Chapter 2

COGNITIVE SCIENCE AND TOURISM

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Abstract: This chapter introduces the cognitive paradigm. The concept of translation and associated problems is discussed. Several arguments for the adoption of a cognitive-based social sciences are provided. A brief history of the term cognition is provided and the origin of theory in tourism discussed. Justifications for the use of cognitive psychology in the field of tourism are provided. These include the (mostly) hedonic and hence emotional nature of tourism experiences, the novelty of travel outside one's usual environment, the importance of imagining, day-dreams, emotions and desire for travel decisions and the importance of

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autobiographical memories because of travel. **Keywords**: Cognition; behaviour; cognitive science; disambiguation; emotions; translation

INTRODUCTION

There is a 'cognitive wave' approaching academic tourism, business and social sciences research (Scott, 2020). This is a wave of new knowledge about how the human brain functions and how its processes take sensations, create knowledge and initiate behaviour. This wave of knowledge originated in cognitive science and neuroscience laboratories in the 1960s and onwards and has begun to break upon the shores of other fields of study. This book provides an introduction to this cognitive literature and its application to tourism.

The need for study of tourism and cognition would on the face of it appear useful. Tourism research is a multidisciplinary endeavour (Tribe, 1997), and many social science concepts have a relationship to cognition. There has been an upsurge in interest in tourism experiences, creative and memorable experiences, emotion, embodiment, transformation, sensations and experience design. Tourism scholars have traditionally been interested in fields such as decision-making, destination image, resident attitudes, cultural differences, interpretation, liminality, savouring, risk, authenticity and so on. To the extent that these phenomena are related to brain functioning, then cognitive sciences would be useful in advancing knowledge. However, there is a 'toothbrush problem', other peoples' theories are treated like toothbrushes – no self-respecting person wants to use anyone else's. It is amusing, but it also points to a conflict that one may be nurturing within the profession to the detriment of science (Mischel, 2008).

Despite this apparent usefulness, there are numerous problems and barriers to the application of cognitive science findings and theories in the study of tourism. The first is the translation problem (Francken & Slors, 2018), which examines the difficulties of relating everyday 'common sense' concepts like memory into more fine-grained concepts such as semantic, episodic, autobiographical, long-term and working memory (Circle 1 in Figure 2.1). There are subsequent problems in identifying appropriate procedures and operationalising these in experiments (Circles 2 and 3). Further, many 'common sense' concepts have multiple meanings in the social sciences derived from different streams of research (Circle 4). For example, many concepts commonly used in tourism are derived from behavioural psychology and operationalised in terms of behaviour (Skavronskaya et al., 2017). This book will address these translation problems in Chapter 3 on disambiguation, and by discussing in each chapter on prominent brain processes, their mechanisms and areas of application to existing fields of study.

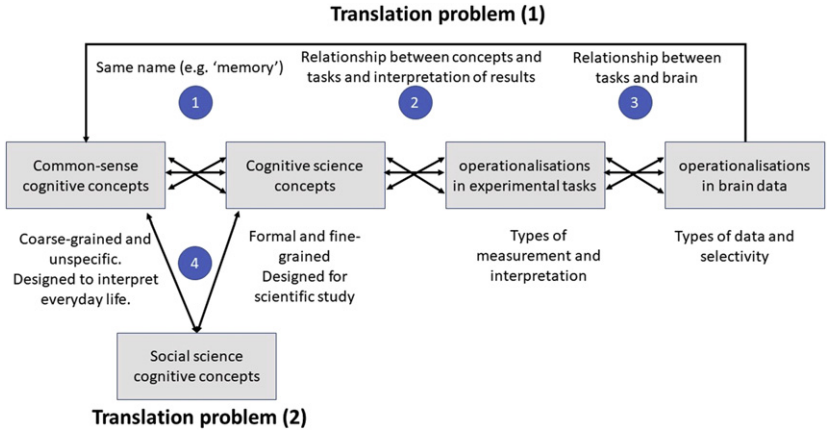

Figure 2.1. The Translation Problem.

