

Dissertation title: An exploration of the role the night sky plays in the lives of the Dark Sky island community of Sark

Name: Ada Blair

Student number: 30001073

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Name. Ada Blair.....

Date. 24/08/2014.....

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Name. Ada Blair

Date. 24/08/2014

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Abstract

This research project is an exploration of the role the night sky plays in the lives of the Dark Sky island community of Sark in the Channel Islands using the qualitative method of intuitive inquiry. The fields of ecopsychology and environmental psychology look at how encounters with nature may be beneficial and transformative but focus on 'green'/grounded nature rather than encounters with the sky. Also, Dark Sky supporters claim dark skies enhance wellbeing but do not cite any supporting research. The research question was addressed through exploring the following themes: the human desire to see the night sky, the commercialisation of this desire through astronomical tourism, the nature of nature, fear of the dark, and nature and wellbeing. Data was gathered in March 2014 through a series of eight semi-structured interviews and a focus group on Sark, and e-mail comments from three further participants. In addition, relevant entries from the researcher's reflexive journal kept during the research process are included. Research findings show a high level of enjoyment and value placed on observing the night sky with others and this facilitating family/community connection, the transmission of sky stories to others, the widespread belief that observing the night sky spontaneously or intentionally results in positive (and sometimes transformative) feelings, the common experience of the night sky evoking childhood sky memories, a universal fearlessness of the dark and a sense that as there is often no visible horizon, there is no differentiation between sky and land and sky and land appear as one. The research therefore has begun to address the missing sky factor within the fields of ecopsychology and health and environmental psychology. The findings can potentially be used to strengthen the Dark Skies movement's claims that dark night skies can impact positively on wellbeing.

Acknowledgements

This dissertation would not have emerged from darkness into the light of day without the support of the following: the people of Sark who participated in this research and gave generously of their time, Alex White, my dear friend and my 'man on Sark', Bernadette Brady, my dissertation supervisor and guiding light, and Chris Barry, my partner in life and my fixed star.

Chapter 1 – Introduction

1.1 Introduction

This dissertation is a qualitative research project into the role that the night sky plays in relation to the Dark Sky island community of Sark. Nicholas Campion states there is no society that, ‘does not express at least some fascination with the sky’.¹ Also, in contrast to many other areas designated as Dark Sky Places, Paul Bogard notes, ‘what makes Sark especially compelling is that people actually live there’.² I have visited Sark on a number of occasions, have always felt a sense of wonder and wellbeing when out at night and was curious as to whether other people experienced similar feelings. The research data was primarily gathered by conducting a series of semi-structured interviews and a focus group on Sark. In addition, relevant entries from my own reflexive journal kept during the research process are included.

Sark is the smallest of the four main Channel Islands, located eighty miles south of the English coast with an area of five and a half square kilometres. It is a royal fief in the Bailiwick of Guernsey, a Crown Dependency with its own set of laws based on Norman law and has its own parliament. It is neither part of the United Kingdom nor the European Union. Sark has two churches; it is attached to the Anglican diocese of Winchester and also has a Methodist congregation. The island has a population of approximately 650 residents of mixed age and attracts around 40,000 visitors each year, predominantly between May to September. All cars and vehicles other than tractors are banned and people get around by bike or on foot. There are no public street lights therefore Sark is an environment where celestial bodies and sky features are particularly visible at night. In January 2011, after an application process, the International Dark-Sky Association (IDA) designated Sark as a Dark Sky Community and the world’s first Dark Sky island. Becoming a Dark Sky Community requires that community to demonstrate, ‘exceptional dedication to the preservation of the night sky through the implementation and enforcement of quality lighting codes, dark sky education, and citizen support of dark skies’.³ In a letter

¹ Nicholas Campion, *Astrology and cosmology in the world’s religions* (New York and London: New York University Press, 2013), p.1, [hereafter, Campion, *Astrology and cosmology*].

² Paul Bogard, *The end of night: Searching for natural darkness in an age of artificial light* (London: Fourth Estate, 2013), p. 185, [hereafter, Bogard, *End of night*].

³ International Dark-Sky Association, About IDA [online]. Available: <http://www.darksky.org/international-dark-sky-places/about-ids-places/communities> [accessed: May 17 2014], [hereafter, IDA, *About IDA*].

supporting Sark's application for Dark Sky status, the President of the Sark Chamber of Commerce, Peter Tonks, notes the Chamber is, 'very much aware of the value of our night sky as an attraction for tourism'.⁴

1.2 Focus of study

The academic rationale for this research can be found within the fields of ecopsychology, health and environmental psychology, and cultural astronomy. Although a number of ecopsychologists and environmentalists have postulated that encounters with nature and the promotion of a human-nature connection may be transformative and beneficial to the wellbeing of individuals and communities, the focus is usually on 'green'/earth-bound nature rather than encounters with the sky.⁵ In addition, some scholars have attempted to not only describe but also measure the transpersonal dimensions to nature experiences such as feelings of identifying with the environment, of oneness and unity, changes in perception of time while in a natural location and changes in personality as a result of peak and transformative experiences.⁶ Some individuals associated with the Dark Sky movement have however suggested observing the night sky with the naked-eye may also result in similar transformative and beneficial effects.⁷

Definitions of 'nature' within the fields of ecopsychology and health and environmental psychology do not usually make specific mention of celestial bodies and sky features, the sky is not considered to be part of nature. This missing sky factor is illustrated by Peter Kahn and Stephen Kellert's description of nature as

⁴ Peter Tonks, Sark Dark Sky Community: A Dark Sky Island [online]. Available: <http://www.darksky.org/assets/documents/dark%20sky%20community%20application.pdf> [accessed: Mar 2 2014], [hereafter, Tonks, Sark].

⁵ *Ecopsychology. Restoring the earth. Healing the mind*, eds Theodore Roszak, Mary E. Gomes and Allen D. Kanner (San Francisco: Sierra Club Books, 1995), [hereafter, Roszak et al., *Ecopsychology*], Terry Hartig, Marlis Mang and Gary W. Evans, 'Restorative effects of natural environment experiences'. *Environment and Behavior*, vol. 23 (1): (1991) 3-26, [hereafter, Hartig et al, *Restorative Effects*], Rachel Kaplan and Stephen Kaplan, *The experience of nature: a psychological perspective* (Cambridge: Cambridge University Press, 1989), [hereafter, R. Kaplan and S. Kaplan, *Experience of nature*], Roger S. Ulrich, 'Aesthetic and affective response to natural environment', in *Human behavior and environment: advances in theory and research. Vol. 6: Behavior and the natural environment*, eds I. Altman and J.F. Wohlwill (New York: Plenum Press, 1983), [hereafter, Ulrich, *Aesthetic and affective response*].

⁶ Freya Mathews, *The ecological self* (London: Routledge, 1991), p. 162, [hereafter, Mathews, *Ecological self*], K. Williams and D. Harvey, 'Transcendent experience in forest environments'. *Journal of Environmental Psychology*, vol. 21 (3): (2001), 249-60, [hereafter, Williams and Harvey, *Transcendent*].

⁷ Bogard, *End of night*, Julie James, Fifth International Dark Sky Reserve Designated in Wales [online]. Available: <http://www.darksky.org/night-sky-conservation/283> [accessed: Oct 29 2013], [hereafter, James, *Dark sky reserve*].

comprising, 'plants, objects (such as rocks), events (such as storms), and of course animals', Linda Seymour's classification of nature as, 'soils as well as plants and animals and their supporting habitats' and Claudia Mausner's 'kaleidoscope' method of categorising natural environments into subcategories of 'totally natural', 'civilised natural', 'quasi-natural', semi-natural' and 'non-natural'.⁸ However the IDA, founded in 1988 with a mission to protect dark night skies and the associated cultural heritage, considers the sky to be, 'one half of the entire planet's natural environment'.⁹

Since the 1980s, as naked-eye astronomers have become increasingly aware of the negative effects of nocturnal sky glow particularly in urban areas, other local, national and international campaigns and organisations such as the Starlight Initiative and The World at Night (TWAN) have emerged to attempt to reduce light pollution and improve views of the stars.¹⁰ Although the IDA emphasises the importance of preserving culture and heritage stating, 'a lost view of the stars extinguishes a connection with the natural world', its literature, and that of other Dark Sky initiatives, suggests their focus of interest is primarily on encouraging the use of environmentally responsible outdoor lighting.¹¹ Little attention appears to be paid as to how exactly culture and heritage can be preserved and the potential positive impacts on human wellbeing of doing so. The IDA however recently commissioned an article from Bogard on the night sky's inspiration and influence in literature which, to date, has not yet been published.¹²

Although there is a large amount of literature that talks about the value of dark skies there is a lack of any research. Two exceptions to this deficit in research are firstly, the growing body of empirical work devoted to the negative impact of light at night on

⁸ Peter Kahn and Stephen Kellert, *Children and nature: Psychological, sociocultural, and evolutionary investigations* (Cambridge, MA: MIT Press, 2002), p. xiii, [hereafter, Kahn and Kellert, *Children*], Linda Seymour, *Nature and psychological wellbeing. English Nature Research Report Number 533* (Peterborough: English Nature, 2003), p. 7, [hereafter, Seymour, *Nature*], Claudia Mausner, 'A kaleidoscope model: defining natural environments'. *Journal of Environmental Psychology*, vol. 16 (4): (1996), 335-348, [hereafter, Mausner, *Kaleidoscope*].

⁹ International Dark-Sky Association, What we do [online]. Available: <http://www.darksky.org/about-ida> [accessed Jan 7 2014], [hereafter, IDA, *What we do*].

¹⁰ IDA, *What we do*, Starlight Initiative, Welcome to the Starlight Universe [online]. Available: <http://www.starlight2007.net/> [accessed Feb 9 2014].

¹¹ IDA, *What we do*.

¹² Harper Collins, Paul Bogard [online]. Available: <http://www.harpercollins.co.uk/authors/11241/paul-bogard> [accessed: Jan 25 2014].

human health, and secondly, research concerned with the effects of light pollution on the behavioural patterns and safety of nocturnal animals.¹³ Dark sky supporters such as Julie James, Chair of Brecon Beacons National Park Authority, claim that there are, ‘wellbeing benefits attached to this wonderful accolade, (*attaining International Dark Sky Reserve status*)’, but also does not cite any supporting research.¹⁴ My research therefore will begin to address this gap in the field.

1.3 Research aim and objectives

The overall aim of this research is to investigate the role that the night sky plays in relation to the Dark Sky island community of Sark. This will be done through exploring the following themes: the human desire to see the night sky, the commercialisation of this desire through astronomical tourism, the nature of nature, fear of the dark and nature and wellbeing. The methodology employed will be discussed in Chapter 3.

1.4 Outline structure

The overall structure of this dissertation takes the form of five chapters:

This chapter provides background information on the role that the night sky plays in relation to the Dark Sky island community of Sark. The focus of the research is discussed and justified and the overall research aim and research objectives are identified.

Chapter 2 - Literature review. This chapter looks at the main themes of the research question: the human desire to see the night sky, the commercialisation of this desire

¹³ David Blask, George Brainard, Ronald Gibbons, Steven Lockley, Richard Stevens, and Mario Motta, ‘Adverse Health Effects of Nighttime Lighting. Comments on American Medical Association Policy Statement’. *American Journal of Preventive Medicine*, vol. 45 (3): (2013), 343-46, Michele Blackburn, Curtis Burney and Louis Fisher, *Management of Hatchling Misorientation on Urban Beaches of Broward County, Florida: Effects of Lighting Ordinances and Decreased Nest Relocation* (Florida, Broward County: Environmental Protection Department, 2007), Franz Hölker, Timothy Moss, Barbara Griefahn, Werner Kloas, Christian C. Voigt, Dietrich Henckel, Andreas Hänel, Peter M. Kappeler, Stephan Völker, Axel Schwoppe, Steffen Franke, Dirk Uhrlandt, Jürgen Fischer, Reinhard Klenke, Christian Wolter, and Klement Tockner, ‘The Dark Side of Light: A Transdisciplinary Research Agenda for Light Pollution Policy’. *Ecology and Society*, vol. 15 (4): (2010), A13, Charlotte Bruce-White and Matt Shardlow, *A Review of the Impact of Artificial Light on Invertebrates* (Peterborough: Buglife - The Invertebrate Conservation Trust, 2011), The Royal Commission on Environmental Pollution, *Artificial Light in the Environment* (London: TSO (The Stationery Office), 2009), Angela Spivey, ‘Light at Night and Breast Cancer Risk Worldwide’. *Environmental Health Perspectives*, vol. 118 (12): (2010), A525.

¹⁴ James, *Dark sky reserve*.

through astronomical tourism, the nature of nature, fear of the dark and nature and wellbeing as they appear in relevant scholarly literature in the fields of ecopsychology, health and environmental psychology, and cultural astronomy.

Chapter 3 - Research methodology. This chapter gives information on the particular research strategy chosen in order to address the research issue, together with the methods chosen for collection of the data for analysis and limitations and problems encountered.

Chapter 4 - Results and discussion. This chapter presents the findings of the research, focusing on the key themes that have been identified in the analysis. It then goes on to analyse the data from the interviews, focus group discussion and e-mails. In addition, relevant material from my reflexive journal will be included.

Chapter 5 - Conclusion. This chapter draw conclusions about the research question and research aim and areas for further research are highlighted. It also includes reflexive comments on my experience of conducting the research.

Chapter 2 - Literature review

2.1 Introduction

This chapter looks at the main themes of the research question: the human desire to see the night sky, the commercialisation of this desire through astronomical tourism, the nature of nature, fear of the dark and nature and wellbeing as they appear in relevant scholarly literature in the fields of ecopsychology, health and environmental psychology, and cultural astronomy. As noted earlier, although some ecopsychologists and environmentalists have suggested encounters with nature may be beneficial and transformative to the wellbeing of individuals and communities, the emphasis is often on 'green'/earth-bound nature with the sky not given consideration. Others have however suggested that observing the night sky may also bring benefits and be transformative. This review therefore, will consider theoretical and empirical works which suggest having a connection with nature may be valuable. Works which explore the long-standing fascination humankind has with the night sky, including personal testimony, will also be reviewed. All references to the wonders of the night sky are based on naked-eye astronomy.

