Nash: Genius with Schizophrenia or Vice Versa?

By: Tevita Funaki, Pasifika Liaison Adviser, National Liaison & Recruitment, Massey University, Auckland, T.F.Funaki@massey.ac.nz)

Abstract

Schizophrenia has many negative impacts on the wellbeing of individuals (sufferers). I will critically analyse Nash's experience with his illness of schizophrenia and his concept of wellness based on themes, his journey with schizophrenia and the support of this wife and friends.

Ron Howard directed the movie, *A Beautiful Mind* based on Nash's biography about his mathematical genius and his struggle with schizophrenia. Nash only had one sister, Martha Nash who was born on November 16th, 1930. In terms of his mental health and wellness, Nash began to show signs of schizophrenia in 1958, on the threshold of his career.

After 1970, by his choice, he never took antipsychotic medication again . In 1978, Nash was awarded the John von Neumann Theory Prize for his discovery of non-cooperative equilibria, now called Nash equilibria. As a result of Nash's illness, he adopted unhealthy practices that did not help him cope with schizophrenia. Recovery from mental illness has emphasised the importance of hope for the people experiencing mental illness. Nash's self-determinations enabled him to overcome the stigmatisation suffering due to schizophrenia.

Nash experienced the five stages of coping with mental illness. The support of Nash's wife Alicia and the few close friends he had were paramount to his recovery and living with schizophrenia. Alicia had used cognitive coping strategies with her caring for Nash by having positive thinking in attempting to accept Nash's illness rather than denying that it existed and to understand the life experiences of a person with schizophrenia.

Howard (2001) stated that it's about a 25% chance, that survivors of schizophrenia can regain clarity as Nash did within a certain time period. PHD, 2009; (15) (2) pp. 129 - 137.

Introduction

Over the years, mental illnesses have gathered much attention given their prevalence in society. Schizophrenia is one such illness that has evolved from being a spiritual punishment (as defined by society) to being diagnosed as a form of mental illness where reality has been distorted. According to the World Health Organisation (WHO, 2008), Schizophrenia affects approximately 24 million people in the world with more than 50% not receiving the appropriate care. 90% of those untreated live in developing countries. This is of major concern given that schizophrenia can be treated and with treatment being more effective in the early stages.

Schizophrenia is a particular form of psychosis characterised mainly by a clear sensorium with a marked thinking disturbance (Macphee, Papadakis, & Tierney-Jr., 2007). The term "psychosis" denotes a variety of mental disorders. At present, there is no laboratory method for confirming the diagnosis of schizophrenia, that is the pathogenesis of schizophrenia is unknown (Katzung, 2001).

Schizophrenia has many negative impacts on the wellbeing of individuals (sufferers). Individuals with schizophrenia tend to smoke three times the rate of the general population, sometimes denying that they are ill, frequently treat their caregivers with hostility instead of gratitude and has been found as the most stigmatising conditions (Esterberg & Compton, 2005; Forchuk et al., 2002; Karp & Tanarugsachock, 2000; Schulze & Angermeyer, 2003).

However, "the nightmare of schizophrenia is not knowing what is true. Imagine, if you had suddenly learned that the people, the places and the moments most important to you were not gone, not dead, but worse, had never been. What kind of hell would that be?" (Howard, 2001). This is the worst effect that schizophrenics face in their daily lives which also impact on their families and friends. These effects and impacts will be discussed and critically analysed in relation to in Ron Howard's adaptation of John Nash's biography in the film, 'A Beautiful Mind.'

However, due to limited information provided by the movie I have further utilised Nash's biography by Sylvia Nasar. Finally, I will critically analyse Nash's experience with his illness of schizophrenia and his concept of wellness based on themes, his journey with schizophrenia and the support of this wife and friends.
John Forbes Nash, Jr. was born on June 13th, 1928 an American mathematician who worked in game theory, differential geometry, and partial differential equations, serving as a Senior Research Mathematician at Princeton University. He shared the 1994 Nobel Memorial Prize in Economic Sciences with game theorists Richard Selten and John Harsanyi (Howard, 2001; Nasar, 1994; Nash-Jr., 1994).