A second barrier is due to the applied nature of most tourism research. In many, if not most, tourism journal articles published, the purpose of such papers is to understand real-world problems in a manner that can 'make sense' to a non-scientific public audience. Many academic researchers therefore base their data collection on common sense or social science cognitive concepts without the consideration of 'new ideas' from cognitive science. There is some use of cognitive psychological measurement techniques, such as eye tracking and electroencephalography (Li et al., 2022). Use of such methods may be expensive and time consuming and beyond the reach of many tourism researchers. An alternative is to conceptualise studies and adopt nomological nets that are based on a more detailed study of relevant mechanisms. For example, the study of emotion could use concepts from cognitive appraisal theory (Ma et al., 2013). There is related issue of research priorities. In the climate-challenged world, it might be reasonable to expect that practical solutions do not require new techniques and research should be focused on real-world problems. This can be a result of an anti-science philosophy (it will lead to a big-brother state), or the immediacy of focus on important problems. This book will allay the first prejudice and demonstrate how cognitive science can help to address the psychology of climate change.

A third criticism of use of cognitive science concepts is their 'potential diminution of personhood, agency and personal and political attention conferred by neuroscience–society relations' (Pykett, 2018, p. 163). This concern is due to translational issues as well as neuroscience hyping in the everyday press (Ariely & Berns, 2010). This book will try to avoid hype by discussing applications of 'mainstream' concepts and theories. Several

Table 2.1. Constraints Argument for a Cognitive Social Science.

(1) Since all social processes involve cognitive aspects, social scientists must make assumptions about human cognition in their research practices.
(2) Social scientists' assumptions about the cognitive processes of their research subjects are often based on the subjects' own accounts of these processes and/or the ideas and concepts of 'folk psychology' that people use in their everyday life.
(3) Cognitive scientific studies have convincingly demonstrated that the cognitive processes are not transparent and that one's own understanding of these processes, including social scientists' and their research subjects 'folk psychological theories', is limited and sometimes misleading.
(4) Conclusion: Social scientists' assumptions about cognitive processes of their research subjects should be constrained by the results of cognitive sciences.

philosophical arguments have been used to support development of a cognitive social science such as the constraints ('common sense' psychology constrains understanding Table 2.1; the 'explanatory grounding' argument – social processes are based on mental processes – Table 2.2, Kaidesoja et al., 2019, p. 489).

Certainly, the concepts, theories and methods of cognitive science are being applied in many fields such as education (Thomas et al., 2019) and transformational learning (Taylor, 2001), anthropology – rituals (Hobson et al., 2018); geography (Pykett, 2018); persuasion (Cacioppo et al., 2018);

Table 2.2. Explanatory Grounding Argument for a Cognitive Social Science.

(1) Most social scientists do not currently make use of the knowledge produced in the cognitive sciences when they explain social phenomena.
(2) Cognitive processes are the ontological basis of social processes.
(3) Explanations in the cognitive sciences are deeper than explanations in the social sciences because they bottom out in cognitive processes.
(4) If social scientists ground their explanations in the cognitive sciences, their explanations for social phenomena would become deeper than they are at present.
(5) Conclusion: The social sciences should be grounded in the cognitive sciences.

aesthetic experiences (Kirsch et al., 2016; Pearce et al., 2016); decision-making (Sebastian, 2014); neurourbanism, place and wayfinding (Mondschein & Moga, 2019); theatre (Kemp & McConachie, 2018) and risk (Loewenstein et al., 2001).

For some this wave will be problematic as it challenges the worldview and paradigms common in many fields of research. It disproves the assumptions of conscious rationality that support several research studies and replaces it with the unconscious rationality of emotion. It clarifies and disambiguates many concepts that are related to cognitive processes but have been defined without any reference to them. Ultimately, the reason that it will be adopted is that this knowledge can extend the knowledge of how the human world works.

What Does Cognition Mean?

The term 'cognitive wave' refers to knowledge about cognition; however, the term cognition, like many used in academic discourse, has multiple meanings and associated applications. The concept of cognition is applied in a variety of fields, but in this book, the authors apply definitions from cognitive science (mainly cognitive psychology and neuroscience), the field that studies cognition. 'The word "cognitive" is reported to derive from the Latin word *cognare*, which means "to know." Hence, cognitive psychology is the study of .... knowing or thought'. Cognitive science theories generally assume that 'stimulus encoding operations lead to (and interact with) more elaborate processes, which eventually lead to some response execution' (Balota, 2000, p. 13; Chaney, 2013). The major processes studied include sensation, perception, attention, emotion, memory, consciousness and learning (Braisby & Gellatly, 2012). Each of these concepts is discussed in tourism, business and the social science, but often not based on the experimentally verified findings and theories from cognitive science.