2.2 The human desire to see the night sky

Every culture appears to have paid attention to the sky and as Campion remarks, 'there is no human society that does not, somehow, in some way, relate its fears, concerns, hopes, and wishes to the sky'.¹⁵ The enduring desire to observe the night sky is fostered by organisations such as, 'For Spacious Skies', whose founder Jack Borden observes, 'when you realize that everyone is in the sky instead of under it, as many people perceive themselves, you get a stronger sense of connectedness'.¹⁶ Appreciating the night sky may also be a means of connecting profoundly with the past, as for example when Joe Slovic, speaking of Native Americans, describes experiencing, 'the very same view of the sky that was seen by the Chacoans a

¹⁵ Campion, *Astrology and cosmology*, p. 1.

¹⁶ Jack Borden, For a new view of the world: Sky walk [online]. Available: <http://www.prevention.com/fitness/fitness-tips/reduce-stress-sky-walking> [accessed: Dec 23 2013], [hereafter, Borden, *A new view*].

thousand years ago'.¹⁷ Yet with increasing light pollution worldwide, this experience is becoming much less common for many people, particularly in North America and western Europe.¹⁸

Appreciation of the night sky may also lead to a more intense attachment to it. The concept of *noctcaelador*, strong interest in, and attachment to, the night sky, was investigated by William Kelly who developed the *Noctcaelador* Index in an attempt to measure individual differences in people's psychological attachment to the night sky; higher scores indicate a stronger attachment and interest.¹⁹ Research was conducted with 150 US college students who were asked how regularly they intentionally looked at the night sky and to what extent opportunities to see the night sky would influence decisions in choosing where they might live, miss sleep before an exam, and any memories they had of watching the night sky in childhood. Kelly concluded *noctcaelador* does influence night-sky watching behaviours and attitudes, those who felt an attachment to the night sky chose to do so over other behaviours.²⁰ In a study of sky knowledge around the world, Jarita Holbrook employed the *Noctcaelador* Index to examine whether increasing light pollution might be a factor in the apparent decline in knowledge about the night sky, and, in addition, if this appreciation and knowledge is declining because people generally now spend more time indoors at night.²¹ In a survey of 100 people who had been brought up in a variety of physical environments, despite Holbrook's expectation that those raised in less light-polluted environments would record higher scores on the Index, (thereby suggesting a stronger psychological attachment to the night sky), results were not statistically significant.²² Further research is needed therefore of the Index's validity,

¹⁷ Joe Slovick, Towards an appreciation of the dark night sky [online]. Available: <http://www.georgewright.org/184sovick.pdf> [accessed: March 2 2014], [hereafter, Slovick, *Towards an appreciation*].

¹⁸ Increasing light pollution- What is it and why is it important to know? [online]. Available: <http://www.darkskiesawareness.org/faq-what-is-lp.php> [accessed: Mar 4 2014].

¹⁹ William E. Kelly, 'Development of an instrument to measure *noctcaelador*: Psychological attachment to the night-sky'. *College Student Journal*, vol. 38 (1): (2004), 100-02, [hereafter, Kelly, *Development*], William E. Kelly, 'Night-sky watching attitudes among college students: A preliminary investigation'. *College Student Journal*, vol. 37 (2): (2003), 194-96, William E. Kelly, and Kathryn E. Kelly, 'Further identification of *noctcaelador*: An underlying factor influencing night-sky watching behaviors'. *Psychology and Education: An Interdisciplinary Journal*, vol. 40 (3-4): (2003), 26-27.

²⁰ Kelly, *Development*, p. 102.

²¹ Jarita Holbrook, *Sky knowledge, celestial names, and light pollution* (Unpublished MS, University of Arizona, 2009), [hereafter, Holbrook, *Sky knowledge*].

²² Holbrook, *Sky knowledge*, pp. 3-4.

perhaps, as Kelly and Jason Batey suggest, incorporating not only self-reporting but also observable behaviours to further describe how this attachment to the night sky may manifest.²³

With regard to stories, myths and meaning pertaining to the night sky, Anthony Aveni comments that our ancestors used their imagination to, 'mould a wonderful poetic imagery about themselves and their relationship to the universe'.²⁴ John D. Barrow also observes many of the myths generated are, 'often attempts to join the heavens and the Earth'.²⁵ Those myths may therefore be considered to parallel some of the material from ecopsychology (described later in this chapter) in the sense that the sky is considered to be part of nature and connection with it seen as valuable. As Campion notes, beliefs and stories about the sky are universal amongst the world's religions.²⁶ The particular meaning an individual or community may accord what is seen in the sky is, as Clive Ruggles and Nicholas Saunders suggest, 'as much a cultural as an astronomical one'.²⁷ 'Aveni showed by considering the !Kung, and Muris hunter-gatherers of Africa, the Polynesian sailors of the Pacific, and the Pawnee and Inca people of the Americas that these disparate groups all had strong and varying relationships with the sky.'²⁸ Similarly, Ruggles and Saunders, in an exploration of the ancient astronomies found in Africa, Asia and Central America, demonstrate the great variety of astronomical practices found in those areas.²⁹ From an archaeo-astronomical perspective, Edwin C. Krupp's study focuses on various alignments found in megalithic sites in Europe, the Near East, and North and South America, and explores how observing the sky played a role in the cultural evolution of those peoples.³⁰

²³ William E. Kelly and Jason Batey, 'Criterion-group validity of the *noctcaelador* inventory: Differences between astronomical society members and controls'. *Individual Differences Research*, vol. 3(3): (2005), 200-03, p. 202, [hereafter, Kelly and Batey, *Criterion-group validity*].

²⁴ Anthony Aveni, *Conversing with the planets: how science and myth invented the cosmos* (Colorado: University Press of Colorado, 2002), p. xiii, [hereafter, Aveni, *Conversing*].

²⁵ John D. Barrow, *The artful universe* (Oxford: Clarendon Press, 1995), pp. 142-43.

²⁶ Campion, *Astrology and cosmology*, p.1.

²⁷ Clive Ruggles and Nicholas Saunders, 'The study of cultural astronomy', in *Astronomies and cultures*, eds Clive Ruggles and Nicolas Saunders (Niwot CA: University Press of Colorado, 1993), p.1, [hereafter, Ruggles and Saunders, *Astronomies and cultures*].

²⁸ Anthony Aveni, *People and the sky: Our ancestors and the cosmos* (London: Thames and Hudson, 2008).

²⁹ Ruggles and Saunders, *Astronomies and cultures*.

³⁰ Edwin C. Krupp, *Echoes of the ancient skies: The astronomy of lost civilizations* (New York: Dover Publications, 2003).

Sometimes sky stories may be shared across different cultures separated by millennia, for example, as Campion notes, in the depiction of the constellation of Taurus the Bull, seen in the Palaeolithic cave paintings at Lascaux and later the Bull as it appears in the mythology of the Babylonians.³¹ Moreover, without personal experience of observing certain sky features, some cultural references and stories may be missed or not understood. Slovic considers that to understand the references in an American folksong written by fugitive slaves in the nineteenth century, 'de river ends atween two hills, follow de drinkin' gou'd' one needs to know that at that time the Dig Dipper was likened to a drinking gourd and that for those slaves going north meant freedom.³²

Experiences of the sky are also recorded in the form of personal testimony and there is a growing body of literature describing individuals' appreciation of the night sky. Much of this recent testimony focuses on the emotional impact of stargazing, for example Bogard's own stories, and those of others he has collected, many of which mourn the loss of 'real night' due to increasing light pollution.³³ Whilst the increasing loss of visible stars in the *Pleiades* is likened by Michael P. Branch to loss of a species, Christina Robertson describes the actual loss of certain bird species due to artificial lighting.³⁴ Such testimonies celebrating dark skies may be seen as Bogard urges as, 'an urgent call to action', offering another source of backing for the Dark Sky movement.³⁵

Furthermore, the growing Dark Sky movement, with the IDA as its' main proponent, can be considered as fostering the human desire to see the night sky in practical ways through raising awareness on light pollution and developing a conservation programme for Dark Sky places.³⁶ The movement can thus be viewed as both sitting within, and a development of, the 'preservationism' stream of the environmentalism

³¹ Nicholas Campion, *A history of western astrology. Volume 1: The ancient and classical worlds* (London: Continuum Books, 2008), p.14.

³² Slovic, *Towards an appreciation*, John A. Lomax and Alan Lomax, *American ballads and folk songs* (New York: Dover Publications, 1994), p. 228.

³³ Paul Bogard, *Let there be night: Testimony on behalf of the dark* (Nevada: University of Nevada Press, 2008), p. 2, [hereafter, Bogard, *Let there be night*], Bogard, *End of night*.

³⁴ Michael P. Branch, 'Ladder to the Pleiades', in Bogard, *Let there be night*, p. 83, Christina Robertson, 'Circadian heart', in Bogard, *Let there be night*, pp. 175-76.

³⁵ Bogard, *Let there be night*, p. 6.

³⁶ IDA, *About IDA*.

movement which, as Robyn Eckersley notes, encourages conservation of large areas of wilderness.³⁷ Literature on the Dark Sky movement itself is in its infancy as the movement only commenced in 1988.³⁸ Studies conducted thus far by the movement, or on its behalf, focus almost exclusively on the effects of light pollution on wildlife and humans and outdoor light design and control.³⁹ One study however, by Daniel Brown, carried out within the field of higher education on place-based learning, explores the possibility of increased sustainable behaviour regarding light pollution with the Peak District Dark Sky Group.⁴⁰ He concludes that this type of learning can lead to transformed behaviours.⁴¹ The benefits to humankind of preserving dark skies is referred to in the objectives of the Starlight Initiative which encourages, 'defence of the values associated with the night sky and the general right to observe the stars'.⁴² There is no information given by the Initiative however as to what those values might be other than the, 'material and intangible cultural heritage associated with astronomy'.⁴³ Although claims are made by various organisations as to the benefits to wellbeing of living under dark skies, there appears to be no supporting evidence given.⁴⁴ Similarly the Starlight Initiative states a sky free of light pollution has, 'an impact on the development of all peoples' but does not specify what that impact might be.⁴⁵

³⁷ Robyn Eckersley, *Environmentalism and political theory. Towards an ecocentric approach* (London: UCL Press Limited, 1992), [hereafter, Eckersley, *Environmentalism*], p. 39.

³⁸ IDA, *About IDA*.

³⁹ *Ecological consequences of artificial night lighting*, eds C. Rich and T. Longcore (Washington, DC: Island Press, 2006), [hereafter, Rich and Longcore, *Ecological consequences*].

⁴⁰ Daniel Brown, *How can Higher Education Support Education for Sustainable Development? What can Critical Place-Based Learning Offer?* [Unpublished MS, University of Nottingham, 2013], [hereafter, Brown, *Higher Education*].

⁴¹ Brown, *Higher Education*, p. 68.

⁴² The Starlight Initiative, Objectives of the Starlight Initiative [online]. Available: http://www.starlight2007.net/index.php?option=com_content&view=article&id=199&Itemid=81&lang=en [accessed: Nov 23 2013], [hereafter, Starlight Initiative, *Objectives*].

⁴³ The Starlight Initiative, *Objectives*.

⁴⁴ James, *Dark sky reserve*.

⁴⁵ *StarLight: Declaration in defence of the night sky and the right to starlight (La Palma Declaration)*, International conference in defence of the quality of the night sky and the right to observe the stars, La Palma, Canary Islands, Spain, (April 19-20 2007), eds Cipriano Marín and Jafar Jafari (La Palma: Starlight Initiative, 2007), p.3.

2.3 The commercialisation of this desire

Turning now to astronomical tourism, there are a variety of opinions expressed in the literature as to the reasons behind such tourism and the gains it may bring to individuals and communities. Arguably, astronomical tourism may be fuelled by *noctcaelador* or perhaps simply a desire to view the stars in less light polluted-areas. Kevindran Govender illustrates how there can also be socio-economic benefits to a community, particularly one that is isolated, and gives as an example South Africa's investment in the Southern African Large Telescope (SALT) which stimulated the country's economy, created jobs and boosted tourism.⁴⁶ Furthermore, the educative aspects of astronomical tourism, the opportunities visitors get to learn about the importance of maintaining dark skies, is considered particularly important by Frederick M. Collison and Kevin Poe as they suggest it may lead to visitors implementing changes at their home and workplace to reduce the impact of artificial lighting and engaging more with astronomical activities.⁴⁷ As mentioned previously in Chapter 1, Sark's Chamber of Commerce sees the night sky as a tourism asset.⁴⁸ There is no mention in the literature however of the potential drawbacks for small communities such as Sark, for example the costs of changing outdoor lighting and potential loss of privacy or pressure to change a way of life to accommodate the demands of tourists. An exception to this gap in the literature is the point made by David B. Kopel and Michael Loatman in a report on US Dark Sky ordinances, namely that some people may be fearful of the dark in some way and may not therefore welcome dark skies being preserved to encourage tourism.⁴⁹

⁴⁶ Kevindran Govender, Astronomy can foster development [online]. Available: <http://www.scidev.net/global/opinion/astronomy-can-foster-development-1.html> [accessed: Jan 18 2014], [hereafter, Govender, *Astronomy*].

⁴⁷ Frederick M. Collison and Kevin Poe, 'Astronomical tourism: The astronomy and Dark Sky program at Bryce Canyon National Park'. *Tourism Management Perspectives*, vol. 7: (2013), 1-15.

⁴⁸ Tonks, *Sark*.

⁴⁹ David B. Kopel and Michael Loatman, Dark Sky ordinances: How to separate the light from the darkness (Colorado: Independence Institute, 2006) [online]. Available: <http://www.davekopel.com/env/DarkSkies.pdf> [accessed: Feb 23 2014], pp. 8-9, [hereafter, Kopel and Loatman, *Dark sky*].