Ron Howard directed the movie, *A Beautiful Mind* based on Nash's biography about his mathematical genius and his struggle with schizophrenia. The film was nominated for eight Oscars in the 2001 Academy Awards. Nash had few friends from Princeton, including Mr Sol, Mr Neilson, Mr Henson and his delusional friends were his Princeton roommate Charles Herman, Charlie's niece, Margie and William Parcher (Howard, 2001). Nash was born and raised in the state of West Virginia. He was the son of an electrical engineer John Forbes Nash and Margaret Virginia Martin, an English and Latin teacher. Nash only had one sister, Martha Nash who was born on November 16th, 1930. He was an avid reader of Compton's Pictured Encyclopaedia, Life Magazine, and Time magazine and later had a job at the Bluebird Daily Telegraph (Nasar, 1994).

When Nash was twelve, he was carrying out scientific experiments in his room. It was quite apparent at a young age that he did not like working with other people, preferring to do things alone. " The truth is I don't like people much and they don't like me either" (Howard, 2001). He returned the social rejection of his classmates with practical jokes and intellectual superiority, believing their dances and sports to be a distraction from his experiments and studies (Howard, 2001; Nasar, 1994).

Nash seemed different from other children, in contrast to his sister Martha who seems to have been a normal child, Martha wrote later in life: "Johnny was always different. My parents knew he was different and they also knew he was bright. He always wanted to do things his way. Mother insisted I do things for him, that I include him in my friendships, but I was not too keen on showing off my somewhat odd brother" (Nasar, 1994).

Nash stated that it was E.T. Bell's book, Men of Mathematics in particular, the essay of Fermat that first spurred his interest in mathematics. (Nash-Jr., 1994). He attended classes at Bluefield College while still

in high school. He later attended the Carnegie Institute of Technology (now Carnegie Melton University) in Pittsburgh, Pennsylvania on a Westinghouse scholarship, where he studied first chemical engineering and later chemistry before switching to mathematics. Nash advanced so quickly in mathematics that Carnegie Institute awarded him his Master's degree together with his Bachelor's degree in recognition of his contribution (Howard, 2001; Nasar, 1994). After graduation, Nash took a summer job in White Oak, Maryland, working on a Navy research project.

In 1948, while applying to Princeton's mathematics department, Nash's advisor and former Carnegie Institute professor, R.J. Duffin, wrote a letter of recommendation consisting of a single sentence. "This man is a genius". Harvard University (his first choice because of his perception of the institution's well-renowned prestige and superiority in mathematics) accepted him. However, Nash was aggressively pursued by then chairman of the mathematics department at Princeton University, Solomon Lefschetz, whose offer of the John S. Kennedy fellowship was enough to convince him that Harvard valued him less (Nasar, 1994; Nash-Jr., 1994).Thus, from White Oak he went to Princeton University, where he worked on his equilibrium theory (Nash equilibrium). Nash earned a doctorate in 1950 with a dissertation on non-cooperative games. The thesis, which was written under the supervision of Albert W, Tucker, contained the definition and properties of what would later be called the 'Nash equilibrium'

His most famous work in pure mathematics was the Nash embedding theorem, which showed that any abstract Riemannian manifold can be isometrically realised as a submanifold of Euclidean space. He also made contributions to the theory of nonlinear parabolic partial differential equation (Nasar, 1994).

In 1951, Nash went to the Massachusetts Institute of Technology (MIT) as a C.L.E. Moore Instructor in the mathematics faculty. There, he met Alicia Lopez-Harrison de Larde, a physics student from El Salvador, who he married in February 1957. In 1959, Alicia admitted Nash to a mental hospital for schizophrenia and soon after, their son John Charles Martin Nash, was born but remained nameless for a year because Alicia felt that her husband should have a say in his naming.