Assumptions of Cognitive Science

Firstly, a key assumption of cognitive science is that the meaning of an object is determined by the thought processes. These thought processes are influenced by the past experiences encoded as memory, emotions, attention, current goals and other internal mental processing characteristics. This is the basis of individuality. The implication of this assumption is that one cannot simply assume that every person has the same response to a theme park, vacation and the like.

On the other hand, the thought processes may seem to be influenced by external factors for several reasons. For example, it may be that many people share common encoded memories (culture). These encoded cultural

memories are common across a group *but are a property of an individual*. Alternatively, it may be that people have dissimilar cognition but similar behaviour because there are only so many ways that a person can respond (outcomes limited – only so many activities are available). Finally, it may be that the group is self-selected. Self-selection bias is important in voluntary activities such as leisure tourism.

Assumption 2: Interacting Mental Control Processes

Cognitive models generally are based on the interplay of a reflective system, which is based on conscious deliberation, controlled but effortful, and a quicker automatic system that responds in line with habits and emotions (Kahneman, 2011). Such systems provide a neurological basis for cognitive psychological models such as cognitive appraisal theory (Frijda, 1987; Lazarus, 1984; Roseman, 1984; Scherer, 1988).

Assumptions of Cognitive Science 3 Limitations

The brain capacities and processes place limitations on the ability to understand the world in which one lives. Each of the sense organs has a restricted ability, eyes cannot see in the infrared, hearing has restrictions. Despite this, the amount of sensory stimuli available means that there is a need to limit the mental processes to the most salient at any one point in time. The most salient sensory stimuli may be identified by the use of experiments using psychophysiological measurements techniques such as eye tracking (Li et al., 2020).

Further, the amount of information one can consciously process in working memory is limited and so many 'decisions' are made unconsciously by 'scripts' based on past successful outcomes. This may appear to be a return to Freudian unconscious decision-making, and while sharing some of the basic premises of this early cognitive psychology, it is based on experimentally verified measurement rather than introspectionism.

Additionally, emotions serve as an important information source for decisions and behaviour and thus cognition is not separate from emotion. If one understands from cognitive appraisal theory that emotions are constructed based on a person's goals, then it may better be understood that anger is an indication of a goal incongruent situation. In many situations, a person may not be aware of the reason for their anger. Recognition of that a situation involves an important goal can allow the use of relevant coping strategies (Jiang et al., 2020).

While, for some social scientists, the assumption that the human body has limitations may be well accepted. However, many recent tourism studies continue to ignore this assumption. Arguably, the concept of 'the gaze' is

based on attention, sensation, perception and memory processes, but the cognitive aspects of 'gazing' are ignored (Urry & Larsen, 2011). Further, when tourism scholars do acknowledge such limitations, such as in using attention recreation theory, they may attribute the environment with causal powers to redress these limitations rather than the brain's interpretation of these effects (Lehto, 2013). An understanding of how and why the mechanisms behind attention recreation would explain how to improve 'attention restoration'.

Folk Psychology

One of the important implications of the study of cognitive science is that many of common beliefs (assumptions) about how one thinks and makes decisions are incorrect. Thinking about the future (prospection) or past (retrospection) uses the same mental processes as thinking about the present. Memories are mentally recreated when a past event is recalled and not a verbatim encoded record like a picture of what happened. Therefore, it is possible to have false memories. Another implication is that it challenges the enlightenment view that humans are rational and logical. There is a belief that rational thought has led to advances in technology and science, medicine and mathematics. But being emotional does not mean being irrational. Indeed, emotions are unconscious but rational and are the basis for human survival by encouraging (pleasure) or discouraging (fear) action. Many decisions are made based on emotional reactions and subsequent feelings but are rationalised as logical after the fact. Therefore, knowledge of cognitive science is essential to understand people and their actions.