2.4 Fear of the dark

It cannot be assumed that darkness is universally appreciated and indeed both darkness and illumination may, as Tim Edensor suggests be, 'loaded with contested values' as, 'what is for some a scene of safety and cheeriness, might for astronomers testify to the dilution, even disappearance of the nocturnal celestial sky'.⁵⁰ Perhaps prehistoric people, as A. Roger Ekirch speculates, felt profound fear, 'amid the gathering darkness and cold' because they could not be sure the sun would return.⁵¹ The symbolic role darkness played, particularly in medieval religious societies may represent, according to J. Galinier et al., 'pagan obscurantism - deviancy, monstrosity, diabolism'.⁵² Darkness therefore often appears to have been seen, not only as something to be feared, but something potentially evil. Many of us probably recall childhood fears of monsters under the bed. More recently, Kopel and Loatman caution against, 'excessively severe Dark Sky laws', suggesting some individuals may resist giving up particular types of lighting for fear of increased crime or loss of privacy.⁵³ The argument that dark skies could be detrimental to human wellbeing and safety is however disclaimed by the IDA who contest that outdoor night-time lighting does not necessarily prevent crime.⁵⁴ Similarly, a report by Stephen Atkins et al. found increased street lighting had little or no effect on crime.⁵⁵

Turning now to the attributes of darkness, Edensor comments darkness is, 'not synonymous with superstition, murky thoughts and illicit behaviour but replete with generative potentialities and affective possibilities'.⁵⁶ This sense of darkness as being positively transformative is echoed by Shepherd Bliss who sees darkness as

⁵⁰ Tim Edensor, *The gloomy city: Rethinking the relationship between light and dark* [online]. Available: <http://usj.sagepub.com/content/early/2013/09/24/0042098013504009.full>, p.11 [accessed: Mar 14 2014], [hereafter, Edensor, *Gloomy city*].

⁵¹ A. Roger Ekirch, *At day's close: night in times past* [online]. Available: <http://www.amazon.com/At-Days-Close-Night-Times-ebook/dp/B007HXFT2C> [accessed: Mar 14 2014], (hereafter, Ekirch, *At day's close*)

⁵² J. Galinier, A. Becquelin, G. Bordin, L. Fontaine, A. Monod, F. Fourmaux, J. Rouillet Ponce, P. Salzarulo, P. Simonnot, M. Therrien and I. Zilli, 'Anthropology of the night: cross-disciplinary investigations'. *Current Anthropology*, vol. 51 (6): (2010), 819-47, p. 820, [hereafter, Galinier et al., *Anthropology of the night*].

⁵³ Kopel and Loatman, *Dark sky*, p. 1.

⁵⁴ International Dark-Sky Association, *Lighting and crime. Information sheet no. 51* [online]. Available: <http://www.darksky.org/assets/documents/is051.pdf> [accessed Nov 29 2013].

⁵⁵ Stephen Atkins, Sohail Husain and Angele Storey, *The influence of street lighting on crime and fear of crime. Crime Prevention Unit Paper No. 28* (London: Home Office, 1991).

⁵⁶ Edensor, *Gloomy city*, p. 13.

an, ‘underappreciated force for healing’.⁵⁷ Watching the moon’s rays he describes disconnecting from his problems and placing himself, ‘within the larger context of the earth’s bounty’.⁵⁸ Both Edensor and Bliss appear to be advocating that contrary to what our primitive survival mechanisms may indicate, darkness can be appreciated and welcomed.⁵⁹ William Sheehan goes further and suggests fear of darkness, and for some the excitement that goes with that, may account for *noctcaelador*, perhaps because there is a desire to reproduce the ‘thrill’.⁶⁰ Also, the opportunity that darkness gives of cultivating closer connections with the natural world is suggested by Kathleen Dean Moore when she says, ‘when stars blink on [...] then the structure of the built world begins to vanish’.⁶¹

2.5 The nature of nature

Despite earlier comments in this chapter regarding the common human practice of observing the night sky and assigning meanings and stories to this activity, what is observed is often considered to be separate from earth and the natural world. What constitutes ‘nature’ is not often clearly defined, with many different definitions proposed.⁶² No definitions make specific mention of celestial bodies and sky features, the sky is not considered to be part of nature. Tim Ingold however points out that theories as to how people perceive the world, ‘generally work from the assumption that this world is terrestrial’ and he suggests the sky is indeed part of the landscape.⁶³ Elsewhere he discusses the idea that we usually experience ourselves as separate from, rather than part of, this world and proposes that the landscape is a part of us and furthermore that we can have a ‘felt’ experience of this connection.⁶⁴

⁵⁷ Shepherd Bliss, ‘In praise of sweet darkness’ in *Ecotherapy: Healing with nature in mind*, eds Linda Buzzell and Craig Chalquist (San Francisco: Sierra Club Books, 2009), p. 174, [hereafter, Bliss, *In praise*].

⁵⁸ Bliss, *In praise*, p. 182.

⁵⁹ Edensor, *Gloomy city*, p. 13, Bliss, *In praise*, p. 174.

⁶⁰ William Sheehan, *A passion for the planets: envisioning other worlds, from the Pleistocene to the age of the telescope* (New York: Springer, 2010), p.47.

⁶¹ Kathleen Dean Moore, ‘The gifts of darkness’, in Bogard, *Let there be night*, p.12, [hereafter, Moore, *Gifts*].

⁶² Kahn and Kellert, *Children*, p. xiii, Seymour, *Nature*, p. 7, Mausner, *Kaleidoscope*, pp. 335-48.

⁶³ Tim Ingold, *Being alive. Essays on movement, knowledge and description* (London and New York: Routledge, 2011), pp. 126-27, [hereafter, Ingold, *Being alive*].

⁶⁴ Tim Ingold, *The perception of the environment. Essays on livelihood, dwelling and skill* (London and New York: Routledge, 2000), p. 11.

Research exploring the relationship between experiences in nature and positive outcomes for health and wellbeing does not usually include references to the sky. A notable exception is a study by Rachel Kaplan investigating the psychological benefits of looking out of a window at home.⁶⁵ Although she considered whether viewing the sky and weather had any substantial psychological effect, the results were statistically insignificant when compared to viewing trees and landscapes.⁶⁶ The study appears however to focus on viewing discrete 'pieces' of nature whereas it is difficult to imagine viewing the tree without also noticing the sky in the background.

To further consider what constitutes nature and the relationship humans have with it, it is pertinent to turn to the growing body of theoretical literature from ecopsychology, a field whose principal aim in the words of one of its founders Theodore Roszak, is to, 'bridge our culture's long-standing historical gap between the ecological and the psychological'.⁶⁷ Ecopsychology explores the idea that it is beneficial to human wellbeing to have a relationship with nature and this relationship may also have holistic, transformative and existential aspects to it. This concept is in contrast to what Deborah DuNann Winter describes as a, 'modern worldview that provides a set of beliefs that encourages us to use and abuse nature'.⁶⁸ Furthermore, Nick Totton suggests that for many people their relationship with nature is more powerful during childhood and to rediscover this relationship as an adult is to, 'recover magic'.⁶⁹ Recent research by the Royal Society for the Protection of Birds (RSPB) explores and attempts to measure the connection children have with nature and suggests how to maintain this relationship throughout life in order to avoid what Richard Louv earlier described as 'nature deficit disorder', which he warned leads to, 'diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses'.⁷⁰

⁶⁵ Rachel Kaplan, 'The nature of the view from home: Psychological benefits'. *Environment and Behavior*, vol. 33 (4): (2001), 507-42, [hereafter, R. Kaplan, *Nature of the view*].

⁶⁶ R. Kaplan, *Nature of the view*, p. 535.

⁶⁷ Theodore Roszak, *The voice of the earth* (New York: Simon & Schuster, 1992), p. 14.

⁶⁸ Deborah DuNann Winter, *Ecological psychology: Healing the split between planet and self* (New York: HarperCollins College Publishers, 1996), p.29.

⁶⁹ Nick Totton, 'The practice of Wild Therapy'. *Therapy Today*, vol. 25 (5): 2014, 14-17, p. 17 [hereafter, Totton, *Wild therapy*].

⁷⁰ Royal Society for the Protection of Birds (RSPB), Connecting to nature [online]. Available: http://www.rspb.org.uk/Images/connecting-with-nature_tcm9-354603.pdf [accessed Jul 17 2014], [hereafter,

Writing respectively in the late nineteenth and early twentieth centuries, William James and Carl Jung may be seen as having contributed to the intellectual roots of ecopsychology as both believed in the transformative and beneficial aspects of a human-nature connection for wellbeing although 'wellbeing' was not a term either of them actually used.⁷¹ Connecting with nature as a way of finding meaning and purpose in life was promoted by James and he remarked, 'living in the open air and on the ground, the lop-sided beam of the balance slowly rises to the level line; and the over-sensibilities and insensibilities even themselves out'.⁷² Jung similarly commented, 'we all need nourishment for our psyche. It is impossible to find such nourishment in urban tenements without a patch of green or a blossoming tree'.⁷³ A number of authors, including David Abram, Freya Mathews and Roszak have gone on to explore in different ways the concept of a synergy between the wellbeing of human beings and the larger ecosystem of the natural environment.⁷⁴ While Abram stresses the importance of recognising a link between an individual's interior psychological world and the exterior world, questioning, 'the inner- what is it if not intensified sky', Mathews, critiquing atomistic cosmology whereby the world is seen as comprising many separate substances, conjectures this stance encourages disconnection between humans and their environment and, 'the right cosmology will dispose us towards a benign pattern of interaction with the environment'.⁷⁵ Mathews' view is echoed by Abram who sees phenomenology as a helpful approach for thinking about this disconnection as phenomenology focuses on the qualitative dimension of experience and allows questioning of, 'the modern assumption of a single, wholly determinable, objective reality'.⁷⁶ Roszak similarly berates the long-standing culture in the western world of the, 'permissible repression of cosmic empathy' and the emotional, physical and spiritual distress which can result.⁷⁷ His

RSPB, *Connecting to nature*], Richard Louv, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (Chapel Hill, NC: Algonquin Books of Chapel Hill, 2005), p. 34.

⁷¹ William James, *On a certain blindness in human beings* [online]. Available: <http://books.google.com/books?isbn=0141956585> [accessed Dec 12 2013], [hereafter, James, *On a certain blindness*], Carl G. Jung, *Jung Speaking: Interviews and Encounters*, eds William McGuire and R.F.C. Hull (Princeton, NJ: Princeton University Press, 1977), [hereafter, Jung, *Jung speaking*].

⁷² William James, *On a certain blindness*.

⁷³ Jung, *Jung speaking*, p. 202.

⁷⁴ David Abram, *The spell of the sensuous: Perception and language in the more-than-human world* (New York: Vintage Books, 1996), [hereafter, Abram, *Spell*], Mathews, *Ecological self*, Roszak et al., *Ecopsychology*.

⁷⁵ Abram, *Spell*, p. 262, Mathews, *Ecological self*, p. 141.

⁷⁶ Abram, *Spell*, p. 31.

⁷⁷ Roszak, 'Where psyche meets Gaia', in Roszak et al, *Ecopsychology*, p. 10.

claims of distress resulting from human-nature disconnection are however made on theoretical grounds with no empirical evidence to support the notion that a connection with nature is beneficial.

To find empirical evidence documenting the relationship between experiences in nature and positive outcomes for health and wellbeing it is useful to turn to the fields of health and environmental psychology. 'Wellbeing' is a problematic term to define but Rachel Dodge argues it is generally considered to encompass the emotional, physical and spiritual aspects of an individual's life.⁷⁸ Indeed, judging by the considerable amount of literature, it can be considered that the concept of nature offering possibilities for psycho-physiological restorative effect is currently the most active research topic in the environmental psychology field. Research which supports this position includes a study of recovery from mental fatigue and physical ill-health in different restorative environments by Terry Hartig et al. which concluded natural environments had the greatest restorative effect.⁷⁹ The study included potentially hazardous environments such as wilderness and highlights that not all nature settings have to be safe to be restorative. R. Kaplan and S. Kaplan, in an overview of research on the importance of sensory stimulation in natural environments, note even the most mundane environment such as the view from an office window can potentially enhance wellbeing.⁸⁰ This begs the question as to whether nature has to be aesthetically pleasing to be restorative, an area Roger S. Ulrich explores in relation to aesthetic and affective responses in natural environments.⁸¹ Furthermore, S. Kaplan suggests one of the reasons nature experiences can be restorative is because they offer the possibility of relaxing directed attention and thus, 'many of the fascinations afforded by the natural setting qualify as "soft" fascinations: clouds, sunsets, snow patterns' can be enjoyed without effort.⁸²

⁷⁸ Rachel Dodge, Annette P. Daly, Jan Huyton and Lalage D. Sanderset, 'The challenge of defining wellbeing'. *International Journal of Wellbeing*, vol. 2 (3): (2012), 222-35.

⁷⁹ Hartig et al, *Restorative Effects*.

⁸⁰ R. Kaplan and S. Kaplan, *Experience of nature*.

⁸¹ Ulrich, *Aesthetic and affective response*.

⁸² Stephen Kaplan, 'The restorative benefits of nature: Towards an integrative framework'. *Journal of Environmental Psychology*, vol. 16: (1995), 169-82, p. 174.

Unsurprisingly, research involving rural inhabitants reports a stronger sense of connectedness to nature than studies of those living in urban areas.⁸³ This connectedness can also encourage social interaction and enhance community cohesion as suggested by T.A. More, and C.L.E. Rhode and A.D. Kendle.⁸⁴ Studies by Mayer and Frantz, Nisbet et al. and Schultz indicate that if humans feel more connected to nature they will feel a greater responsibility to protect it.⁸⁵ In an exploration of the modern environmentalism movement, Eckersley suggests an enhanced awareness of this connectedness can lead to individuals becoming more politically active.⁸⁶ Conversely, being in nature can be so familiar for some that it is taken for granted and lead to less motivation to getting involved in preserving it, an area S. Kaplan explores.⁸⁷

In addition to the possible beneficial effects of nature experiences, authors such as John Davis, Jorge N. Ferrer and Mathews have all argued independently that encounters with nature can lead to positive transformative experiences, which could be of a spiritual or religious kind.⁸⁸ In contrast, Sebastiano Santostefano suggests a transformative experience would not automatically be positive, particularly if a person's early experiences of being in nature have been problematic or not well-

⁸³ R. S. Ulrich, R. F. Simons, B.D. Losito, E. Fiorito, M. Miles, and M. Zelson, 'Stress recovery during exposure to natural and urban environments'. *Journal of Environmental Psychology*, vol. 11 (3): (1991), 201-30, Seymour, *Nature*.

