

## TRANSCENDENT EXPERIENCE IN FOREST ENVIRONMENTS

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### Abstract

People who visit, work or live in forests ( $n = 131$ ) described a transcendent moment in a forest, providing written responses to open ended questions regarding the cause, thoughts, and behaviour associated with the event. Participants also rated the episode on a number of scales measuring characteristics of transcendence such as sense of union and timelessness, and broader appraisal dimensions such as complexity, novelty and causality. Appraisal patterns, identified through principal components analysis, suggest that transcendence in forests varies on three major dimensions: fascination, novelty and compatibility. The paper discusses broad classifications of transcendent experience in forest and considers the implications for understanding the spiritual meaning of nature.

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A moment of extreme happiness; a feeling of lightness and freedom; a sense of harmony with the whole world; moments which are totally absorbing and which feel important: these phrases characterize transcendent experience. A range of positive human experiences have been characterized as transcendent including mysticism (James, 1902/1961), ecstasy (Laski, 1961), peak experience (Maslow, 1964; 1968) and states of flow (Csikszentmihalyi, 1992). These phenomena share several key characteristics:

- Strong positive affect;
- Feelings of overcoming the limits of every day life;
- A sense of union with the universe or some other power or entity;
- Absorption in and significance of the moment;
- A sense of timelessness.

Such experiences are often reported to be triggered by natural and wilderness environments (Laski, 1961). This article explores the experience of transcendence in forest environments and the role of situational characteristics and particularly the physical environment in shaping these episodes.

Public and professional interest in the relationship between spirituality and nature has been increasing during the past decade. Among managers of natural resources, particularly in the United States of America, this has been driven by legislation which demands a wide range of human values be incorporated in the management of forests and other protected areas (Driver *et al.*, 1996). Other forces are also visible. Notably, interest in transcendent or spiritual experience may be motivated by the belief that these experiences are psychologically beneficial (Kaplan & Kaplan, 1989; Gray, 1995) and may influence long term environmental attitudes (Cock, 1991; Kals *et al.*, 1999). Despite the benefits transcendence in nature potentially provides for humans, there have been few systematic investigations of the phenomena. This paper responds to a need for greater theoretical and descriptive clarity in discussion of the spiritual values of natural places.

Across numerous cultures, transcendent episodes have a special association with nature. All the most influential scholars of transcendent experience — William James, W. T. Stace, Margharita Laski, Abraham Maslow — have observed that natural environments have a close association with transcendent experience. Laski (1961) found that nature was the most common trigger of ecstasy among nonbelievers

and the third most common trigger among Christians. Human–environment researchers have also noted that many significant and relatively common leisure and aesthetic experiences in nature are characterized using the language of mysticism or transcendence (Mitchell, 1983; Chenoweth & Gobster, 1990; Suedfeld, 1992).

Why do natural places inspire such responses? Psychodynamic approaches suggest that the special qualities of transcendent moments can be attributed to the dynamic forces of the Unconscious (Schroeder, 1996). Following the work of Jung (1964), archetypes—symbols or mental structures stored in the Unconscious—are considered to provide a dynamic structure for thought at times of strong emotion. Schroeder (1996) contends that the emotional depth of many human–environment transactions occurs when we sense that nature can never be comprehended. At these moments, our inner and outer worlds merge as we sense the hiddenness of both nature and spirit. In many cultures, natural elements such as water and trees are richly endowed with symbolic meaning and may therefore act as a trigger for transcendent moments (see for example Dwyer *et al.*, 1991; Mandondo, 1997).

A second approach (see for example Mazumdar & Mazumdar, 1993; Fredrickson & Anderson, 1999), assumes that spiritual experience in nature is closely related to sense of place. Inherent in this approach is the understanding that transcendent moments are the outcome of complex transactions between person and setting (Altman & Rogoff, 1992). In contrast with psychodynamic approaches, transcendent experience in nature is not considered to be primarily shaped by archetypal associations. Rather transcendent meaning is influenced by a broad range of situational characteristics, related to both the social and physical environment. Within this framework, Fredrick and Anderson (1999) attribute the inspirational quality of many forms of wilderness experience to both positive social interaction and awareness of the expansiveness and power of nature. In other contexts and cultures, the presence of trees with religious significance (Mandondo, 1997), aesthetic beauty (Chenoweth & Gobster, 1990) or solitude and hardship (Suedfeld, 1992) might be important components of places which are spiritually significant.

