	14.6	7.4	8.4	8

[9] Such a decline, indeed, that Evans and Tonge predicted the APNI's inevitable disappearance, which has not yet come to fruition. See: Evans, Jocelyn and Jonathon Tonge, 'The Future of the "Radical Centre" in Northern Ireland After the Good Friday Agreement', *Political Studies* 51(1) (2003), pp.26-50

There is sparse scholarship on the Alliance Party or smaller parties in Northern Ireland in general. Often, the Alliance Party captures those of no religious affiliation (Evans and Duffy, 1997). As such, one could argue that it competes in a different realm from the larger, confessional parties. There is no interaction between the larger parties and the smaller ones, specifically the Alliance, because it does not compete on the ethno-religious dimension. Rather, it aims to attract those who feel no allegiance to either side. Academic literature will need to deal with this substantial minority if it is to explain, completely, party competition.

Conclusion

The Northern Irish polity is characterised by a dual bloc system, in which party competition occurs within, rather than between, the two blocs. There are a few small parties, primarily the Alliance Party of Northern Ireland, that are truly cross-communal, but these are electorally small. The essay looked at two different explanations for party competition within these blocs; one, which I called the spatial approach and the other, the ethnic tribune approach. The spatial model focuses on attitudinal and spatial drivers, whilst the ethnic tribune model argues that parties compete over which will be the strongest voice for its bloc. Although party competition is differentiated between the two blocs, the ethnic tribune model explains party competition better in both. There should be increased focus on the role institutional change has had to play in altering party competition within both the blocs, and the role cross-communal parties play in electoral strategy.

Bibliography

Adams, J.F., Merrill III, S. and Grofman, B. (2005). *A Unified Theory of Party Competition: A Cross-National Analysis Integrating Spatial and Behavioral Factors*, Cambridge: Cambridge University Press.

O'Day, A. (ed.). (1995). *Terrorism's Laboratory: Case of Northern Ireland*, Aldershot: Dartmouth Publishing Co.

Bardi, L. and Mair, P. (2008). The Parameters of Party Systems. *Party Politics,* 14:2, 147-166.

Bellof, M. and Peele, G. (1985). *The Government of the United Kingdom: Political Authority in a Changing Society*, London: Weidenfield and Nicolson.

Coakley, J. (2008). Centres, peripheries, and party systems: Nested secession processes in Great Britain and Ireland. *Political Geography,* 27:7, 740-760.

Dixon, P. (2002). *Northern Ireland: The Politics of War and Peace,* Basingstoke: Palgrave.

Evans, G., and Duffy, M. (1997). Beyond the Sectarian Divide: The Social Bases and Political Consequences of Nationalist and Unionist Party Competition in Northern Ireland. *British Journal of Political Science,* 27:1, 47-81.

Evans, J. (2002). In Defence of Sartori: Party System Change, Voter Preference Distributions and Other Competitive Incentives. *Party Politics,* 8:2, 155-174.

Evans, J. and Tonge, J. (2003). The Future of the "Radical Centre" in Northern Ireland After the Good Friday Agreement. *Political Studies,* 51:1, 26-50.

Evans, J. and Tonge, J. Social Class and Party Choice in Northern Ireland's Ethnic Blocs, *West European Politics* 32(5) (2009), pp.1012-1030.

Ezrow, L., De Vries, C. and Steenbergen, M. et al. (2010). Mean voter representation and partisan constituency representation: Do parties respond to the mean voter position or to their supporters?. *Party Politics,* 17:3, 275-301.

Ginty, R. M., Muldoon, O. T. and Ferguson, N. (2007). No War, No Peace: Northern Ireland after the Agreement. *Political Psychology,* 28:1, 1-11.

Jefferson, K. W. (2011). *Celtic Politics: Politics in Scotland, Ireland and Wales,* Lanham: University Press of America.

Kedar, O. (2005.) When Moderate Voters Prefer Extreme Parties: Policy Balancing in Parliamentary Elections. *American Political Science Review,* 99:2, 185-199.

McGarry, J., and O'Leary, B. (1995). *Explaining Northern Ireland,* Oxford: Blackwell.

Mitchell, P., O'Leary, B. and Evans, G. (2001). Northern Ireland: Flanking Extremists Bite the Moderates and Emerge in Their Clothing, *Parliamentary Affairs,* 54:4, 725-742.

Mitchell, P., Evans, G. and O'Leary, B. (2009). Extremist Outbidding in Ethnic Party Systems is Not Inevitable: Tribune Parties in Northern Ireland, *Political Studies,* 57:2, 397-421.

Sartori, G. (1976). *Parties and Party Systems: A Framework for Analysis,* Cambridge: Cambridge University Press.

Tilley, J., Evans, G. and Mitchell, C. (2008). Consociationalism and the Evolution of Political Cleavages in Northern Ireland, 1989-2004, *British Journal of Political Science,* 38:4, 699-71.

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