⁸⁴ C.L.E Rohde and A.D. Kendle, *Human well-being, natural landscapes and wildlife in urban areas: a review. English Nature Science Report No. 22* (Peterborough: English Nature, 1994), p. 151, [hereafter, Rohde and Kendle, *Human well-being*], T. A. More, 'The parks are being loved to death. And other frauds and deceits in recreation management'. *Journal of Leisure Research* vol. 34 (1): (2002), 52–78, [hereafter, More, *Parks*].

⁸⁵ F. Stephan Mayer and Cynthia McPherson Frantz, 'The connectedness to nature scale: A measure of individuals' feeling in community with nature'. *Journal of Environmental Psychology*, vol. 24 (4): (2004) 503–15, [hereafter, Mayer and Frantz, *Connectedness*], E. K. Nisbet, J. M. Zelenski and S. A. Murphy, 'The nature relatedness scale: Linking individuals' connection with nature to environmental concern and behavior'. *Environment and Behavior*, vol. 41: (2009), 715-40, [hereafter, Nisbet et al., *Nature relatedness*], P. W. Schultz, 'Inclusion with nature: The psychology of human-nature relations' in *Psychology of sustainable development*, eds P. W. Schmuck and W. P. Schultz (Norwell, MA: Kluwer Academic, 2002), pp. 62-78, [hereafter, Schultz, *Inclusion*].

⁸⁶ Eckersley, *Environmentalism*.

⁸⁷ Stephen Kaplan, 'Human nature and environmentally responsible behavior'. *Journal of Social Issues*, vol. 56 (3): (2000), 491–508, [hereafter, S. Kaplan, *Human nature*].

⁸⁸ John Davis, 'The transpersonal dimensions of ecopsychology: Nature, non-duality and spiritual practice'. *The Humanistic Psychologist*, vol. 26 (1-3): (1998), 60-100, p. 69, [hereafter, Davis, *Transpersonal dimensions*], Jorge N. Ferrer, *Revisioning transpersonal theory: A participatory approach to human spirituality* (New York: Suny Press, 2002), p. 123, [hereafter, Ferrer, *Revisioning*], Mathews, *Ecological self*, pp. 149-51.

integrated into their sense of self.⁸⁹ Mathews and K. Williams and D. Harvey separately describe the potential transpersonal dimensions to nature experiences such as feelings of identifying with the environment, of oneness and unity, changes in time perception and alterations to personality as a result of peak and transformative experiences.⁹⁰ Research carried out by Rebecca Fox suggests such nature experiences are associated with, 'moments of transcendence and spiritual enchantment'.⁹¹ In a survey of a representative sample of 1,000 people in the San Francisco Bay area regarding peak experiences, Robert Wuthnow found 82% of respondents had, 'experienced the beauty of nature in a deeply moving way,' with 49% believing this had enduring influence.⁹² The value of empirical research into transformative experiences is however challenged by Herbert W. Schroeder who comments these experiences may best be revealed by qualitative accounts which may give a more, 'balanced relationship between the rational and the intuitive sides of the psyche,' rather than attempts at quantitative measurements.⁹³

There are also many personal narratives describing transformative experiences in nature by authors such as Mark Coleman who describes practical exercises to reconnect with nature, Steven Harper who advocates going into wilderness areas, and Sara Harris who experienced transformation on a wilderness vision quest which subsequently informed her therapeutic practice.⁹⁴

⁸⁹ Sebastiano Santostefano, 'The sense of self inside and environments outside: How the two grow together and become one in healthy psychological development'. *Psychoanalytic Dialogues*, vol. 18 (4): (2008), 513-35, p. 513.

⁹⁰ Mathews, *Ecological self*, p. 162, Williams and Harvey, *Transcendent*, pp. 249-60.

⁹¹ R. Fox, 'Enhancing spiritual experience in adventure programs', in *Adventure programming*, eds J. Miles and S. Priest (State College PA: Venture Publishing, 1999), p. 455, [hereafter, Fox, *Enhancing spiritual experience*].

⁹² Robert Wuthnow, 'Peak experiences: Some empirical tests'. *Journal of Humanistic Psychology*, vol. 18 (3): (1978), 59-75.

⁹³ Herbert W. Schroeder, The spiritual aspect of nature: A perspective from depth psychology [online]. Available: http://www.nrs.fs.fed.us/pubs/gtr/gtr_ne160/gtr_ne160_025.pdf [accessed Dec 14 2013].

⁹⁴ Mark Coleman, *Awake in the wild: mindfulness in nature as path to self-discovery* (San Francisco: Inner Ocean Publishing, 2006), p.33 and p. 221, Steven Harper, 'The way of wilderness', in Roszak et al, *Ecopsychology*, p. 185, Sara Harris, 'Beyond the "Big Lie": How one therapist began to wake up', in *Ecotherapy: Healing with nature in mind*, eds Linda Buzzell and Craig Chalquist (San Francisco: Sierra Club Books, 2009), pp. 87-89.

Conclusion

This literature review has considered the main themes of my research question: the human desire to see the night sky, the commercialisation of this desire through astronomical tourism, the nature of nature, fear of the dark and nature and wellbeing as they appear in relevant scholarly literature in the fields of ecopsychology, health and environmental psychology, and cultural astronomy. Whilst much of the literature focuses on the positive aspects of cultivating a connection to nature, nature is largely understood to be 'earth-bound' with little consideration given to incorporating the sky. Few empirical studies exist to support the concept that human beings have a synergetic relationship with nature, the majority of studies are theoretical or descriptive in character. Health and environmental psychology addresses more specifically how to measure the restorative and transformative effects resulting from contact with nature. For insights into how the night sky may affect the lives of human beings, it has been necessary to explore literature from cultural astronomy, the Dark Sky movement, astronomical tourism and personal testimony from individuals. The less positive aspects to promoting dark skies for individuals and communities has also been considered and competing priorities recognised.

The next chapter will go on to consider the research methods employed in the research to capture the qualitative data including information on the research strategy adopted, data collection methods, target group and sample selection, cycles of interpretation and limitations and potential problems.

Chapter 3 - Research methodology

3.1 Introduction

In order to explore the role that the night sky plays in relation to the community of Sark, and the question of whether observing the night sky may be considered beneficial and transformative to wellbeing, I will be employing qualitative methodologies. This chapter will give information on the particular research strategy chosen in order to address the research issue identified above, together with the methods chosen for collection of the data for analysis and any limitations and problems encountered.

3.2 Research strategy

All methodologies have strengths and weaknesses. The phenomenological approach aims at describing experience from an individual's perspective but does not emphasise the personal significance of the research topic for the researcher, does not employ intuitive ways of knowing, and does not seek individual or collective change or transformation.⁹⁵ The ethnographic approach which, as a form of participant observation, means the experiences the subjects are having may be shared by the researcher and therefore a better understanding gained, requires spending considerable time in the field, more time than I had available.⁹⁶ Heuristic research, which in common with intuitive inquiry requires an intensive connection and immersion into the phenomenon being studied, can also be extremely demanding and time-consuming.⁹⁷ The research strategy I chose to adopt is the qualitative method of intuitive inquiry introduced in 1998 by Rosemarie Anderson and William Braud.⁹⁸ I prefer this method because it seems to allow a greater acknowledgment of the impact of qualitative work on both the researcher and the researched. Intuitive inquiry is informed by values and practices from the field of

⁹⁵ Frederick J. Wertz, *Phenomenological research methods in psychology: A comparison with grounded theory, discourse analysis, narrative research, and intuitive inquiry* [online]. Available: <http://www.icnap.org/wertz%20-%20paper.pdf> [accessed Feb 16 2014].

⁹⁶ John W. Cresswell, *Qualitative inquiry and research design: Choosing among five approaches* (CA: Sage Publications, 2010), p. 96.

⁹⁷ Clark Moustakas, *Heuristic research: Design, methodology and applications* (CA: Sage Publications, 1990), p.14.

⁹⁸ William Braud and Rosemarie Anderson, *Transpersonal research methods for the social sciences* (CA: Sage Publications, 1998), p.69, [hereafter, Braud and Anderson, *Transpersonal research methods*].

transpersonal psychology. Anderson and Braud observe transpersonal approaches allow for innovative methods of gathering information about human experiences as these approaches explicitly accommodate alternative methods of awareness and intuition throughout the research process.⁹⁹ The rationale for choosing intuitive inquiry is twofold, firstly, the method was originally developed to study transformative experiences which my research considers, and secondly the approach emphasises the value of the researcher employing familiar personal and clinical skills such as the use of reflective listening, working with intention and various forms of intuition.¹⁰⁰ I have been practicing as a transpersonal psychotherapist for sixteen years and am accustomed to working in this way. Furthermore, intuitive inquiry, according to Anderson and Braud, takes account of the possibility of research providing opportunities for transformation of the researcher, participants and readers of the research.¹⁰¹ In other words, there may be long-lasting benefits for everyone involved in the process. However, as Anderson points out, doing intuitive inquiry well is challenging and the researcher must be, 'rigorously aware of one's internal processes or perspective' throughout the research process.¹⁰²

The process of intuitive inquiry involves five cycles of interpretation which comprise a forward and return arc. At each stage the researcher must evaluate what they have learned, and what they feel:

- Cycle 1- Selecting and clarifying the topic of inquiry via a creative process
- Cycle 2 - Identifying the researcher's existing understanding of the topic through engagement with the literature – developing the preliminary lenses
- Cycle 3 - Gathering data and descriptive findings – transitional lenses

⁹⁹ Braud and Anderson, *Transpersonal research methods*, p. ix.

¹⁰⁰ William Braud, Towards a more satisfying and effective form of research [online]. Available: <http://contemporarypsychotherapy.org/vol-2-no-1/towards-a-more-satisfying-and-effective-form-of-research/> [accessed Feb 16 2014].

¹⁰¹ Rosemarie Anderson and William Braud, *Transforming self and others through research: Transpersonal research methods and skills for the human sciences and humanities* (New York: State University of New York Press, 2011), p. xv, [hereafter, Anderson and Braud, *Transforming self and others*].

¹⁰² Rosemarie Anderson, 'Intuitive inquiry: An epistemology of the heart for scientific inquiry'. *The Humanistic Psychologist*, vol. 32 (4): (2004), 307-41, p. 307, [hereafter, Anderson, *Epistemology*].

- Cycle 4 - Interpretation of findings and transformation of original understanding through the understanding of others – transforming and refining lenses
- Cycle 5 - Integration of one's discovery with the existing literature.¹⁰³

With regard to this research project, Cycle 1, selecting and clarifying the research topic, involved focusing on a poem that has claimed my attention since childhood, 'Holes in the sky' by Louis MacNeice.¹⁰⁴ One section of the poem in particular has always intrigued me, 'holes in the sky, says the child scanning the stars', as it seems to suggest there are different ways to interpret the wonder of what is seen in the sky. Employing the method of intuitive inquiry my aim has been to reach a deeper understanding of the subjects' felt experience of encounters with the sky.

Cycles 2 and 5 were described in Chapter 2.

The initial stage of Cycle 3, gathering of qualitative data, was conducted on Sark primarily from semi-structured interviews and a focus group. These methods offer opportunities for gaining information about human experience and, as Judith Bell notes, 'can yield rich material'.¹⁰⁵ As the research explores the role that the night sky plays in the lives of those living on Sark, conducting the interviews there, and allowing myself personal experience of the island's night sky, was a valuable contribution to the research as it facilitated my own reflexive process. I also kept a reflexive journal during the research of my reflections, dreams and significant events as Michelle Ortlipp notes, 'keeping self-reflective journals is a strategy that can facilitate reflexivity'.¹⁰⁶ Also, Braud suggests a reflexive journal may be one of several techniques that may help, 'ensure the trustworthiness of qualitative findings'.¹⁰⁷

¹⁰³ Rosemarie Anderson, 'Intuitive inquiry: Interpreting objective and subjective data'. *ReVision: Journal of Consciousness and Transformation*, vol. 22 (4): (2004), 31-39, [hereafter, Anderson, *Interpreting*].

¹⁰⁴ Louis MacNeice, *Holes in the sky: poems, 1944-1947* (London: Faber and Faber, 1948).

¹⁰⁵ Judith Bell, *Doing your research project: A guide for first-time researchers in education and social science* (Buckingham: Open University Press, 1993), p. 91.

¹⁰⁶ Michelle Ortlipp, 'Keeping and using reflective journals in the qualitative research process'. *The Qualitative Report*, 13(4): (2008), 695-705, p. 695.

¹⁰⁷ Braud and Anderson, *Transpersonal research methods*, p. 214.

For this project snowball sampling (a form of quota sampling) was used to select adult participants living on Sark for interview.¹⁰⁸ This method requires an initial identified person making referrals to other potential participants, who go on to make referrals to additional participants.¹⁰⁹ I have a close friend on the island who agreed to recruit participants through his social network. These were people whom he believed, in consultation with me, would be interested in participating and whose participation would be likely to contribute to the research project's objectives. Other criteria used in selection were that participants would include people who had lived all their lives on Sark (*Sarkese*), some who travelled regularly to other places and some who had come to live on the island more recently, to encourage different perspectives. One participant, who is a member of Sark Astronomy Society (SAstroS), also suggested a group meeting with some Society members, a suggestion I took up.

As I have friends on the island and have visited several times before I may be considered to have a small degree of 'insider' perspective which Kenneth Pike notes may assist the researcher better appreciate, 'the individual actors'.¹¹⁰ As I live at some distance from Sark the chosen sampling method enabled me to enlist participants whom I would not easily be able to contact myself. A disadvantage of this method is there is no way of knowing whether the sample is representative of the larger population of Sark or elsewhere, and the sample taken for this project is a small one.¹¹¹ Also, I was 'one step removed' from the recruitment process and the choice of who was recruited was largely dependent on the judgement of my friend and others and consequently subject to their bias.