A third approach suggests that the association between nature and transcendent experience arises from activities which typically occur in these places. Csikszentmihalyi (1992) believes the core qualities of transcendent experience—a sense of union, power, timelessness and overcoming limits of ordin-

ary experience—arise when attention is completely focused on a pleasurable task. During the resultant state of ‘flow’, the usual distinctions between self and object are lost. Instead, internal and external worlds are fused into a single stream of being, as defined for that period of time by activity. Natural places provide the physical context for flow experiences because they are an important setting for many popular leisure activities such as rock climbing and bushwalking.

Several researchers have identified the possibility that the experience of transcendence in nature occurs in more than one form. For example, Mitchell (1983) distinguishes between active and passive experiences of the sublime during mountain activities. The active form of sublime experience is described as “active merging with mountains through the dynamics of climbing” (p. 147), a phenomenon apparently closely related to Csikszentmihalyi’s (1992) concept of flow. The contrasting passive form is most likely to occur when mountaineers are prevented—through inclement weather or similar events—from pursuing their intended activity. These experiences are characterized by feelings of reverential awe and are suggestive of the diminutive effect—feeling very small and insignificant in a large place—described by Gallagher (1993). Similar sensations of awe and insignificance are described by Lowenthal and Prince (1976) and Suedfeld (1992).

Fredrickson and Anderson (1999) compared wilderness experiences in the Grand Canyon of Northern Arizona and the Boundary Waters Canoe Area Wilderness in northern Minnesota. While experiences in both areas were considered inspirational, the researchers concluded that between-site differences occurred and that this variance was related to the characteristics of the physical environment. For example, visitors to the Boundary Waters tended to describe the landscape as a whole while visitors to the Grand Canyon paid closer attention to individual elements within the landscape. Fredrickson and Anderson propose that the dense vegetation of the Boundary Waters might discourage visual exploration of individual plants and animals while moving through the environment; in contrast the visually barren Grand Canyon might foster observation of isolated features of the desert.

The existence of qualitatively distinct forms of transcendence is consistent with long held understandings of mysticism and related phenomena. Numerous taxonomies have been developed to describe the different types of mystic or transcendent experience which have been observed (see for example Laski, 1961; Stace, 1961; Zaehner, 1961; Glock &

Stark, 1965; Smart, 1965; Happold, 1970; Thomas & Copper, 1978; Privette & Bundrick, 1983; Cleary & Shapiro, 1995). It should be noted however that in many of these classification systems, nature mysticism has been singled out as a distinct form of experience, with no consideration of variation within this phenomena.

An elementary requirement for researchers in this field is greater clarity regarding the forms of transcendence that occur in natural places. As a first step towards this goal, a study was undertaken to identify the forms of transcendence which occur in forest environments. Literary and historical research tells us that forests are an important setting and source for mythical and religious rites and stories. Alexander Hunter wrote in 1776, 'It is natural for men to feel an awful and religious terror when placed in the centre of a thick wood' (Thomas, 1983, p. 216). The terror of forests has been subdued for most men and women but the near religious reverence is still present in many reflections on forest experience. Herbert Schroeder suggests that forests have a special capacity to evoke a sense of mystery because they 'hide what lies within' (1996, p. 92). The research reported here examines the nature of human-forest transactions in a contemporary Australian context. The study aims:

1. To identify the forms of transcendence that occur in forest environments, and
2. To determine the situational characteristics, including qualities of the forest environment, which shape these experiences.

### Method

This research combines quantitative and qualitative approaches to examine episodes of transcendence in forests. Utilizing a written questionnaire, respondents were asked to recall a single incidence of transcendence that occurred in a forest environment. Similar approaches have been employed in the study of emotional experience in a range of contexts (Chenoweth & Gobster, 1990; Privette & Bundrick, 1991; Fitness & Fletcher, 1993).