Nash and Alicia divorced in 1963, but reunited in 1970, in a non-romantic relationship that resembled that of two unrelated housemates. Alicia referred to him as her "boarder" and said they lived "like two distantly related individuals under the same roof (Nasar, 1994). The couple renewed their relationship after Nash won the Nobel Prize in Economics in 1994 and remarried in June 1st, 2001 (Nasar, 1994).

In terms of his mental health and wellness, Nash began to show signs of schizophrenia in 1958, on the threshold of his career. He became paranoid and was admitted into the Mclean hospital, April-May 1959, where he was diagnosed with paranoid schizophrenia and mild depression with low self-esteem. After a problematic stay in Paris and Geneva, Nash returned to Princeton in 1960. He remained in and out of mental hospitals until 1970, and was given insulin shock therapy and antipsychotic medications, usually as a result of being committed rather that by his choice. After 1970, by his choice, he never took antipsychotic medication again (Howard, 2001; Nasar, 1994; Nash-Jr., 1994). According to Nasar, he recovered gradually with the passage of time. Encouraged by his wife, Alicia, Nash worked in a communitarian setting where his eccentricities were accepted (1994). This is seen as a positive road to recovery because the care provided at a community level, with active family and community involvement contributes significantly to helping the person regain confidence in society (WHO, 2008).

In campus legend, Nash became "The Phantom of Fine Hall" (Fine Hall is Princeton's mathematics centre), a shadowy figure who would scribble arcane equations on blackboards in the middle of the night" (Howard, 2001; Nasar, 1994).

In 1978, Nash was awarded the John von Neumann Theory Prize for his discovery of non-cooperative equilibria, now called Nash equilibria. He won the Leroy P. Steele Prize in 1999 (Nasar, 1994).

In 1994, he received the Nobel Memorial Prize in Economic Sciences (along with two others), as a result of his game theory work as a Princeton graduate student. In the late 1980s, Nash had begun use electronic mail to gradually link with working mathematicians who realised that he "the" John Nash and his new work had value. They formed part of the nucleus of a group that contacted the Bank of Sweden's Nobel award committee, and were able to vouch for Nash's mental health ability to receive the award in recognition of his early work (Nasar, 1994)

Nash's recent work involves ventures in advanced game theory, including partial agency, that show that, as in his early career, he prefers to select his own path and problems. Between 1945 and 1996, he published 23 scientific studies (Nasar, 1994). However, there was one path that had a detrimental effect on his health and wellness: his struggles with schizophrenia.

Schizophrenia is a particular form kind of psychosis characterised mainly by a clear sensorium but a marked thinking disturbance (Katzung, 2001). The term "psychosis" denotes a variety of mental disorders. The schizophrenic disorders are a group of syndromes manifested by massive disruption of thinking, mood, and overall behaviour as well as poor filtering of stimuli. The characterisation and nomenclature of the disorders are quite arbitrary and are influenced by sociocultural factors and schools of psychiatric thought (Macphee et al., 2007).

It is currently believed that the schizophrenic disorders are of multifactorial cause, with generic, environmental, and neurotransmitter pathophysiologic components. At present, there is no laboratory method for confirming the diagnosis of schizophrenia, The pathogenesis of schizophrenia is unknown (Katzung, 2001). There may or may not be a history of a major disruption in the individual's life (failure, loss, physical illness) before gross psychotic deterioration is evident (Macphee et al., 2007).

Schizophrenic symptoms have been classified into positive and negative categories. Positive symptoms include hallucinations, delusions, and formal thought disorders; these symptoms appear to be related to increased dopaminergic activity in the mesolimbic region. Negative symptoms include diminished sociability, restricted affect, and poverty of speech; these symptoms appear to be related to decreased dopaminergic activity in the mesocortical system (Macphee et al., 2007).