3.3 Data gathering

The themes and key questions to be covered in the interviews in order to help meet the research objectives were developed in the two months prior to my visiting Sark.

¹⁰⁸ Rowland Atkinson and John Flint, Snowball sampling [online]. Available: <http://srmo.sagepub.com/view/the-sage-encyclopedia-of-social-science-research-methods/n931.xml> [accessed Feb 16 2014].

¹⁰⁹ Diane C. Blankenship, *Applied research and evaluation methods in recreation* (Champaign, IL: Human Kinetics, 2010), p. 88.

¹¹⁰ Kenneth L. Pike, 'Etic and emic standpoints for the description of behavior', in *The insider/outsider problem in the study of religion. A reader*, ed. Russell T. McCutcheon (London: Continuum, 1999), p.32.

¹¹¹ Patrick Biernacki and Dan Waldorf, 'Snowball Sampling Problems and Techniques of Chain Referral Sampling'. *Sociological Methods and Research*, vol. 10 (2): (1981) 141-63, p. 160.

Trial interviews were conducted with several people and certain questions subsequently reworked. The original list of questions was too long and would have required allocating at least an hour and a half for the interviews. A semi-structured format was chosen as John Biggam notes this allows the interview to, 'ebb and flow, following associated leads and new issues as they arise'.¹¹² Most of the questions were open ones to encourage more detailed responses but, as I wanted to gather data on specific areas, for example, time living on Sark and time spent away from Sark, a small number of closed questions were also included. In order for the interviews to best focus on the research objectives they were arranged around the themes identified in the literature review. These themes are: the human desire to see the night sky, the commercialisation of this desire through astronomical tourism, the nature of nature, fear of the dark and nature and wellbeing.

In all ten potential participants were identified, all of whom agreed to be interviewed, however in the end two were unable to participate due to other commitments. I visited Sark for five days in March 2014 and conducted eight interviews and held an informal focus group with three members of SAstroS. Three other members of SAstroS who were unable to attend the group meeting subsequently sent detailed comments by e-mail. The participant group therefore comprised fourteen people, nine women and five men. A small number were retired (but busy!) whilst others worked in a variety of one or more occupations including teaching, finance, construction, gardening, art and photography. Some have lived all their lives on Sark, others have come from both urban and rural areas elsewhere. The time participants have spent living on Sark ranges from two years to more than forty years.

Interviewee participants were asked where they would prefer to be interviewed and interviews were subsequently held in my friend's home and in participants' homes and workplaces. Interviews lasted between thirty five to sixty minutes. The focus group was held at the Sark Island Hall, a venue regularly used by members of the community. Although I had not originally intended to conduct a focus group, the opportunity to meet with members of the astronomical society was valuable,

¹¹² John Biggam, *Succeeding with your master's dissertation: a step-by-step handbook* (Maidenhead: Open University, 2008), p. 102, [hereafter, Biggam, *Succeeding*].

particularly, as Bloor et al. note, focus groups can give, 'concentrated and detailed information on an area of group life'.¹¹³ My role in the group was, as Biggam suggests, more akin to 'participant observer' as I was not a detached observer and my presence was bound to contribute to the group dynamics.¹¹⁴ Interviews and the group discussion were audio-recorded to allow an accurate record to be kept and to enable me to more fully attend to what participants were saying. Copies of the Participant Information Sheet, List of Interview Questions and Interview Release Form are included as Appendices 1, 2 and 3 respectively.

Secondary data in the form of letters of support which formed the island's 2011 application to the IDA for Dark Sky status were also examined as it gave me a broader picture of residents who were committed for various reasons to preserving the night sky on Sark.¹¹⁵ Selected entries from my reflexive journal also formed part of the descriptive findings.

3.4 Framework for data analysis

I began the process of analysing the data by organising and preparing it into four different categories: material from interviews, focus group, my reflexive journal and e-mails. The next stage was transcribing the recorded data manually onto paper. Throughout the transcribing process I made notes in the margins to capture my initial 'take' on the data as John Cresswell suggests this can help give a, 'general sense of the information'.¹¹⁶ Sometimes, I also noticed a particular image or feeling coming up for me as I transcribed and I noted it down. While writing up the data relating to 'Fear of the dark' for example, I experienced a physical sense of unease in my stomach; that night I dreamt of sharks circling a small island. I woke with a sense that there were fears being expressed implicitly by some participants of outside negative influences on their way of life. Anderson cautions, 'like observational data, intuitions

¹¹³ Michael Bloor, Jane Frankland, Michelle Thomas and Kate Robson, *Focus Groups in Social Research* (London: SAGE, 2001), p.6.

¹¹⁴ Biggam, *Succeeding*, p. 112.

¹¹⁵ Steve Owens, Sark Dark Sky Community. A Dark Sky Island. Application to the International Dark-skies Association [online]. Available: <http://www.darksky.org/assets/documents/dark%20sky%20community%20application.pdf> [accessed Oct 20 2013].

¹¹⁶ John W. Cresswell, *Research design: Qualitative, quantitative and mixed methods approaches*, second edn (London and New Delhi: Sage Publications, 2003), p. 191, (hereafter, Cresswell, *Research design*).

oblige corroborative evidence since they are subject to error and bias'.¹¹⁷ My intuition appears to be corroborated by comments from 'Andre' who has lived on Sark for less than five years and 'Rachel' who has lived there more than forty years, '(outsiders) [...] who see a different sky to us' and, 'elements [...] that are a constant threat'. Sark and shark are very similar words!

To begin analysing the data in more detail I used thematic content analysis. This method, as R.E. Boyatzis suggests, can be useful in identifying, organising and describing themes within qualitative data.¹¹⁸ Anderson comments thematic content analysis is 'objectivistic' in nature, although it is a qualitative tool, and thus it may balance the more subjective aspects of transpersonal research.¹¹⁹ I read through the text highlighting all descriptions relevant to the research topic. From the highlighted areas, I then marked each distinct unit of meaning and copied these onto individual pieces of paper. I spent some time reflecting in my journal on the large number (forty three) of themes identified, 'as I contemplate what lies around me I feel as I have done at times when gazing at a starry sky- what first seems a mass of individual stars until gradually patterns and constellations materialise'.¹²⁰ As Anderson advocates a period of 'incubation' between work sessions I refrained from looking at the piles for several days, after which I put similar units together and re-labelled and sub-divided others. The final list of seven themes comprises all the themes identified in the original literature review but also incorporates some additional ones, for example, 'Observing the night sky with others as a means of building and maintaining family/community connection'. These themes will be, as Cresswell recommends, 'supported by diverse quotations and specific evidence', in Chapter 4.¹²¹

The next stage was to interpret the data, cross-referencing to material from the literature review. As a particular feature of intuitive inquiry is the difference between the researcher's initial understanding of the topic and her transformed understanding

¹¹⁷ Anderson, *Interpreting*, p.2.

¹¹⁸ R. E. Boyatzis, *Transforming qualitative information: Thematic analysis and code development* (London and New Delhi: SAGE Publications, 1988), p. vii.

¹¹⁹ Rosemarie Anderson, Thematic content analysis (TCA): Descriptive presentation of qualitative data [online]. Available: <http://www.wellknowingconsulting.org/publications/pdfs/ThematicContentAnalysis.pdf> [accessed Feb 14 2014].

¹²⁰ Direct quote from my personal journal.

¹²¹ Cresswell, *Research design*, p. 194.

gained through incorporating the perspectives of others, it was particularly important to take time to reflect on my own process of change. Also, Anderson comments, 'the most important feature of interpreting data is intuitive breakthroughs' and I was alert to this and will give an example of such a breakthrough later.¹²² The findings and analysis from the research are presented in Chapter 4 in a descriptive, narrative format as befits a qualitative research project.

3.5 Limitations and potential problems

After consultation with my supervisor it was decided my original intention of conducting twelve interviews would involve transcribing too large an amount of material in the allocated timeframe and it was agreed to reduce the number to eight. It was felt that this, in addition to material from the focus group, would be sufficient to gather enough information for the purposes of a master's dissertation. Judging by the volume, breadth and depth of relevant material subsequently gathered, this feels to have been the right decision.

I had originally intended to travel to Sark twice but in fact only visited once. The main reason for this was I managed to conduct more interviews during my March visit than I had anticipated. Because I therefore had less time to immerse myself in the Sark 'experience' I attempted to balance this by reading Mervyn Peake's fictional account of a visitor to Sark, 'Mr. Pye' and, 'Sark sketchbook: journal of a local artist' by Rosanne Guille.¹²³

The possibility participants may try to please the researcher and give answers they think will assist cannot be ignored. Alternatively the researcher herself may attempt to manipulate the answers given by asking leading questions. This problem is recognised by E. Phillips and D. Pugh who assert, 'there is no such thing as unbiased observation'.¹²⁴ I hope my experience as a therapist enabled me to strive to minimise this bias as far as possible but this was particularly challenging in the focus group where I was a participant observer.

¹²² Anderson, *Epistemology*, p. 321.

¹²³ Mervyn Peake, *Mr. Pye* (London: Vintage Books, 1999), Rosanne Guille, *Sark sketchbook: journal of a local artist* (Sark: Cat Rock Publications, 2004).

¹²⁴ E. M. Phillips and D. S. Pugh, *How to get a Ph.D.: A handbook for students and their supervisors* (Milton Keynes: Open University Press, 2007), p.50.

3.6 Ethical matters

The research project met with the approval of the Ethics Committee of the University of Wales Trinity Saint David. All participants were given a written information sheet in advance about the research and signed release forms at the end of the interview, focus group and submission of e-mail comments. Although all comments in the dissertation are anonymised by the use of pseudonyms, as Sark is a small island, inevitably participants reading it may be able to identify each other. Anonymity therefore cannot be guaranteed and, although most participants commented on this, no-one voiced any concerns.

This chapter has presented my methodology in detail, the next chapter will go on to describe and discuss the findings from the research project and compare, contrast and integrate these with material from the original literature review.

Chapter 4 - Results and discussion

4.1 Introduction

This chapter describes the final stage of the research process, discusses the findings from the research project and compares, contrasts and integrates these with material from the original literature review. The seven main themes which arose are examined and, as will be described below, there are a number of new and unexpected themes relating to memories of childhood sky experiences, the experience of watching the night sky with others and fearlessness of the dark.

4.2 The human desire to connect with the night sky and attach meaning and significance to it

The concept of *noctcaelador* or intense attachment to the night sky proposed by Kelly is extensively illustrated in the interviews.¹²⁵ These comments from ‘John’, a SAstroS member and ‘Rachel’, an artist, illustrate this, ‘I have a great love of the night sky’ and ‘I absolutely love it [...] can’t imagine being without it’.¹²⁶ There was also a broad spectrum of astronomical knowledge amongst participants and a range of opinions regarding the value or need for this type of knowledge. ‘Paula’, a former night carriage driver on Sark, thought sky knowledge could enhance the experience,

it’s a bit like the dawn chorus (*the night sky*), you can listen like you could to an orchestra, it’s just a load of sound which is very pleasing but the more you understand that’s a blackbird, that’s a robin, that’s a thrush, the more you start getting it, appreciating the instruments. Sometimes it’s nice just to forget all that and use your ears and enjoy and it’s the same as the night sky. Obviously if you can name constellations and think about things that adds to it.¹²⁷

‘May’, by contrast, had more limited astronomical knowledge, but still connected powerfully with the sky, ‘I’m constantly aware of the night sky and what’s happening [...] the only thing I recognise [...] there are three stars in a row [...] I don’t know their names and I’m not interested’.¹²⁸ Both ‘Paula’ and ‘May’s’ quotes support Kelly’s

¹²⁵ Kelly, *Development*, pp. 100-02.

¹²⁶ Direct quotes from ‘John’ and ‘Rachel’ interviews.

¹²⁷ Direct quote from ‘Paula’ focus group.

¹²⁸ Direct quote from ‘May’ interview.

concept of *noctcaelador* and show that it is not necessary to have detailed astronomical knowledge to have a close relationship with the sky.¹²⁹

The degree of astronomical knowledge individuals possessed appeared to bear no relation to how much time was spent outdoors or how long they had spent living in light-polluted areas. In fact 'Mo', who arguably spent the greatest amount of time indoors and had lived in cities large parts of her life, had the most astronomical knowledge. This finding contradicts Holbrook's research which considered whether increasing light pollution might be a factor in apparent decline in knowledge about the night sky.¹³⁰ For many participants, such as 'John', looking at the night sky was a purposeful act, regularly undertaken, 'if it's a clear night I'll always stick my nose out and see what's doing up there'.¹³¹ Such observable behaviours may, as Kelly and Batey suggest, describe more fully how an attachment to the night sky manifests.¹³² For others it was a beneficial but less of an intentional act, something done in between doing other things as 'Mo' remarks, 'tends to be when you're on your way home'.¹³³ There are thus similarities between this less directed attention 'Mo' is describing and S. Kaplan's concept of 'soft' fascination which describes enjoying nature without effort.¹³⁴

Furthermore, a number of participants, such as 'Andre' and 'Rachel', felt some people took the Sark night sky for granted, 'I think older folk take it for granted, don't appreciate it in the same way' and 'it's not something we talk about all the time'.¹³⁵ There was also a sense of living busy lives and not always having time to look up and watch the sky as 'Mo' says, 'I don't go out often just to have a look, there's always things you need to do'.¹³⁶ S. Kaplan proposes that those who regularly spend time in 'green' nature may take it for granted and not feel motivated to preserve it.¹³⁷

¹²⁹ Kelly, *Development*, pp. 100-02.

¹³⁰ Holbrook, *Sky knowledge*, pp. 3-4.

¹³¹ Direct quote from 'John' interview.

¹³² Kelly and Batey, *Criterion-group validity*, p. 202.

¹³³ Direct quote from 'Mo' interview.

¹³⁴ S. Kaplan, *Restorative benefits*, pp. 172-74.

¹³⁵ Direct quotes from 'Andre' and 'Rachel' interviews.

¹³⁶ Direct quote from 'Mo' interview.

¹³⁷ S. Kaplan, *Human nature*, pp. 505-06.

It is a possibility therefore that taking the dark sky for granted may lead to less incentive to getting involved in preserving it.