The research was conducted in the state of Victoria, in south eastern Australia. Environments colloquially described as forest in this area are quite diverse including dense temperate rainforest, open forests of tall mountain ash, relatively low and scraggy woodlands as well as areas of eucalypt and pine plantation.

### Participants

Recalled experiences of transcendent emotion in forest were sought from people who visit, work or live in forests. Surveys were distributed through a number of relevant organizations including conservation societies, bush walking, hunting and four wheel drive clubs, scouting organizations, forestry and National Parks Service work centres, and environmental studies courses. Residents of three Victorian rural communities situated close to forests were also asked to assist. Correctly completed forms were returned by 131 people (72 men and 59 women). This represents a response rate of 35%.

### Questionnaire

Participants wrote brief descriptions of the cause, thoughts, and behaviour, physical sensations, urges and significance of the event in response to a series of open ended questions (based on Fitness & Fletcher, 1993). They also described the experience by indicating their level of agreement (using a 7 point scale) with a number of descriptive statements. Eight items, some adapted from Hood's (1975) mysticism scale, were designed to measure the transcendent nature of the experience (Appendix 1). Additional statements described a range of appraisal dimensions identified through previous investigations of emotional and environmental experience. These include pleasantness, complexity, unity, enclosed-ness, potency, affection and originality (Küller, 1991), significance, goal achievement and causal locus of the situation (Fitness & Fletcher, 1993), relative awareness of self and the external environment (de Rivera, 1977).

Four different versions of the survey were utilized. The surveys were identical except for the kind of experience respondents were asked to describe. Each survey type asked respondents to describe an experience in a forest. In three forms, respondents were asked to describe experience of one transcendent emotion in a forest environment, awe, joy or serenity respectively. The fourth form asked respondents to describe a 'most wonderful experience' in a forest:

I would like you to describe a forest experience. First relax and make yourself comfortable. Try to recall the most wonderful experience you have had in a forest: the happiest moment, the most ecstatic moment, a moment of rapture—a natural "high". It may be a time of intense feeling or an experience in which you saw the forest in a new way. Don't panic if you can't think of an example straight away. Just drift back mentally over the times you have spent in

forests. Remember there is no right or wrong way to think about this experience. Think of the very best experience you have had in a forest.

These instructions were based on those used by Maslow (1964). An example of the questionnaire format is shown in Appendix 2. The four versions of the survey were originally designed to assess the relationship between transcendent emotions and transcendent experience, and to determine whether awe, joy and serenity can be distinguished as separate forms of transcendent emotion. Comparisons of responses to the four survey types revealed few differences (Williams, 1998) and the results presented in this paper are therefore based on responses to all four survey types.

#### *Coding of written descriptions*

Content analysis was utilized to code written descriptions of forest experiences. For each question, all answers given by respondents were listed in no particular order. These were then grouped together to form superordinate categories of similar responses. These categories, describing interaction type, prior mood, attributed cause, behaviour, thoughts, physiological sensations, transcendent qualities, duration and how long ago the experience occurred, are listed in the first column of Table 1. The majority of concepts are self explanatory, with the exception of "attributed cause". After trials of several possible coding schemes, attributed causes were divided into three major classes: internal causes, attention to multiple points within the environment and attention to one or two compelling aspects of the environment. The distinction between single and multiple foci in the environment is derived from Kaplan (1995). Kaplan outlines the nature of undirected attention and discriminates between soft fascination inspired by 'many interesting things in the environment which draw our attention' (Hartig *et al.*, 1996, p. 64), and hard fascination which is related to extremes of size and other salient perceptions. Giant trees, vast waterfalls, extreme cold, silence, or the persistent noise of certain insects might provide a single, compelling focus within a natural environment.

Two researchers independently coded all responses, utilizing the categories described above. This was undertaken to test the reliability of the coding scheme. Inter-rater reliability of coding of the main categories (measured using kappa scores) is shown in column one of Table 1. Coding of responses to two questions (significance, thoughts) were not considered sufficiently reliable

(kappa < 0.65) and were therefore excluded from further analysis.