Schizophrenia disorders are subdivided on the basis of certain prominent phenomena that are frequently present. *Disorganised (hebephrenic) schizophrenia* is characterised by marked incoherence and incongruous or silly affect. *Catatonic schizophrenia* is distinguished by a marked psychomotor disturbance of either excitement (purposeless and stereotyped) or rigidly with mutism. Infrequently, there may be rapid alternation between excitement and stupor. *Paranoid schizophrenia* includes marked persecutory or grandiose delusions often conconant with hallucinations of similar content and with less marked disorganisation of speech and

behaviour. *Undifferentiated schizophrenia* denotes a category in which symptoms are not specific enough to warrant inclusion of the illness in the other subtypes. Residual schizophrenia is a classification that includes persons who have clearly had an episode warranting a diagnosis of schizophrenia but who at the present have no over psychotic symptoms, although they show milder signs such as social withdrawal, flat affect, and eccentric behaviours (Katzung, 2001; Macphee et al., 2007).

The disability paradox highlights the importance of personal experience with disability in defining the self, one's view of the world, social context and social relationships (Albrecht & Devlieger, 1999). People have negative bias attitudes and expectations towards people with disability. They are often discriminated against their disability, judged that they do not have a high quality of life, view points are disregarded by researchers and loss of their social networks (e.g. friends) which ultimately have negative impacts on their motivation (Albrecht & Devlieger, 1999; Barker, Lavender, & Morant, 2001; Boydell, Gladstone, & Volpe, 2003; Connor & Wilson, 2006). Nash was always different from his peers and many referred to him as a weirdo or psycho. Nash referred to himself as a lone wolf but in fact people did not like him (Howard, 2001). Nash's experience and people's reactions towards him can be seen as counter-productive: Nash was a loner who wanted to mingle with society but did not know how and people were impatient with him and did not know how to be more compassionate and befriend him. Nash's behaviour can be seen as the early stages of schizophrenia and had these people known what to do, perhaps treatment of his illness could have been more effective, a view supported earlier in this essay by the World Health Organisation (2008) (care and support by family and community at the initial stage leads to more effective treatment). Persons with disabilities have significantly more positive attitude towards persons with disabilities as they express willingness to interact and feel empathy for persons with disability (Albrecht & Devlieger, 1999).

As a result of Nash's illness, he adopted unhealthy practices. He worked without food for a long period of time (2 days) and his smoking habits got worse (Howard, 2001). Esterberg & Compton, 2005; Forechuk et al., 2002 stated people with schizophrenia tend to smoke three times more than normal people. Also it affected his physical appearance and the way he walked.

In terms of sexuality, existing literature does not clearly articulate the role of sexuality in the lives of people with schizophrenia despite evidence that intimacy and sexual functioning are important components for individuals with schizophrenia's social functions (Volman & Landeen, 2007). Studies indicate barriers to sexual expression as including lack of self-confidence and self-esteem associated with societal stigma, homelessness, institutionalisation and inadequate sexual education (Cook, 2000).

Nash was appreciative of the trust of his close friends and above all his wife because they listened, provided practical support, and loved him, hence he was open to encouragement and motivated to improve (Lelphart & Barnes, 2005). Nash hated being in the mental hospital because of the influence that medication and the environment which prevented him doing his work (Howard, 2001; Lelphart & Barnes, 2005). Medication had side-effects such as sleepiness and the inability to be as active or motivated as they once were (Boydell et al., 2003).

For the schizophrenic, the discovery and reconstruction of an enduring sense of self through narrative is an important part of improvement and that these narratives can outline ways in which caregivers offer the support needed (Barker et al., 2001). Nash believed that being institutionalised did not help him cope with schizophrenia. He believed that he needed time to figure out what reality was and valued being at home and

cared for by family and the people he loved (Howard, 2001). This (time, homecare and support) is something that is reflected in the mental healthcare policies of many countries which focus on encouraging patients with mental health illnesses to return to the community to live with their families after being treated in either the mental health hospitals or general hospitals with mental health departments (Huang, Sun, Yen, & Fu, 2008). The emphasis has been to reduce the need for hospital provision by developing community-oriented resources such as providing aftercare for these clients through mental health home visiting services which are delivered by public health nurses (Huang et al., 2008; Jones, 2001).