In contrast, for some people the night sky held special meaning and significance.

'Robin' who has lived in a number of different countries reflected,

the seven sisters, in New Zealand they call that the *Matariki* and for me that's quite a special constellation. From here it looks like the shape of New Zealand.....When I see them here it's really special, I say, 'that's my New Zealand stars' [...] the dark sky makes me feel like praying or something.¹³⁸

For 'Linda', a working mother with young children, watching the night sky was a way of staying connected to her own mother,

my mum [...] passed away five years ago [...] a certain relief when you look at the sky, maybe trying to connect with somebody you've lost. I talk to the sky quite a lot [...] it can make you feel very small, the vastness of it.¹³⁹

For 'Linda' and 'Robin' the dark sky offered a way of maintaining a connection a loved one or a faraway birthplace, a form of meditation or prayer. Most participants did not consider themselves religious but the language used by some to report their experiences is quasi-religious in that it closely mirrors that found in religious behaviour. 'Rachel' and 'John's' comments illustrate this, 'you kind of feel small, you feel your place in the universe' and 'the night sky definitely makes you more aware you're part of a great creation'.¹⁴⁰ In my journal I noted, 'it's like when I lit candles in church in the darkness for people I've lost only they don't need candles on Sark they have their stars'.¹⁴¹

Turning now to sky stories, although Aveni comments humans have always employed imagination to create imagery and stories about the sky, other than one participant's reference to a book called 'Sark folklore', no-one could recall reading about or hearing any stories relating to the sky specific to Sark.¹⁴² Even 'Rachel'

¹³⁸ Direct quote from 'Robin' interview.

¹³⁹ Direct quote from 'Linda' interview.

¹⁴⁰ Direct quotes from 'Rosie' and 'John'.

¹⁴¹ Direct quote from my personal journal.

¹⁴² Aveni, *Conversing*, p. xiii, Martin Remphry, *Sark folklore* (Sark: Gateway Publishing Ltd. 2003), [hereafter, Remphry, *Folklore*].

whose ancestors lived on Sark commented, ‘never come across any on Sark, we’re very non-spiritual. Everybody’s so busy all the time there’s probably never been time to think up stories about the stars [...] I wasn’t passed down stories about the night sky’.¹⁴³

Several longer-term and also newer residents mentioned hearing tales of witches. John Remphry notes a belief in witchcraft was prevalent on Sark until the twentieth century and ‘Andre’ mused, ‘there’s a lot of stories about witches so maybe there’s some star story in there’.¹⁴⁴ ‘John’ was aware of archaeological excavations having taken place on the island and speculated, ‘the ancients who lived on Sark – I’ve always imagined those people were very connected to the sky [...] there were lots of dolmens’.¹⁴⁵ Amongst the majority of participants there was an assumption that Sark sky stories must exist and older people or members of SAstroS would know them. Echoing Jung’s remarks regarding UFOs being a ‘living myth’, ‘Ali’, one of the older participants (also a SAstroS member) commented sanguinely, ‘I think the modern myths are the UFOs now’.¹⁴⁶ If there ever were any Sark stories then they are now lost and this reflects the loss of sky stories in the community.

My disappointment regarding the absence of Sark sky stories disappeared after re-reading the transcriptions over several days when I had an ‘intuitive breakthrough’. Just as previously ‘hidden’ stars and planets are becoming gradually known to astronomers, some themes I had anticipated but not initially found, emerged under different guises, ‘all these interviews are Sark sky stories! Everyone has their own individual tale to tell’.¹⁴⁷ Many participants had shared experiences of particular sky events with children and thus it seemed these stories were being handed down through the generations. ‘Ron’ who was brought up on Sark relates his own childhood story and a recent one,

I saw the Northern Lights on Sark as a child [...] out playing and low and behold the sky to the north just lit up, we had no idea what it was, absolutely wonderful [...] in

¹⁴³ Direct quote from ‘Rachel’ interview.

¹⁴⁴ Remphry, *Folklore*, p. 13, direct quote from ‘Andre’ interview.

¹⁴⁵ Direct quote from ‘John’ interview.

¹⁴⁶ Carl G. Jung, *Flying saucers: A modern myth of things seen in the sky* (Princeton, NJ: Princeton University Press, 1979), p. 14, direct quote from ‘Ali’ focus group.

¹⁴⁷ Direct quote from my personal journal.

August last year, the shooting stars, they were brilliant. My family, the grandchildren, were all here and we were all out in the garden [...] everybody was looking in different directions and saying did you see that one?¹⁴⁸

My insight perhaps accords with Bogard's observation that dark night skies are a 'continuing source of stories that help us understand and live our lives'.¹⁴⁹

4.3 Observing the sky with others as a means of building and maintaining family/community connection

The enjoyment and high value the majority of participants attached to watching the night sky on Sark with family, friends and others was a surprising finding which did not feature in the original literature review. 'Robin' comments,

you notice it every night when you're a smoker, especially if you're with other people, you're looking at it together, pointing things out [...] when more than one of you see it (*a shooting star*) at the same time that's special [...] you discuss the sky, 'is that Mars, is that Venus'?¹⁵⁰

'Gareth', who had originally come to Sark to work for a few months and had stayed on also speaks about this social aspect amongst a temporary community of workers,

myself and a few friends, a lot of men living together because we were renovating the hotel here, often after the pub we'd pull the mattresses out and then lie on the field and watch the stars and the satellites. We counted thirty satellites one night.¹⁵¹

'Robin' and 'Gareth's' replies accord with Ruggles' and Saunders' remark that what is observed in the sky has both astronomical and cultural meaning.¹⁵² As mentioned above, there was also a sense of memories and 'sky stories' being created and passed on regarding specific sky events, particularly unexpected or unusual occurrences. Several people recalled observing the same things; 'Mo', 'Linda' and 'Ron' the meteor showers in August 2013, 'Ali', 'Rachel' and 'Ron' the total solar eclipse in 1999 and 'Andre', 'John' and 'Gareth' the regular passing overhead of the

¹⁴⁸ Direct quote from 'Ron' focus group.

¹⁴⁹ Bogard, *Let there be night*, p. 86.

¹⁵⁰ Direct quote from 'Robin' interview.

¹⁵¹ Direct quote from 'Gareth' interview.

¹⁵² Ruggles and Saunders, *Astronomies and cultures*, p. 1.

International Space Station. For 'Mo' sharing the experience of watching the *Perseids* meteor shower outside the Island Hall was especially significant,

last summer lying on the field outside the Island Hall with everybody looking up during the meteor shower [...] people had sleeping bags, thermoses and hot chocolate [...] it was brilliant, you had all the oohs and aahs [...] loved I wasn't doing it on my own, I was with other people [...] everybody was getting so much enjoyment out of it.¹⁵³

Perhaps this communal skywatching is particularly important in maintaining bonds in a small island community where people depend on each other. Also, as there is much to do on the island and therefore many people have several jobs, the number of people encountered regularly can be a high proportion of the island's population and may lead to increased opportunity to share experiences. This is consistent with research carried out on 'green nature' by More, and Rohde and Kendle which notes spending time in nature can encourage social interaction and enhance community cohesion.¹⁵⁴

4.4 Experiencing positive feelings through observing the night sky

As mentioned earlier, apart from R. Kaplan's work on the psychological benefits of looking out of a window, research regarding any relationship between experiences in nature and positive outcomes for health and wellbeing does not usually include references to the sky.¹⁵⁵ Various dark sky organisations note the benefits to wellbeing of a dark night sky but offer no evidence to support these claims. Participants in this study however offered many examples of enhanced wellbeing. Comments such as, 'relaxing', 'comforting' and 'gives perspective' were frequently given with explanatory descriptions. For many such as 'Martin', who has only lived on Sark for two years, feeling insignificant against the larger canvas of the night sky was comforting, 'awe when you consider what a tiny insignificant dot we are when you consider the vastness of what is out there'.¹⁵⁶ Others, like 'May', deliberately sought out these positive experiences, 'when you've had a bad day, I've gone out

¹⁵³ Direct quote from 'Mo' interview.

¹⁵⁴ Rohde and Kendle, *Human well-being*, p. 151, More, *Parks*, pp. 52–78.

¹⁵⁵ R. Kaplan, *Nature of the view*, pp. 507–42.

¹⁵⁶ Direct quote from 'Martin' e-mail.

into it, gone for a walk'.¹⁵⁷ In addition, 'Mo's' remark, 'this huge mass of stars in the sky, it makes you feel a lot better [...] you look up and you look out [...] it just draws you out, you concentrate on something else' supports Edensor and Bliss' views that darkness has the potential to promote positive transformation and psychological healing.¹⁵⁸ 'Paula' experienced positive feelings more spontaneously, 'coming back from the pub at night [...] just to stop and look at the stars, feels great'.¹⁵⁹ These findings further support and amplify previous research into the restorative effects of spending time in nature by authors such as Hartig et al., R. Kaplan and S. Kaplan and Ulrich.¹⁶⁰

A small number of participants spoke of being 'transformed' but they did not qualify what this meant for them other than it had been profoundly significant as when 'Andre' says, 'it was quite freaky'.¹⁶¹ For 'John' it was difficult to find the words to convey his experience, 'hard to put into words or put a figure on that'.¹⁶² There is also evidence that for some the experience was transpersonal or transcendent in some way as illustrated by a comment from 'Ali', 'enchanted. There's a definite mystical element to going out on your own at midnight'.¹⁶³ This may be seen as corroborating Fox's hypothesis that some nature experiences are associated with transcendence and enchantment'.¹⁶⁴ My findings also support previous research by Davis, Ferrer and Mathews who all independently maintain encounters with nature may lead to positive transformative experiences.¹⁶⁵ In contrast to their findings however, transformative experiences for participants in my study appeared to result from seeing particular sky events such as comets and their experiences generally did not appear to have spiritual or religious components.

Although most participants described themselves as not religious, for some as was mentioned earlier, the night sky itself was associated with spiritual and/or religious beliefs. This is illustrated by 'Patty', who had travelled widely and was interested in

¹⁵⁷ Direct quote from 'May' interview.

¹⁵⁸ Direct quotes from 'Linda' and 'Mo' interviews, Edensor, *Gloomy city*, p. 13, Bliss, *In praise*, p. 174.

¹⁵⁹ Direct quote from 'Paula' focus group.

¹⁶⁰ Hartig et al, *Restorative effects*, pp. 3-26, R. Kaplan and S. Kaplan, *Experience of nature*, Ulrich, *Aesthetic and affective response*.

¹⁶¹ Direct quote from 'Andre' interview.

¹⁶² Direct quote from 'John' interview.

¹⁶³ Direct quote from 'Ali' focus group.

¹⁶⁴ Fox, *Enhancing spiritual experience*, p. 455.

¹⁶⁵ Davis, *Transpersonal dimensions*, p. 69, Ferrer, *Revisioning*, p. 123, Mathews, *Ecological self*, pp. 149-51.

different religious beliefs, 'when I look at the Sark sky I am in awe of the size of the universe. How can people not believe in God when we live in such a wonderful, complex world?'¹⁶⁶

4.5 Childhood memories of the night sky and nostalgia for the past

Another unexpected finding was how the Sark night sky conjured up fond childhood memories of night skies on Sark and elsewhere. Many comments are reminiscent of those in Bogard's collection of personal testimonies.¹⁶⁷ 'Martin' who recently moved to Sark from a city recalled his childhood night sky as less light-polluted, 'Sark night sky reminded me of how the skies looked like when I was about six or seven years old and growing up in Herefordshire'.¹⁶⁸ Similarly 'Jay', brought up on Sark, remembered the night sky nostalgically, 'aged about twelve, with my girlfriend, looking up and trying to imagine infinity'.¹⁶⁹ For 'May' it brought up memories of the unknown, 'as a child it was all so mysterious [...] the three stars I used to be able to see when I was going to bed'.¹⁷⁰ This is reminiscent of Totton's remarks regarding the waning of a relationship with nature for many people as they grow up.¹⁷¹ Furthermore, Slovic suggests appreciating the night sky may be a means of connecting with the past, either the ancestors of one's own culture or another culture.¹⁷² My findings not only amplify both Totton and Slovic's views but also imply appreciating the night sky may be a means of connecting with one's past which relates back to my previous comment regarding the transmission of sky stories. 'Mo' further illustrates this point,

I remember that child in me that sat and copied constellations out of books and memorised the zodiac constellations [...] sometimes when I look at the sky here I feel like that kid again [...] living here it's reignited something I kind of haven't had since I was a child.¹⁷³

¹⁶⁶ Direct quote from 'Patty' e-mail.

¹⁶⁷ Bogard, *Let there be night*.

¹⁶⁸ Direct quote from 'Martin' e-mail.

¹⁶⁹ Direct quote from 'Jay' e-mail.

¹⁷⁰ Direct quote from 'May' interview.

¹⁷¹ Totton, *Wild therapy*, p. 17.

¹⁷² Slovic, *Towards an appreciation*.

¹⁷³ Direct quote from 'Mo' interview.

Moreover, as the majority of parents on Sark send their children to secondary schools in England and Guernsey at the age of around eleven to twelve years it could be hypothesised that a particular importance is attached to educating children about the importance of preserving Sark's uniqueness, including its dark sky, before they leave for more light-polluted areas. This is underlined in contrasting ways by the island's head-teacher, 'educating the young of the island will be crucial [...] they will be [...] actively involved in promoting and educating others about it' and by 'Linda's' comment, 'every time I'm out I look up and I encourage the children to do it as well [...] my daughter was born on a full moon [...] I talk to her about the moon and what her name means'.¹⁷⁴ This finding supports Brown's conclusion that being outdoors under dark skies encourages sustainable behaviour as regards light pollution.¹⁷⁵

Recalling my own childhood memories of the night sky I was surprised at the stark difference between my experience and those of the participants, 'lots of times lying awake, insomniac, looking out at the night, hating the dark, wanting dawn to come'.¹⁷⁶ Perhaps my experience may be compared with the fear Ekirch conjectures prehistoric people may have had of the light not returning.¹⁷⁷

4.6 Fear and fearlessness of the dark

In contrast to Edensor who suggests darkness may not always be appreciated, or indeed even feared, comments such as 'Gareth's' and 'Robin's' illustrate participants brought up in rural areas or who have lived on Sark all their lives had no such concerns, 'as a child my grandparents lived in the country [...] no streetlights [...] I had no problem with the dark' and 'my kids, they've been brought up here [...] they'll go on their bikes ahead of me in pitch darkness'.¹⁷⁸ Moreover, the potential for darkness to promote positive transformation and psychological healing as noted by Edensor and Bliss, is indicated by 'Linda's' remark, 'I've looked out at the dark and

¹⁷⁴ Sarah Cottle, 'Sark Dark Sky Community: A Dark Sky Island' [online]. Available: <http://www.darksky.org/assets/documents/dark%20sky%20community%20application.pdf> [accessed Mar 2 2014], direct quote from 'Linda' interview.