#### *Data processing (Appraisal Items)*

Eight items required respondents to describe the episode with regard to transcendent qualities (Appendix 1). Responses to these items were summed to create an overall scale of transcendent experience. The inter-item reliability of this scale was tested using standard scaling procedures. Most items have a moderate to strong positive correlation with total scores (Appendix 1). The lowest item-total correlations are for the items 'I felt lucky to have this experience' (0.30) and 'The forest and the things happening in it felt perfect' (0.34). The standardised item alpha for this scale is 0.82.

## **Results**

Principal Components Analysis (PCA) was employed to identify the underlying dimensions which characterize transcendent emotional experience in forest. Fifteen cognitive appraisal items were entered into this process. PCA indicated that transcendent episodes can be described by three dimensions which account for 43 per cent of variance. Item loadings on each of the factors are shown in Table 2. A range of items loaded significantly on factor one: a feeling of being overwhelmed and fascinated by the forest; belief that the experience was caused by the forest; acute awareness of feelings in body and mind; and description of the environment as complex, full of variety and change. Overall these concepts appeared to indicate intense emotional involvement in the moment; the factor was labelled 'fascination'. Factor two appears to be associated primarily with the novelty of the experience and included items regarding familiarity, arousal and coherence of the environment. The items loading on factor three allude to a sense of compatibility and ease; associated items include a sense of belonging in the environment, goals achievement, the forest is described as open and easy to move through, and one has a feeling of power over the forest.

To identify the forms of transcendence that occur in forest environments, factor scores for each case (episode) were entered into cluster analysis. This process identified six major classes of positive experience, including a total of 115 cases. The process assigned the remaining cases to several additional small clusters (<10 cases). These minor clusters

TABLE 1  
Description of six forest experiences: percentage of episodes in each type of experience

Measure	Experience Cluster Name						Phi Coefficient
	Non-transcendent <i>n</i> = 11	Restorative (Familiar) <i>n</i> = 27	Aesthetic experience <i>n</i> = 31	Diminutive experience <i>n</i> = 10	Deep flow <i>n</i> = 23	Restorative (Compatibility) <i>n</i> = 13	
<b>Time Ago</b>							
1—4 weeks	9.01	22.22	25.81	10.00	30.43	30.77	0.17
1—12 months	36.36	37.04	29.03	10.00	17.39	46.15	0.23
> 12 months	45.45	37.04	45.16	80.00	52.17	23.07	0.27
<b>Interaction Type</b> (kappa = 0.90)							
Recreation (not work)	80.00	92.31	77.42	90.00	86.96	92.31	0.18
Manipulation (eg. logging, hunting)	20.00	11.54	6.45	3.00	8.69	—	0.25
Other people present	40.00	30.77	48.39	60.00	43.48	30.77	0.19
<b>Attributed Cause</b> (kappa = 0.69)							
Internal factors (own behaviour or thoughts)	10.00	15.38	6.45	—	17.39	15.38	0.17
Hard elements of environment	10.00	30.76	45.16	80.00	30.43	7.69	0.39**
Soft elements of environment	80.00	50.00	32.26	—	39.13	69.23	0.41**
Other	—	3.85	16.13	20.00	13.04	7.69	0.20
<b>Behaviour</b> (kappa = 0.71)							
Active (running, walking, climbing)	20.00	38.46	41.93	60.00	39.13	23.08	0.21
Reflective (thinking, observing, prayer)	90.00	57.69	77.41	90.00	82.61	76.92	0.26
Interaction with other people	10.00	11.54	19.36	50.00	26.09	15.38	0.27
<b>Physiological Sensation</b> (kappa = 0.87)							
Breathing change	10.00	19.23	9.68	—	13.04	—	0.21
Negative sensation	20.00	7.69	9.68	30.00	8.69	7.69	0.21
Relaxed	20.00	69.23	51.61	10.00	65.52	38.46	0.38**
No physical sensation	30.00	15.38	16.29	—	13.04	30.77	0.22
<b>Transcendent Qualities</b> (kappa = 0.69)							
Sense of timelessness	—	11.54	12.90	10.00	21.74	—	0.22
Transcendence (sense of perfection, power, renewed energy)	40.00	88.46	96.77	100.00	86.96	84.61	0.45***
Creaturehood (feelings of insignificance)	—	23.08	12.90	60.00	21.74	15.38	0.35*
<b>Duration</b>							
Seconds, minutes	50.00	26.92	48.39	30.00	21.74	46.15	0.24
Hours	10.00	57.69	48.39	50.00	34.78	23.08	0.30
Days, weeks	40.00	15.38	3.22	20.00	43.48	30.77	0.37**