Nash's journey from insanity to sanity was only made possible because of the unconditional support of his wife, Alicia, his determinations to be well, his rejection and hatred of being institutionalised, his passion for his work and the hope of gaining his pre-sickness social norms (Howard, 2001; Nasar, 1994; Nash-Jr., 1994). Recovery from mental illness has emphasised the importance of hope for the people experiencing mental illness (Kelly & Gamble, 2005; Resnick, Rosenheck, & Lehman, 2004). Hope is viewed as a crucial factor in reducing the impact of schizophrenia on individuals and families and enhancing more positive health and psychological outcomes (Bland & Darlington, 2002). Often an increase in the sense of hope may reduce the risk of suicide, increase the likelihood of employment, increase quality of life and reduce psychotic symptoms in people experiencing mental illness (Miller & Happell, 2006). Mental health nurses also encouraged self determination with schizophrenic clients based on moral principal of autonomy (McCann & Clark, 2004). Nash's self-determinations enabled him to overcome the stigmatisation suffering due to schizophrenia (Howard, 2001; Schulze & Angermeyer, 2003).

Once Nash came to terms with his illness, he was embarrassed of it and because of his embarrassment he avoided taking medication in front of his peers and getting involved in community activities (Howard, 2001). Nash experienced the five stages of coping with mental illness which Jensen & Allen (1994) portray. Firstly, *comprehending* (strive to achieve understanding) – Nash's wife knew that he was suffering from schizophrenia and was the influential person in telling him that he did have schizophrenia. Secondly in *Managing* (with the threat of change, real or perceived, the balance of living is altered) – Nash needed to time to figure out what reality was. This is crucial to achieving recovery and a sense of belonging. *Belonging* (struggle to belong) – Nash forced himself to be involved in community activities with the support of his family and friends. *Normalising* (realisation of change) – Nash accepted that he was ill and the illness' impact on his life and his loved ones. This self-acceptance is perhaps the most important step in determining whether he would progress optimistically or relapse into the delusional world. Finally in *valuing* (living involves a sense of guarded optimism) – Nash became optimistic and positive with making better use of his time with research when he realised that a lot of time had been wasted on his delusional experiences (realisation of reality).

Nash can be seen as both a genius and a mad man. However, he came to terms with his illness in a way which many therapists and psychiatrists believe is crucial for an individual learning to cope with schizophrenia (Howard, 2001; Kelly & Gamble, 2005). Nash knew that he was crazy; he saw things that were not there but chose not to acknowledge them. Like diet of the mind, he chose not to indulge certain appetites such as his appetite for patterns and appetite to imagine and dream as it may trigger being delusional (Howard, 2001). As time passed, Nash began to intellectually reject some of the delusional influenced lines of thinking which had been characteristic of his orientation. They began, most recognisably, with the rejection of politically oriented thinking as essentially a hopeless waste of intellectual effort (Nash-Jr., 1994).

The support of Nash's wife Alicia and the few close friends he had were paramount to his recovery and living with schizophrenia. However, it was only his devoted wife's courage, passion, faith, support and love that enabled her to cope with Nash's journey with schizophrenia. In fact without Alicia, Nash would not have survived to experience the recovery that he has (Howard, 2001). This was evident as Nash 's schizophrenia progressed, his social network got smaller and Alicia became the most important person in his life (Jungbauer, Stelling, Dietrich, & Angermeyer, 2004).

Schizophrenia is a major mental illness that has caused serious disturbances for those with the condition and for those who care for them. Schizophrenics have been identified as mentally ill because they inhabit phenomenological worlds that are inaccessible and incomprehensible to non-sufferers (Howard, 2001; Karp & Tanarugsachock, 2000). This is an extensive burden carried by the carers of people with schizophrenia (Huang et al., 2008). Alicia had used cognitive coping strategies with her caring for Nash by having positive thinking in attempting to accept Nash's illness rather than denying that it existed and to understand the life experiences of a person with schizophrenia (Howard, 2001; Huang et al., 2008).