¹⁷⁵ Brown, *Higher Education*, p. 68.

¹⁷⁶ Direct quote from my personal journal.

¹⁷⁷ Ekirch, *At day's close*.

¹⁷⁸ Edensor, *Gloomy city*, p. 11, direct quotes from 'Gareth' and 'Robin' interviews.

tried to kind of inhale the outside [...] get it into your body [...] there's a certain kind of comfort when you've had a bad day [...] powerful, transformative'.¹⁷⁹ For several people being out in the dark was a sensual and aesthetic experience as demonstrated by 'Rachel' and 'May', 'taking all the artists out at night, I wanted to show them there's something about being completely in the dark [...] it heightens your other senses, one of them did a painting of the Milky Way here' and 'you begin to get used to shades of darkness [...] like looking at a colourful landscape at night, there's the same beauty in the sky but the colours are shades of black and silver'.¹⁸⁰

Unsurprisingly perhaps, for the size of the population, there are a large number of artists and photographers on Sark.

Several participants who had spent long periods of time in urban areas arrived on Sark with a level of fear but quickly became confident in the dark, as 'Linda' describes, 'when I moved here I had to train myself not to be scared [...] now I feel 100% safe [...] it wasn't people or things I was afraid of, it was just so black'.¹⁸¹ This echoes my own experience of arriving on Sark for the first time; a slow, unconfident cyclist getting left behind by friends having to grapple with my fears as I slowly inched forward in pitch darkness. I also noticed my fear gradually diminishing on subsequent visits. Getting to know many of the local community, if only by sight, also helped dispel fear as 'Mo' relates, 'it's usually the human element that makes you feel unsafe and you haven't got that here [...] especially in winter, you don't see people you don't know'.¹⁸² If astronomical tourism to Sark increases however, there will be a greater chance of meeting 'strangers' during the winter.

Although Kopel and Loatman comment some people fear increased crime or loss of privacy if particular types of lighting are given up, replies such as 'Mo's' demonstrate no evidence of this, 'if an area was dark then it was dangerous, when I was brought up that was the message. That doesn't apply here because it's such a small community'.¹⁸³ Sark has always had extremely limited outdoor lighting, a very low

¹⁷⁹ Direct quote from 'Linda' interview, Edensor, *Gloomy city*, p. 13, Bliss, *In praise*, p. 174.

¹⁸⁰ Direct quotes from 'Rachel' and 'May' interviews.

¹⁸¹ Direct quote from 'Linda' interview.

¹⁸² Direct quote from 'Mo' interview.

¹⁸³ Kopel and Loatman, *Dark sky*, pp. 8-9.

crime rate and neighbours are generally perceived as friendly.¹⁸⁴ Moreover, Kopel and Loatman's hypothesis that people fearful of the dark may not welcome preservation of dark skies to encourage tourism could not be verified in this study as no-one was afraid of darkness and everyone wanted more tourists.¹⁸⁵

Fear, for most participants, was usually associated with the possibility of meeting strangers and newcomers quickly come to recognise many of the other inhabitants and feel safe. Several participants however described feeling occasionally 'unnerved' or 'freaked out' when out at night and this seemed to be related to something unexpected occurring or their imagination playing tricks, as when 'Mo' describes, 'going past the cemetery, the wind blowing, you get peculiar noises'.¹⁸⁶ Such feelings may be associated with the symbolic role darkness has traditionally played as something evil as J. Galinier et al. suggest.¹⁸⁷ Also, as mentioned earlier, Sark folklore associated with witches and night-time creatures, although no longer extant, may also be a factor here.

4.7 The Dark Sky movement and astronomical tourism

The majority of participants saw Sark's award of Dark Sky status as positive in that there was a belief it would lead to increased astronomical tourism for a geographically isolated island heavily dependent on tourism. 'Mo's' comment is typical, 'we're a Dark Sky Island and it's inspiring people to come here [...] best star viewing is in winter [...] when we don't tend to have tourists so that would only be a good thing'.¹⁸⁸ This correlates with Govender's comments regarding the potential socio-economic benefits particularly to isolated communities.¹⁸⁹ 'Rachel' refers to there being some opposition to applying for Dark Sky status, 'there's elements on the island who pooh-poohed dark skies- they say, "dark skies, dark ages", they think

¹⁸⁴ Summary of Sark perception survey results [online]. Available: http://www.gov.sark.gg/Downloads/Press_Releases/2012_Press_Releases/121203_Survey_Results-Island-Wide_Survey.pdf [accessed May 25 2014].

¹⁸⁵ Kopel and Loatman, *Dark sky*, pp. 8-9.

¹⁸⁶ Direct quote from 'Mo' interview.

¹⁸⁷ Galinier et al., *Anthropology of the night*, p. 820.

¹⁸⁸ Direct quote from 'Mo' interview.

¹⁸⁹ Govender, *Astronomy*.

we're backward'.¹⁹⁰ 'Andre' also recounted hearing others question the need for 'official' recognition from outside bodies, 'they said, why do we need these researchers coming here to tell us we qualify?'.¹⁹¹ Outside involvement in relation to promoting Sark's dark skies has generally been welcomed however. SAstroS itself was founded as a direct result of the award of Dark Sky status as 'Ali' and 'Ron' describe,

it was suggested by them (*the IDA*) it would be useful to have a society [...] the IDA doesn't want to stick labels on places that are naturally dark anyway, it's looking for communities like ours where with a small adjustment they can achieve what the really dark places have,

and, 'SAstroS is the very first one (*astronomy society*) but I think that's partly because we've always just looked up and didn't think we needed to do anything'.¹⁹² Again, this reinforces the idea expressed by some participants that the dark sky is often taken for granted.

'Patty' saw the award however as an incentive to preserve the dark sky, regardless of whether it led to increased tourism or not, 'I think knowing about the sky, planets, stars, etc. would make people consider the wonder of it all and take care of the planet, their relationships, etc.'.¹⁹³ Her response may be considered as sitting within the stream of environmentalism discussed by Eckersley which, 'appeals to the enlightened self-interest of the human community'.¹⁹⁴

Although research conducted by the Dark Sky movement focuses on raising awareness of the effects of light pollution and outdoor lighting design, there appeared to be a long-standing understanding of these issues amongst all participants as 'Martin' and 'Patty' describe, 'light pollution in the UK has become a sickening intrusion' and, 'in cities light are angled wrong and cause pollution'.¹⁹⁵ 'John' took a more pragmatic view, 'electricity's very expensive, reason we have dark

¹⁹⁰ Direct quote from 'Rachel' interview.

¹⁹¹ Direct quote from 'Andre' interview.

¹⁹² Direct quotes from 'Ali' and 'Ron' focus group.

¹⁹³ Direct quote from 'Patty' e-mail.

¹⁹⁴ Eckersley, *Environmentalism*, pp. 36-38.

¹⁹⁵ Rich and Longcore, *Ecological consequences*, direct quotes from 'Martin' and 'Patty' e-mails.

skies is we're too mean to pay for electricity'.¹⁹⁶ Perhaps cutting back on outdoor lighting for many on Sark is an economic decision not just an altruistic one.

Like many small island cultures Sark faces the challenge of preserving its identity whilst maintaining its economy. There was an assumption amongst participants that as tourism centres on the island's uniqueness, its perceived simpler, more traditional way of life and unspoilt natural environment, any astronomical tourists would be respectful and understand the need to preserve Sark's dark skies. 'Mo's' remark illustrates this, 'they're the same people who come to appreciate the wild flowers [...] they appreciate that what makes the dark sky possible is no pollution'.¹⁹⁷ There were a number of references to the high cost and lengthy journey to get to Sark and a belief this helped 'weed' out tourists who would not appreciate Sark as 'Rachel's' comment highlights, 'there's no airstrip so you have to come by boat [...] it's not everyone's cup of tea'.¹⁹⁸

Research has not been found elsewhere considering the financial aspects of accommodating astronomical tourists but a minority of participants believed there could be costs involved as 'Andre' and 'John's' replies suggest, 'people might have resented having to buy different lights' and 'problem is you need an observatory or at least a decent telescope'.¹⁹⁹ Collison and Poe's research regarding the educative aspects of astronomical tourism and the opportunities it offers visitors to learn about the importance of maintaining dark skies is not borne out by participants' comments. Follow-up studies on astronomical tourists to Sark would be required to ascertain the validity of this. During my visit in March 2014 the Sark Visitor Centre did however have a small exhibition on the island's Dark Sky application process. There was also an acknowledgement amongst most participants who were incomers to Sark that they now engaged more with astronomical activities as 'Mo' describes, 'may be doing an astronomy degree [...] wouldn't have occurred to me to do if I wasn't living here'.²⁰⁰

¹⁹⁶ Direct quote from 'John' interview.

¹⁹⁷ Direct quote from 'Mo' interview.

¹⁹⁸ Direct quote from 'Rachel' interview.

¹⁹⁹ Direct quotes from 'Andre' and 'John' interviews.

²⁰⁰ Direct quote from 'Mo' interview.

4.8 Sky and land union

For most residents, living on Sark involves living in close relationship with nature. Getting about involves walking or cycling in all weathers, there are no high-rise apartments, everyone lives in a house and opens their front door to find the natural world on their doorstep. 'Linda's' comment demonstrates this, 'here your animal senses come out, your hearing and sense of smell [...] nothing is tarmacked over, the earth is under your feet'.²⁰¹ There are close similarities between how participants expressed their understanding of the concept of an interaction between their own wellbeing and the larger ecosystem of the natural environment, which for them included the sky, and views articulated in more theoretical terms by authors such as Abram, Mathews and Roszak.²⁰²

For most participants the dark sky is, as 'Rachel' says, 'all enveloping [...] part of everyday life' and forms a backdrop to their lives in the same way as do the many Sark plants and animals rarely found on the British mainland.²⁰³ This is perhaps why the sky is widely seen by participants such as 'Andre' as part of nature, 'the dark sky is integral, it's what Sark is, it's part of nature here'.²⁰⁴ When 'Rachel' commented, 'it's important to keep that connection with nature', she was specifically referring to the connection she felt to the dark sky.²⁰⁵

Because there are no streetlights on Sark, on moonless nights the dark sky seems to remove the horizon making sky and land appear as one, a visual phenomenon we do not usually experience. This finding extends and supports the concept of sky as part of landscape as discussed by Ingold.²⁰⁶ As 'Linda' describes, being outdoors at night on Sark means being *in* the sky and feeling connected to it, 'I go out into it and feel immersed in it'.²⁰⁷ Being *in* the sky can also be spatially disorientating as 'Rachel' relates, 'you don't know where you are, no horizon, you can't place

²⁰¹ Direct quotes from 'Linda' interview.

²⁰² Abram, *Spell*, Mathews, *Ecological self*, Roszak et al., *Ecopsychology*.

²⁰³ Direct quote from 'Rachel' interview.

²⁰⁴ Direct quote from 'Andre' interview.

²⁰⁵ Direct quote from 'Rachel' interview.

²⁰⁶ Ingold, *Being alive*, p. 127.

²⁰⁷ Direct quote from 'Linda' interview.

yourself'.²⁰⁸ Walking across a springy field one dense, dark night on Sark I also had the strange sensation that I was simultaneously both walking in the sky and also being supported by it. It felt very comforting. 'Linda's', 'Rachel's' and my own experiences echo Borden's remark about the importance of realising we are in the sky rather than below it.²⁰⁹ In contrast to definitions of nature proposed by Kahn and Kellert, Seymour and Mausner, my study therefore supports the idea that for the people of Sark the sky is very much part of nature.²¹⁰

In addition, some participants' replies extend and support previous studies by Mayer and Frantz, Nisbet et al. and Schultz seeking to ascertain whether a greater sense of connectedness to nature results in a greater responsibility to protect it.²¹¹ 'Ali's' response illustrates this,

watching stars, meteor showers and comets [...] connects humanity to its environment [...] the animals and birds, what mankind does now with flooding the world with artificial lighting, it's creating eclipses for them [...] on a black rainy night, I've gone home with a torch and been careful just to shine it on the road because as I pass if there's a bird in the hedge it will wake up.²¹²

In the same vein, comments by 'Rachel' and 'Paula' correlate with Moore's hypothesis that darkness gives an opportunity to cultivate a closer connection with the natural world, 'recently I've been setting a moth trap in the garden [...] seeing the bats' and 'I loved doing night carriages. One night I remember particularly there were big old trees at the side of the road and my little horse kept jumping over the bars of dark, the moon shadows'.²¹³

The final entry in my own journal reads,

so here is the Sark sky story. The night sky is not just seen but 'felt' by Sarkese and everyone else. It is in them and they are in it, regardless of whether it's intentionally sought out or come upon with soft fascination. It's widely talked about and children are encouraged to step into it from an early age. Everyone is welcome to come and

²⁰⁸ Direct quote from 'Rachel' interview.

²⁰⁹ Borden, *A new view*.

²¹⁰ Kahn and Kellert, *Children*, p. xiii, Seymour, *Nature*, p. 7, Mausner, *Kaleidoscope*, pp. 335-48.

²¹¹ Mayer and Frantz, *Connectedness*, Nisbet et al. *Nature relatedness*, Schultz, *Inclusion*, pp. 62-78.

²¹² Direct quote from 'Ali' focus group.