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , Pearson chi-square probability.

Dash (—) indicates no members of cluster gave this response. Not all categories are exclusive, therefore some total percentages do not equal 100.

Transcendent Experience In Forest Environments

TABLE 2  
*Rotated Factor Matrix (PCA with varimax rotation)*

Item	Factor 1	Factor 2	Factor 3
The forest caused the feeling I had*	<b>0.64</b>	-0.05	-0.18
Something within me caused the feeling I had*	<b>0.50</b>	0.02	0.18
The forest was full of variety and change*	<b>0.46</b>	0.00	0.11
I was aware of the feelings in my body and mind*	<b>0.76</b>	0.30	0.10
I was fascinated by the forest and the things happening in it*	<b>0.72</b>	-0.07	0.11
I felt overwhelmed by the forest*	<b>0.60</b>	- <b>0.47</b>	-0.11
I felt excited or agitated while I was in the forest	0.13	- <b>0.57</b>	-0.23
I was hardly aware of feelings in body; only aware of forest	0.00	<b>0.49</b>	-0.27
The forest and things happening in it were familiar to me*	0.33	<b>0.61</b>	0.30
It was difficult to make sense of the forest	-0.07	<b>0.60</b>	0.00
The forest and things happening in it were typical*	0.15	<b>0.59</b>	0.39
I felt that, in a way, the forest belongs to me	-0.01	0.06	- <b>0.69</b>
The forest was open and easy to move through*	0.13	-0.05	<b>0.55</b>
I was able to do the things I planned*	0.19	0.27	<b>0.48</b>
I felt I could change the forest and the things happening in it	0.35	0.23	- <b>0.46</b>

Loading in **Bold** font indicate items which load significantly on each factor.

\*Indicates that item was reflected during transformation to rectify skewed distributions. High scores on this item therefore indicate low level of agreement. Reflection must be taken into account when interpreting factors.

TABLE 3  
*Forest experiences characterized by fascination, novelty, control and transcendence*

Cluster label	<i>n</i>	Fascination*	Novelty	Compatibility*	Transcendence score
					mean = 39.1
Diminutive Experience	10	1.13	1.70	-0.66	46.90
Deep Flow	23	0.98	0.04	1.00	47.26
Non transcendent Experience	11	-1.25	-0.35	-1.03	24.45
Aesthetic Experience	31	-0.28	0.57	-0.27	41.24
Restorative (Familiar)	27	-0.29	-0.80	0.30	35.00
Restorative (Compatibility)	13	-0.90	0.66	1.22	39.31

\*Poles on Fascination and Compatibility factors (1 & 3) have been reversed for ease of interpretation. This means that higher scores on each of the three factors indicate greater fascination, novelty and compatibility respectively.

and associated cases were excluded from further analysis. The remaining six major clusters are characterized in Table 3 according to mean scores on each of the three factors and reported transcendent quality.

Further information about these types of experience was obtained from analysis of the verbal descriptions of each forest episode. Table 1 shows the percentage of episodes in each category that were described utilizing the concepts highlighted through content analysis. Usage of some concepts differed across the six classes of forest experiences. Associations between the concepts and each class

was examined using a measure of association suited to nominal data ( $\phi$ ). Phi coefficients have values between  $-1$  and  $+1$ ; interpretation of Phi coefficients is similar to interpretation of Pearson correlation coefficients. The table shows that descriptions of the six types of experience differed in several ways: the attributed cause, feelings of relaxation, reported feelings of transcendence and insignificance, and duration of the experience.