Scope of Cognitive Science

There are some important things that the knowledge of cognitive processes cannot explain except in a very general way and the most important of this is the meaning of an external object. For example, the taste senses enable people to determine how 'hot' a curry is but not if one likes hot curry, that is, if eating a hot curry means enjoying it. The meaning of a curry is determined by the past experiences of curry and if they are pleasurable or not. Similarly, attention is directed to salient objects in the world.

Some indicators of salience are hard wired – colour, sounds and movement attract attention to an object (called bottom-up attention). Other salient indicators are determined by the goals at that time. Therefore, cognitive science can explain that attention is captured by salient objects but may not explain why its salient – its meaning. On the other hand, if one observes that a person's attention is captured by an object (using eye-tracking techniques, for example), then its salient is known. Similarly, emotions are determined by

appraisals of a situation based on current goals. Cognitive processes do not operate at the level of meaning, but meaning is inferred from a person's actions by knowledge of cognitive science. A person's goals may not be known, but if strong emotions are observed, then one may infer that a strong goal is involved. Thus, the activity has goal-directed meaning for a person.

Not in Scope and Why Tourism

This book examines the concepts of cognitive science such as sensation, perception, attention, emotion, mental processing of information and memory. It includes only a brief discussion of the biochemistry of the brain (chemical monoamine neurotransmitters) and some aspects of neuronal circuitry by which thoughts are processed. This book does not include the discussion of artificial intelligence or computer science studies although these are important related topics.

There are several reasons why cognitive science is useful for the study of tourism. They are, one, tourism is not a technological or academic activity, but an everyday activity that does not have to be logical or involve sophisticated learnt knowledge (although it can). It is *associated with* relaxation and not doing these types of activities; two, it takes place outside the usual environment which is important as it implies novelty and surprise which are *associated with* emotional arousal as well as attention; three, tourism is mostly an activity that is voluntary and *associated with* important personal goals. Again, this implies that emotions will be evoked, and they will tend to be positive or pleasurable; four, experiences *associated with* stronger emotions are more likely to be recalled more vividly. This is one reason why tourism is found to lead to memorable experiences; five, stronger memories *associated with* important goals and are pleasurable when recalled are recalled more frequently and likely to be interesting to others; six, attention is orientated to salient cues in the surroundings (signs, pictures) which help one to understand how to act in that situation. A lack of salient clues means one may 'gaze' without directed attention.

WHERE TOURISM PSYCHOLOGY CONCEPTS COME FROM

If the ideas of cognitive science are so useful, why are not they used more in tourism research? There are several reasons beginning with cognitive science being a rapidly evolving area of research that has benefitted from technological developments which allow new types of data to be collected (such as physiological responses). This means that cognitive science has significantly advanced much after business and tourism became fields of study. The concepts and ideas used in tourism were (in the early days) adopted firstly in geography, economics and sociology (Butler, 2015) and then transferred to

tourism research in a form of Chinese whispers (Skavronskaya et al., 2017). They then were 'locked in' to basic textbooks and seen as accepted wisdom and the basis of the new field. This may explain why all consumer researchers study consumer behaviour rather than consumer cognition.

Therefore, the psychological paradigm used in tourism and in business tend to be based on those in psychology at the time they were established as disciplines. The history of psychology in the last century can be described in simple terms as a succession of introspectionist, behaviourist then cognitive paradigms. Introspectionism was a type of cognitivism in that mental processes directed behaviour. However, the nature of the mental processes was determined by introspectively thinking about the cause of behaviour and was ultimately rejected as unscientific. This led to a rejection of the ability to understand the mind and a focus on observable behaviour. This paradigm involves study of the correlative relationships between stimuli and behaviour only. In the 1960s, cognitive science began using new scientific experimental techniques to understand the mental processes occurring between stimuli and behaviour.

However, and crucially, early geographers and business researchers adopted the 'best available' psychological theories of the time. For example, when Boulding (1956) wrote his book on 'image', the concept is arguably derived from earlier psychological ideas extant in the 1940s. Subsequently, the concept of image was transferred to tourism (Hunt, 1975) where it remains in common use today. A behaviourist approach correlates *tourist-scape* stimuli with outcomes such as emotional reactions or measures of potential future behaviour (intention to revisit). Such research focuses on correlations between antecedent stimuli and consequences of hedonic consumption, rather than subjective mental processes that link them (Alba & Williams, 2013, p. 5). A cognitive approach would instead discuss the appraisal process which explains why a particular emotion is elicited (Ma et al., 2013). Table 2.3 summarises some key differences in the behaviourist and cognitive paradigms.