She also acquired knowledge and information about schizophrenia and how to best care for the patients. Alicia also used social coping strategies by keeping close relationships and friendships of Nash's close friends who would do anything to help his recovery (Howard, 2001; Huang et al., 2008; Jensen & Allen, 1994). Much attention has been given to understanding the burdens faced by carers, with the hope of understanding how coping resources can be strengthened to sustain care-giving responsibility. Understanding the dynamics of care-giving is essential to providing effective support to individuals and families living with serious mental illness (Huang et al., 2008).

At times Alicia was frustrated with Nash's condition and often had negative emotions of anger and resentment and communication was always a problem as the length of meaningful conversation with the mentally ill is often short circuit (Karp & Tanarugsachock, 2000). However, it is hope, guilt, obligation and love that keep her going. She commented that "I think often what I feel is obligation or guilt over wanting to leave. Rage against John, against God, but then I looked at him and forced myself to see the man I married and he becomes that man who I love and I transform to someone who loves him" (Howard, 2001).

As Huang et al., (2008); Karp & Tanarugsachock, (2000) stated, families whose member(s) suffer from schizophrenia have psychological distress and behavioural problems which are important factors that contribute to family dysfunction. Also, it's more challenging when caring for mentally ill individuals because physically ill people (with no mental problems) are ordinarily deeply involved in getting well and getting back to their pre-sickness social roles. In contrast, mentally ill people often cannot abide by the usual rules of social settings, engaged in socially repugnant behaviours, deny they are ill and frequently treat their caregivers with hostility (Karp & Tanarugsachock, 2000). Hence, family members are significantly distressed as a result of having a family member with schizophrenia (Huang et al., 2008).

In terms of scholarship, not much research and literature outline similar experiences that Nash has had with his recovery. Howard (2001) stated that it's about a 25% chance, that survivors of schizophrenia can regain clarity as Nash did within a certain time period. However, many people simply do not survive that period because of suicide, accidents and illnesses brought on by improper care. The support of Nash's wife Alicia and the few close friends he had were paramount to his recovery and living with schizophrenia.

In conclusion, schizophrenia is a horrific illness which causes hallucination and paranoia in people which lead to suicide, accident and poor quality of life. It brings about challenges for medical practitioners because very little is known about its pathogenesis. Only a small number of schizophrenic sufferers survive the impact of the illness and only a smaller number of the survivors regain clarity.

Schizophrenia brought burden on both the sufferers and their carers in terms of dealing with emotions, frustrations, communication difficulties, side-effects of medication, discrimination, loss of social networks and stigmatisation, unhealthy eating habits, increase in smoking, to mention a few. However, the movie, A Beautiful Mind, biography and autobiography of Nash clearly state that self-determination, passion, courage, hope and love, help carers and sufferers understand the lives of those with schizophrenia and how to cope (sufferers) and provide support (carers).Often what is needed by people with schizophrenia is time to deal with it and to figure out what reality is.

Nash knew that he owed his wife Alicia for the unconditional love and support which only made his journey from insanity to sanity a triumph. Hence, his dedication of his achievements to Alicia in his speech at the Nobel Prize Ceremony, Stockholm, Sweden, December, 1994 said that "I've always believed in numbers. In the equations and logics that lead to reason. But after a lifetime of such pursuits, I asked, what truly is logic? Who decides reasons? My quest has taken me through the physical, the metaphysical, the delusional, and back. And I have made the most important discovery of my career, the most important discovery of my life. That, it is only in the mysterious equations of love, that any logical reasons can be found. I am only here tonight, because of my wife. She is the reason I am, she is all my reasons" (Howard, 2001).

In sum, Nash was self-medicated through the support of his wife Alicia, his own determination and self discovery of what is real and what is not real enabled him to successfully deal with schizophrenia.