Two clusters of episodes stand out as strongly transcendent in character. One group of episodes were classified as Diminutive Experiences. These moments were characterized by high fascination,

high novelty, low compatibility, and high levels of transcendence. Analysis of verbal descriptions of these episodes showed that such moments in forests were likely to be attributed to fascination with compelling elements of the environment: tall trees, vast views, high waterfalls, extreme of heat or cold. People describing these experiences were very likely to express feelings of insignificance and humility. They were less likely to describe the experience as one of relaxation. Appraisal patterns suggest these experiences occur in environments that are potent, novel, complex and hard to understand. The forest may be dense and there is little sense of belonging in that place. Many participants described the experience as a response to tall and ancient trees, as in the following example:

I went to see at first hand the big Sequoia trees, camping and sight seeing. The feeling was caused by the enormous size of the trees, the fact that they were so many hundreds of years old. How huge! I can hardly see the canopy! How could you take a photograph of the whole thing! I felt awe, humility, how great is God to make those trees.

Like diminutive experiences, episodes characterized as Deep Flow are highly absorbing and transcendent. These episodes are differentiated from Diminutive Experiences by high levels of perceived compatibility and only moderate levels of novelty. Respondents more often described these experiences as relaxing. The episodes were likely to occur in environments that were relatively open, familiar and considered with more affection or feelings of belonging. The high compatibility score suggests the sense of ease or effortless attention which is characteristic of flow; curiously though, very few stories emphasize activity as a trigger for the flow-like experience. For example:

I was in the forest for scientific research, hiking. I was happy to be in the forest. I had the feeling that I was part of nature, and that I was experiencing life and nature in its purest form. I felt truly content. I felt I could stand there forever. I relaxed. I felt like lying down and going to sleep. I closed my eyes and listened to the forest. I was much more in tune with the world and life. I knew that there was much more to life than the everyday hustle and bustle of surviving.

In striking contrast, a third cluster of episodes can be considered Nontranscendent Experiences. These episodes are mainly characterized in the negative: low levels of fascination, low levels of compatibility and relatively low novelty and particularly low transcendent quality. These events tended to occur in environments which were relatively dense and

hard to move through, fairly familiar, and not potent or complex.

The three remaining clusters are less typically examples of transcendent experience although they share many qualities with the phenomena. The first of these, Aesthetic Experience, has some similarity to the diminutive experiences described above since both are characterized by relatively high levels of novelty and low compatibility. Many verbal descriptions of these episodes include transcendent language but such moments are less likely to be characterized by feelings of insignificance and humility. The episodes do convey a strong sense of heightened awareness and discovery:

I was doing an animal count when I saw a kangaroo give birth to a pinky (tiny new born kangaroo) which made its way up to the pouch. Its unreal because not many get to see this event in the world. My heart raced as I tried to stay quiet.

Restorative experiences, the refreshing quality of the forest, the benefits of peace and quiet, a sense of renewed energy and activity are a recurring theme in descriptions of forest experience but seem particularly dominant in the final clusters. The first of these clusters, Restorative-Familiar, is distinguished by relatively low scores on the novelty factors and may suggest that attachment to place has an important role in some positive emotional experience in forest:

We were spending the weekend at our house. I felt the need for the tranquillity and 'gentleness' of this bush. Its definitely the bush that makes me feel serene, and the lack of traffic noise. In fact my sleep patterns alter in this bush environment and I lose the anxious feelings that I awake with during the night in other environments. Time is no longer important. The important thing about the experience was what I was NOT thinking about. Serenity for me is accompanied by the realization that I need do nothing. That I may be still.

The final class of experience, Restorative-Compatibility, is characterized by relatively high scores on the compatibility factor and may suggest a somewhat less emotionally intense form of flow.