Table 2.3. Behaviourist and Cognitive Paradigms of Mental Processes.

	Behaviourist	Cognitive
Brain is a	Black box	Information processor
Theory	Correlative	Predictive
Measurement	Subjective – that is, self-report	Objective – that is, skin conductance

The Paradigm Shift in Recent Tourism Research

A shift in tourism research paradigm from behaviourism to cognitivism with the emotions-central perspective is largely determined by changes of the approach to the decision-making process in marketing and consumer research. Starting from the early 1980s, marketing and consumer research theorists began to question the rational nature of the decision-making process, and suggested a more complex perspective, where both cognitive and emotional processes were included (Le et al., 2020; McCabe et al., 2016; Scott et al., 2009). A cognitive approach instead emphasises tourist's goals, prior experiences, attention, emotions, etc., and other mental factors that mediate between perception of an external stimuli and behaviour. Therefore, adopting a cognitive approach can improve on correlations found between stimuli and behavioural responses by considering an individual's mental characteristics. In turn, cognitive appraisal theory of emotions claims that emotions are elicited by subjective evaluation of the experience (Scherer et al., 2001).

Examples of the Development of the Cognitive Paradigm in Experiences

The essence of tourism is creating and delivering exciting and memorable travel and visitation experiences (Andersson, 2007; Hudson & Brent Ritchie, 2009; Scott et al., 2009; Uriely, 2005). Increasingly, destinations and businesses such as attraction operators and service providers are seeking to improve their experiences through better design and management (Ooi, 2005). By enhancing the tourist experience, providers are better able to please their target markets, increase loyalty intentions and improve word of mouth recommendations (Carbone, 1998). The popularity of this approach is shown in several recent examples. The aviation company, KLM, gave personally relevant gifts to its customers who were waiting for a flight connection in order to improve their transit experiences (KLM Royal Dutch Airlines, 2010). This trial was aimed at creating positive emotions such as surprise and happiness. In another example, a rural tourism association in Italy created a series of stories for tourists including one about the town during World War I, and another recreating village life during Mediaeval times. In addition, the Canadian Tourism Commission developed a toolkit to help tourism businesses deliver compelling experiences. These examples reflect the growing importance of the experience economy (Pine & Gilmore, 1999) and of understanding and designing tourist experiences.

Study of Experiences

Academics have used several disciplinary perspectives to understand the nature and characteristics of memorable experiences. Researchers from

sociology (Cohen, 1979) and anthropology (Abrahams, 1986) regard a tourist experience as a phenomenon different from the routine experiences of daily life. Marketing and management researchers explore the components of memorable experiences (Schmitt, 1999a), the needs they satisfy (Kim et al., 2012), stages in their formation (Aho, 2001) and how they influence future tourism intentions (Ryan, 2000). A recent review has indicated that the conceptualisation of, and theorising about experiences, methodological development, and exploration of the design and delivery of tourism experiences require attention (Brent Ritchie et al., 2011).

Difficulties in conceptualising tourism experiences are in part due to the subjectiveness of the response to them. Experiences arise out of a person's diverse interpretations of an external stimulus based on their personal, social and cultural background (Ooi, 2005). Indeed, the essence of tourism experience is suggested as 'fundamentally subjective; . . .[and is] shaped by three things – what occurred, the meaning that the service provider applies to what occurred, and the interpretation the consumer gives to what occurred, both during and after the experience' (Brent Ritchie et al., 2011, p. 433). Thus, a better understanding of the antecedents of a memorable experience may help managers to determine the effectiveness of specific stimuli, which, in turn, could enable providers to design stories and meanings and achieve experiential outcomes. This thesis therefore examines how a tourist interprets their experiences and one facet of an experiential outcome: emotion is elicited and differed as a function of their experiences.