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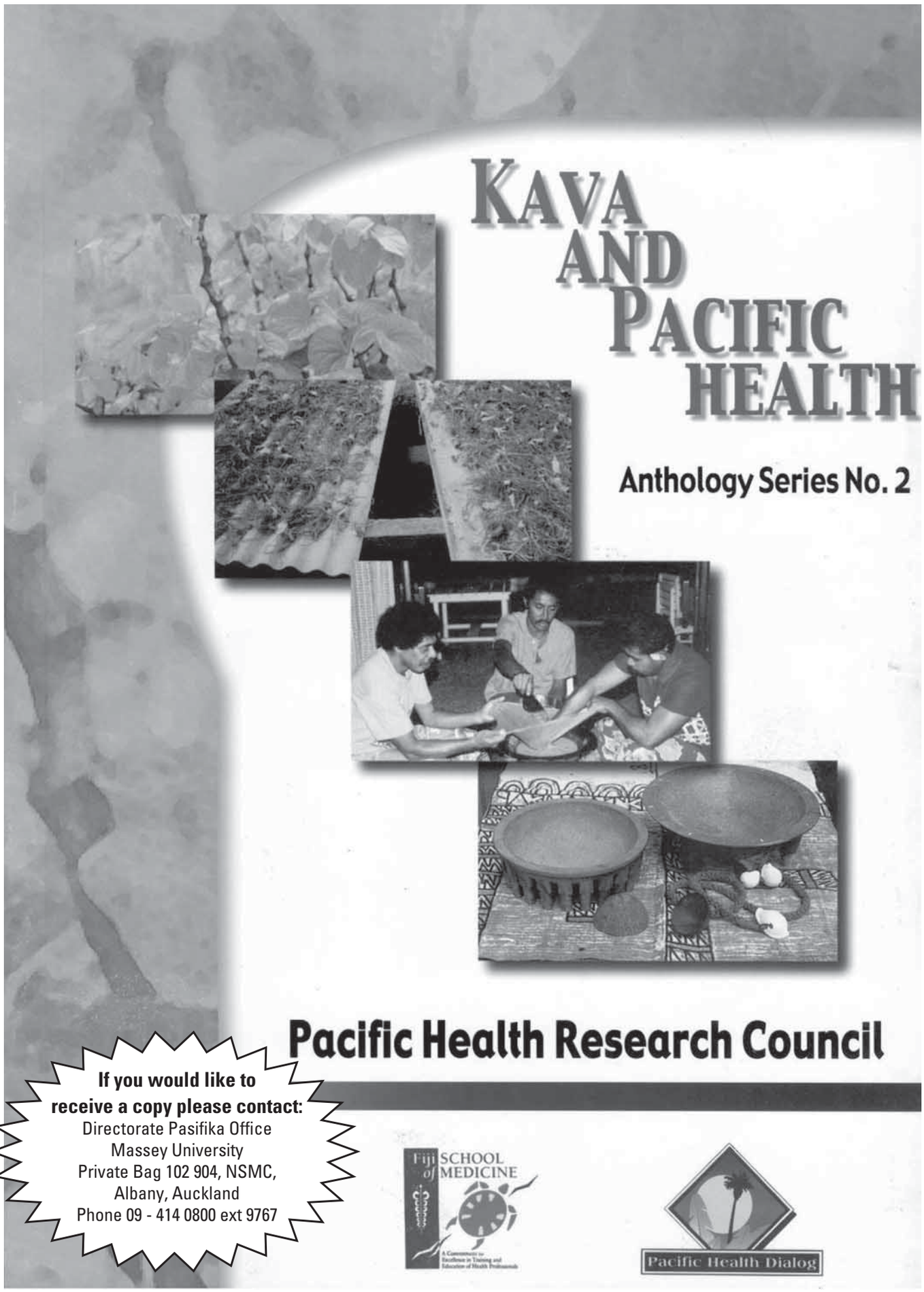
"Challenges are what make life interesting; overcoming them is what makes life meaningful."

Joshua Marine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