## Discussion

Exploratory analyses suggest at least two distinct forms of transcendent experience occur in forests. One form is characterized by strong feelings of insignificance and appears very similar to the diminutive experience described by Gallagher (1993). The second type of transcendent experience in forests

is characterized by a strong sense of compatibility and familiarity and bears resemblance to the experience of flow (Csikszentmihalyi, 1992). This finding provides support for Mitchell's (1983) observation of two phenomenologically distinct experiences of the sublime during mountain activities. The finding that the more passive Diminutive Experience occurs in environments which are dense, powerful and difficult to move through is consistent with Mitchell's (1983) belief that less active forms of sublime or transcendent experience are more likely to occur when people are prevented from pursuing their intended activity in nature.

The study also identifies four other positive emotional experiences in forests which share many characteristics with transcendent phenomena but are less clearly or typically transcendent. Resonant with work by Chenoweth and Gobster (1990) and Kaplan and Kaplan (1989), this study finds evidence of close relationships between transcendence and both aesthetic and restorative functions of nature.

In the light of work by Csikszentmihalyi (1992), Mitchell (1983) and others, it is noteworthy that episodes were rarely attributed to activity in the forest, the majority of respondents attributing their experiences to qualities of the physical environment. The situational factors distinguishing forms of transcendence confirm the important role the physical environment plays in shaping transcendent phenomena, a relationship which receives insufficient recognition in some theoretical approaches. Within the flow model (Csikszentmihalyi, 1992), the physical environment is important only in as far as it supports pleasurable activities. Where the environment is not compatible with personal goals, flow is unlikely to occur. Within Jungian models (Schroeder, 1996) the physical environment is present largely in symbolic form. We respond to a tree primarily as an instance of the Tree and as a representative of the deep emotional associations of Tree stored in the Unconscious. Particular environments move us to deep emotional response because of general and symbolic meaning rather than the unique characteristics of a given place. Research in this field will benefit from better integration with approaches which highlight environmental appraisal and sense of place (see for example Fredrick & Anderson, 1999 and Williams, 1998).

The emphasis other researchers have placed on activity and physical hardship as a trigger of transcendent phenomena in natural places (for example Fredrickson & Anderson, 1999; Mitchell, 1983; Suedfeld, 1992) may reflect the focus of such research on remote and physically challenging environments. In

the study reported here, experiences were not limited to those occurring in remote or wilderness environments. Physical challenge may play a less important role when transcendence is experienced during day walks and other more passive forms of recreation.

This research provides some insight to the theoretical and phenomenological relationship between restorative and spiritual experience. Kaplan (1995) argues that fascination is a crucial component of restorative experience, but restorative experience is more likely to be associated with soft fascination than hard fascination. In this study, Deep Flow episodes were found to be more relaxing and more often attributed to multiple soft foci in the environment than the contrasting diminutive experiences. Diminutive experiences were less relaxing and attributed to a strong single focus in the environment. This contrast raises the possibility that the concept of fascination may assist in accounting for transcendent as well as restorative experiences in nature (see also Otto, 1923/1958; Lowenthal & Prince, 1976).

### Conclusion

While there is increasing interest in the spiritual values of nature, there have been very few empirical studies undertaken to identify the character of significant experiences which contribute to these values. This exploratory study suggests that transcendent episodes in forests take more than one form and can be distinguished by the qualities of compatibility and novelty. The research identifies a number of situational characteristics which contribute to these distinct experiences. Further research, involving a range of natural environments such as coastal areas and desert, is required to gain a better appreciation of this phenomena.

The qualities of the environment in which transcendence occurs are a critical component of this experience. Nature does not move us simply because it represents Mystery or Purity, or because of activities undertaken in natural settings. Each natural landscape is a unique and complex system of matter, energy, human purpose and action. Each element of this system—perceived, interpreted and altered by human knowledge and behaviour—contributes to this entity we call a 'human-environment transaction'. Our understanding of the spiritual meaning of nature depends on recognising the situational characteristics that contribute to deep emotional experiences in natural environments.