²¹³ Direct quote from 'Rachel' interview and 'Paula' focus group, Moore, *Gifts*, p. 12.

share in it. This is because it's known that to connect with it strengthens a connection to our own inner cosmoses and helps preserve all of our histories.²¹⁴

To conclude, this chapter has described, analysed and synthesised the findings from the interviews, focus group and e-mail responses. The most significant findings to emerge from my study are: the high level of enjoyment and value placed on observing the night sky with others and this facilitating family/community connection, the transmission of sky stories to others, the widespread belief that observing the night sky spontaneously or intentionally results in positive (and sometimes transformative) feelings, the common experience of the night sky evoking childhood sky memories, a universal fearlessness of the dark and a sense that on an island where a moonless night means there is no visible horizon, there is no differentiation between sky and land and therefore sky and land appear as one.

The next chapter will draw conclusions about the research question as well as to suggest possible future directions. It will include reflexive comments on my experience of conducting the research.

²¹⁴ Direct quote from my personal journal.

Chapter 5 – Conclusions

5.1 Introduction

This chapter draws conclusions about the research question and research aim, presents final considerations and suggests possible future directions for research. I also offer some reflexive comments on my experience of conducting the research.

The focus of this project as described in Chapter 1 was to explore the role the night sky plays in relation to the Dark Sky island community of Sark. This was done through investigating the following themes: the human desire to see the night sky, the commercialisation of this desire through astronomical tourism, the nature of nature, fear of the dark and nature and wellbeing. The group I inquired into were adult inhabitants of Sark who have lived on the island for varying amounts of time.

In the literature review in Chapter 2 works within the fields of ecopsychology, health and environmental psychology, and cultural astronomy which suggest having a connection with nature may be valuable, have a positive impact on wellbeing, and perhaps even be transformative, were examined. The limited amount of research investigating astronomical tourism and the Dark Sky movement was also examined. Additionally, works which investigated humankind's enduring fascination with the night sky, including personal testimony, were reviewed. The literature review highlighted that the focus of interest in existing research has generally been on 'green'/earth-bound nature with a general disregard of the sky. Moreover, whilst the preservation of sky culture and heritage is highlighted by the IDA and other Dark Sky initiatives, most of their research focuses on the effects of light pollution on wildlife and humans and outdoor light design and control. There is therefore a lack of research into the role the night sky plays in relation to inhabitants of Dark Sky Places or the positive impact on wellbeing of living under dark skies.

Having established a gap in the literature I proceeded to conduct a qualitative research project using intuitive inquiry with fourteen participants as outlined in Chapter 3. The interviews, focus group and e-mail comments enabled me to gather information on the role the night sky on Sark played in relation to these residents' lives. My findings, as well as selected entries from my reflexive journal, are discussed in Chapter 4.

5.2 Summary of findings

The main findings that emerged from my research fall into the following themes.

1- The human desire to connect with the night sky and attach meaning and significance to it

I found strong evidence for Kelly's concept of *noctcaelador* or intense attachment to the night sky.²¹⁵ Although there was an acknowledgement amongst participants that some astronomical knowledge may enhance their experience there was a universal acceptance that the experience was powerful in itself and could be enjoyed without any such knowledge.²¹⁶ Few participants described themselves as religious but some of the language they used to describe their skywatching experiences could be regarded as quasi-religious in the sense that it has parallels with that used to describe religious behaviour. The connection these participants feel to the sky appears to give their lives additional meaning and significance.

2 - Observing the sky with others as a means of building and maintaining family/community connection

There was clearly a high level of enjoyment and value placed on observing the night sky not only when alone but also when with family, friends and others. This is perhaps one of the most significant findings as it highlights that shared skywatching can perhaps be seen as one of the ways social bonds are facilitated and maintained in a small island community where people rely on each other. This strengthening of social bonds has been further enhanced by the formation of SAstroS and SAstroS events such as the Starfest weekends which attract not only local people but others from further afield. This finding supports Rhode and Kendle's research on enhanced social interaction and community cohesion when time is spent with others in 'green nature'.²¹⁷ The importance attached by participants to the transmission of Sark sky stories to others corroborates Bogard's view that dark night skies can help us better understand and make sense of life here on earth.²¹⁸ For the people of Sark sharing experiences of meteors, comets and eclipses, events that are outside of our

²¹⁵ Kelly, *Development*, pp. 100-02.

²¹⁶ Davis, *Transpersonal dimensions*, p. 69, Ferrer, *Revisioning*, p. 123, Mathews, *Ecological self*, pp. 149-51.

²¹⁷ Rhode and Kendle, *Human wellbeing*.

²¹⁸ Bogard, *Let there be night*.

everyday lives, connects us more powerfully with ‘the bigger picture’ whilst anchoring us to people or places we hold dear whether on Sark or elsewhere. These are the Sark sky stories.

3 - Experiencing positive feelings through observing the night sky

There was a widespread belief that observing the night sky spontaneously or intentionally impacted positively on wellbeing in a similar way as did walking amongst the Sark wild flowers or watching bottle-nose dolphins from the cliff tops. Thus my research contributes to existing knowledge regarding the restorative effects of nature in the fields of health and environmental psychology by researchers such as Terry Hartig et al. and R. Kaplan and S. Kaplan.²¹⁹ In addition, Davis, Ferrer and Mathews all independently argue encounters with nature can lead to positive transformative experiences and my findings support this but show that for these residents of Sark any such transformation appears to result from experiencing particular sky events such as comets or eclipses rather than ‘everyday’ observation of the sky.²²⁰

4 - Childhood memories of the night sky and nostalgia for the past

An unexpected finding was the universal experience of the night sky evoking fond childhood sky memories, usually of a less light-polluted sky. This finding is in agreement with both Slovic and Totton’s views regarding the importance of preserving ‘nature’ memories, where nature includes the sky, to facilitate connection to our past.²²¹ It also lends weight to recent research by the RSPB on the longer term value of encouraging children to appreciate and protect nature.²²² My research revealed that appreciating the night sky enables us also to reclaim a connection to nature that we often quite literally lose sight of particularly in urban areas.

5 - Fear and fearlessness of the dark

On Sark I encountered an almost universal fearlessness of the dark and consequently no evidence to support Edensor’s suggestion that for some darkness

²¹⁹ Hartig et al., *Restorative Effects*, R. Kaplan and S. Kaplan, *Experience of nature*.

²²⁰ Davis, *Transpersonal dimensions*, Ferrer, *Revisioning*, Mathews, *Ecological self*.

²²¹ Slovic, *Towards an appreciation*, Totton, *Wild therapy*.

²²² RSPB, *Connecting to nature*.

may be threatening.²²³ Newcomers quickly become accustomed to the dark and lose any residual fear they may bring with them from brightly lit cities. Neither do my findings support Kopel and Loatman's hypothesis that communities may be resistant to giving up outdoor lighting for fear of increased crime or loss of privacy.²²⁴ It must be noted however that Sark is a unique community where darkness and the absence of outdoor light at night has been a part of life there long before the island gained Dark Sky status. Most people know each other on Sark and this lack of fear of the dark is apparent even in high tourist season when there are 40,000 visitors to the island.

6 - The Dark Sky movement and astronomical tourism

Although Govender discusses the economic importance of tourism particularly for isolated areas I had not considered just how dependent Sark would be on tourism, probably because I have normally visited during the busy summer tourist season.²²⁵ The award of Dark Sky status was seen by participants as universally positive and the prospect of more tourists who would come during the leaner winter months to appreciate the dark skies was overwhelmingly welcomed. SAstroS now has a telescope and the site for an observatory on the island has been chosen so the stage is set. Everyone had the same one proviso however, and that was that such tourists should be respectful of the Sark way of life and its precious natural resources.

7 – Sky and land union

My research showed that on an island where a moonless night means there is no visible horizon and there is no differentiation between sky and land, the sky is felt to be at one with the land. For many participants (including myself) there is a sense of actually being *in*, rather than below, the dark sky, suspended in a union between heaven and earth, paralleling Ingold's view of the sky and landscape as connected.²²⁶ This is a visual phenomenon that has been totally lost, it is not an experience that we are normally aware of in our light-polluted towns and cities. This finding gives a new understanding therefore of the 'nature' of what constitutes nature

²²³ Edensor, *Gloomy city*.

²²⁴ Kopel and Loatman, *Dark sky*, pp. 8-9.

²²⁵ Govender, *Astronomy*.

²²⁶ Ingold, *Being alive*.

and the intimacy of our connection with it should we allow ourselves to experience its fascination.

5.3 Possible areas for future research

My research has focused on adults' experiences of the night sky but children's experiences may also merit exploration particularly as childhood sky memories featured prominently in the research. In addition, although no interviews were conducted with older people who had lived on Sark all their lives (who were not SAstroS members), given this group were often referred to as, 'taking the sky for granted', their views might deserve further study in order to ascertain the validity of this opinion. As astronomical tourism to Sark and other Dark Sky Places grows, the costs of accommodating the needs of such tourists and their motivation to then go on to implement changes to lighting at their homes and engage more with astronomical activities could be investigated. Finally, the unusual sensation of feeling one is *in* the sky when out on a dark night could also be further explored within other Dark Sky communities.

5.4 Final thoughts

Although the number of participants in this research is relatively small I believe the project and its findings are valid because the same feelings were repeatedly described in relation to how the dark night sky on Sark is experienced. My findings represent an original contribution to the field as very little, if anything, can be found in the literature on dark skies which investigates these areas. This research therefore has begun to address the missing sky factor within the fields of ecopsychology and health and environmental psychology. The findings can potentially be used to strengthen the Dark Skies movement's claims that dark night skies can impact positively on wellbeing.

Anderson and Braud suggest research can facilitate transformation of the researcher and lead to, 'important, meaningful and sometimes profound changes in one's attitudes of one's views of oneself and of the world at large'.²²⁷ During the course of the research I have become much more aware of light pollution in my home city of Edinburgh and have begun engaging in influencing policy decisions. As a therapist

²²⁷ Anderson and Braud, *Transforming self and others*, p. xv.

who has in the past occasionally conducted therapy sessions outdoors in daytime, I am now considering the therapeutic benefits of having sessions under a dark night sky.

Appendices

Appendix 1

Participant Information Sheet

University of Wales, Trinity Saint David

MA in Cultural Astronomy and Astrology

Title of project: An exploration of the role that the night sky plays in the lives of the Dark Sky island community of Sark.

Name of researcher: Ada Blair

You are being invited to take part in a research project. Before you decide it is important that you understand why the research is being done and what it involves.

Please take time to read the following information. Ask me if there is anything that is not clear or if you would like more information. Take time to decide if you would like to take part or not.

1. What is the purpose of the project?

This project is part of my final year dissertation for the degree of MA in Cultural Astronomy and Astrology at the University of Wales, Trinity Saint David. The project will seek to explore if observing the night sky may bring benefits to individuals and communities as has been suggested by a number of scholars, the Dark Sky movement and others. I am an experienced counsellor/psychotherapist with an interest in the how encounters with nature (including the sky) may be transformative and beneficial to individuals and communities.

2. Do I have to take part?

No. It is up to you to decide whether or not you wish to take part. If you do you will be given this information sheet and asked to sign a consent form. You are still free to withdraw at any time and without giving a reason.

3. What will be involved if I agree to take part?

You will be invited to attend a one hour semi-structured recorded interview on themes relating to your experience around the research title. The interview will take place in March or April 2014 on Sark at a mutually agreeable time and venue.

4. Are there any risks / benefits involved?

There are no risks related to the study.

5. Will my taking part in the study be kept confidential?

Anonymised transcripts of your interview will form an important part of the research project. All references your identity will be removed, e.g. names, places, biographical content that could disclose who you are. Recordings and transcripts will be kept securely for five years.

Contact details of researcher:

Ada Blair

caladach@gmail.com

07738554428

Note: A copy of the participant information sheet should be retained by the participant with a copy of the signed consent form.

Appendix 2

List of Interview Questions

- How long have you lived on Sark?
- Have you lived in other places or do you regularly travel to other places?
- What's your earliest memory of looking at the night sky on Sark? Describe this in as much detail as you can.
- How often do you find yourself noticing the night sky?
- Can you recognise any constellations, planets, etc.?
- Have you heard any stories about the night sky?
- What feelings come up for you when you look at the night sky? Describe these feelings in as much detail as you can.
- What's the most powerful experience you've had when looking at the night sky? How did that experience make you feel at the time?
- Do you think the experience has had any longer-term impacts for you? On physical, emotional, spiritual wellbeing?
- Do you consider yourself to be a spiritual and/or religious person?
- Do you feel there are any benefits to watching the night sky? If so, what benefits have you experienced yourself?

- *(If you spend time away regularly from Sark)* Are you aware of any differences in how the night sky looks elsewhere as compared to Sark?
- Is how you feel about the night sky elsewhere different to how you feel about the night sky on Sark?
- Do you ever have conversations with others about the Sark night sky? If so, what experiences, etc. have others reported?
- How do you feel about being out at night in the dark, on Sark and elsewhere?

Appendix 3

Interview Release Form

Sophia Centre for the Study of Cosmology in Culture,
Department of Archaeology and Anthropology,
University of Wales, Trinity Saint David, Ceredigion, Wales, SA48 7ED, UK.
Interviewer: Ada Blair e-mail: caladach@gmail.com

INTERVIEWEE DETAILS HERE:

Name: _____

Address: _____

Tel.: _____

email: _____

This form has been drawn up to respect in order to ensure that the material in your interview with Ada Blair is used only in accord with your wishes.

1. May we use your contribution:

a. for public reference. Yes No

b. for research purposes. Yes No

c. for academic presentations, e.g. in seminars and lectures. Yes No

d. in research material which may be published at a future date Yes No

2. May we use your name? Yes No

NB. Even when permission is given to use your name, all material will be cited anonymously unless explicitly requested otherwise.

Signature of interviewee _____ date _____

Signature of interviewer _____ date _____

Note to interviewee: if you have any questions or concerns, please address them to Dr Nick Champion, Director, Sophia Centre for the Study of Cosmology in Culture, Department of Archaeology and Anthropology, University of Wales, Trinity Saint David, Ceredigion, Wales, SA48 7ED, UK. E mail: n.champion@tsd.ac.uk

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