## Notes

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Appendix 1

*Transcendent experience concept and items*

Component	Item	Item Total Correlation
Overcoming limits	The forest and the things happening in it felt perfect.	0.34
	The feeling seemed like a new or “higher” way of looking at the world.	0.68
Sense of new meaning	At the time I felt that I understood the forest in a new way.	0.62
	At the time I felt that the experience gave me a new understanding of life.	0.63
Sense of oneness	When I had this feeling, place and distance meant nothing to me; I felt part of the whole universe.	0.67
Timelessness	Time meant nothing to me while I had this feeling; it was like a piece of eternity.	0.60
Ineffability	The feeling I had was too amazing to put into words.	0.53
Rarity/value	I felt lucky to have this experience of the forest. It wasn't the sort of thing that everyone experiences.	0.30

Appendix 2

*Example of questionnaire format*

Emotional, Experience in Forests

I would like you to describe a forest experience. First relax and make yourself comfortable.

Try to recall a time you felt AWE in a forest. Don't panic if you can't think of an example straight away. Just drift back mentally over the times you have spent in forests. Remember there is no right or wrong way to think about what 'awe' means—interpret the word in any way you like. Try to think of a forest experience in which you felt 'awe', even if only mildly.

Try to remember what it was like in as much detail as you can. Concentrate on the feeling of AWE. Imagine you are back in that situation. What happened? How did it feel? When you are ready, answer the questions below.

You may like to answer the questions by writing just a few key words. If you do need more paper, use the reverse side of the page.

Please answer the questions according to how you felt THEN. Imagine you are back in that situation. . . . .

- When did this experience happen? (tick one box)
  - in the past month
  - in the past year
  - more than a year ago

- Why were you in the forest? What were you doing there?

*[space provided for written answers to questions 2 to 12]*

- What kind of mood were you in before the event?

- What happened or what it was about the forest that made you feel AWE?

- What were you thinking about while you felt awe? What thoughts or feelings did you have at the time?

- What did you feel physically during the experience of awe? (for example in your stomach, muscles, heart)

7. Did you have an urge to do something while you felt awe, even though you might not have given way to it?

8. What did you do? How did you act while you were in awe?

9. How long did the feeling of awe last? (tick one box)

- seconds
- minutes
- hours
- days
- weeks
- other\_\_\_\_\_

10. Did the experience you have described have any lasting impact on you? Did the experience change

the way you felt or thought about that forest place? Did it change the way you felt or thought about yourself or about forests or the world in general? Please describe any changes you were aware of.

11. Can you add anything that would help describe the experience of awe more fully?

12. Below are a number of statements which could describe forest experiences. Read each statement carefully and consider whether it is true for the experience of AWE you have described above. Circle a number on the scale below each question to indicate how strongly you agree with the statement. Remember to answer the questions according to how you felt at the time, while you were feeling in AWE.

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It was very pleasant to be in this forest.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I was able to do the things I planned to do in the forest.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
It was difficult to make sense of the forest and what was happening in it.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
The forest was full of variety and changes.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I felt overwhelmed by the forest.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I felt that I was able to change this forest and the things happening in it if I wanted to.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
The forest and the things happening in it were very familiar to me.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I felt lucky to have this experience of the forest. It wasn't the sort of thing that everyone experiences								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
The forest and the things happening in it were very typical. I will definitely have that kind of experience again.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
The feeling I had was too amazing to put into words.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I was aware of the feelings in my body and mind as I experienced the forest.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
Time meant nothing to me while I had this feeling; it was like a piece of eternity.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
Something within me caused the feeling I had.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I was fascinated by the forest and the things happening in it.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I felt that, in a way, the forest belonged to me.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
The forest itself caused the feeling I had.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
At the time I felt that the experience gave me a new understanding of life.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)

When I had this feeling, place and distance meant nothing to me; I felt part of the whole universe.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
The forest was very open and easy to move through.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
The forest and the things happening in it felt perfect.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
The feeling seemed like a new or 'higher' way of looking at the world.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
At the time I felt that I understood the forest in a new way.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I was hardly aware of the feelings in my body and mind. I was aware only of the forest.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)
I felt very excited or agitated while I was in the forest.								
(strongly disagree)	1	2	3	4	5	6	7	(strongly agree)

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