Assumption in Social Sciences

A second reason why the behaviourist paradigm remains dominant is more subtle. Tourism is a multidisciplinary field where researchers apply theories and concepts from other disciplines without necessarily having a strong knowledge of it. Many theories and ideas are available for importation. However, the concepts and ideas adopted in tourism do not displace past ideas. Instead, they accumulate, forming a complexity that future scholars must seek to reconcile despite their diverse paradigmatic backgrounds. In part, this is because tourism is seen as a field of social 'science' whereby each idea, concept or theory cannot be disproven, and indeed the principle of disproof may not apply. This complexity helps to explain the plethora of literature reviews published and the despair of doctoral students as they plough through the past literature. In tourism, these two trends indicate a sclerotic layering of ideas, a type of academic atherosclerosis whereby the interdisciplinarity of tourism research has become a weakness. This book seeks to address this problem by providing a basis for comparison and synthesis of prior theories as will be discussed in Chapter 3 on disambiguation. One example of this theory importation and elaboration process is

found in the use of a model developed by Mehrabian and Russell (1974), the stimulus-organism-response Model. Mehrabian and Russell developed this model positing that certain environmental stimuli (such as heat or sound) influence an individual's emotional state, which in turn affects approach or avoidance responses (Mehrabian & Russell, 1974). This will be discussed in Chapter 4 and see Donovan and Rossiter (1982) for a discussion of this model.

Consciousness, Rationality and Emotion

The concept of consciousness is complex (Block, 1995), and the term is used in ways which conflate reflexive self-awareness or being aware of one's own mental activity (meaning 1), being aware of bodily sensations (meaning 2) and utilising 'higher' mental functions such as reasoning leading to 'rational' goal-seeking actions (meaning 3).

On any of these criteria, however, most mental activity is unconscious. Action may be undertake based on feelings, intuition or habit (Duhigg, 2013) and not be reflexively self-aware of these thought processes. However, differences between them can be measured experimentally. Indeed, 'feelings-as-information theory' (Avnet et al., 2012; Schwarz, 2011) considers those human sensations termed 'feelings' as the result of mental activity of which one is not conscious. People are also mostly unaware of normal bodily sensations, although they may become aware of those sensations called 'feelings' and abnormal sensations registered as pain (Damasio, 1995). Thus, consumer behaviour models that rely on conscious evaluation of attributes as the basis of decisionmaking are ignoring the mental antecedents of resultant behaviour. There is general agreement that decision-making is a function of brain's mental activity and that one is reflexively aware of only a proportion of brain activity.

Many decision-making models also implicitly assume that such unconscious mental activity is not rational. The concept of rationality is also complex, has a long history and is associated with logic, reasoning rather than intuition, and an absence of emotion. Herbert Simon instead defined rationality in a social science sense as actions or thoughts that:

> . . .contribute to certain goals, where these goals may be the pleasure or satisfaction of an individual or the guarantee of food or shelter for the members of a society. [. . .] When awareness and intention are present, the function is usually called manifest, otherwise it is a latent function. (Simon, 1978, p. 3)

Using this definition, 'rational' goal-directed decision-making models can be characterised as exhibiting manifest rationality. However, the definition also attributes latent rationality to actions undertaken to achieve a goal even

if a consumer is not consciously aware of that goal at that time. This is important since a large body of research has demonstrated unconscious top-down goal-directed actions in studies of attention (Campos et al., 2016; Pieters & Wedel, 2007). Further, as will be described below, cognitive appraisal theory indicates that unconscious goals in part determine the valence and strength of emotion elicited in response to a perceived stimulus. On this basis, emotional decision-making models are rational although the consumer may not be aware of their goal.

TOURISM AS AN APPLICATION AREA

This chapter so far has highlighted that cognitive science is an important area of knowledge of potential use in the study of tourism, albeit the researcher needs to understand its scope and assumptions. This section will briefly discuss some applications where cognitive science has begun to be used.

First, tourism outbound from a country begins usually as a group activity and then progresses to more individual travel. From a psychological perspective, this means that the individual tourist's goals and prior experience become determinants of decisions on where to travel. Cultural differences therefore need to be recognised for a better understanding of how people make decisions and evaluate their experiences of travel and tourism.

Tourism is a phenomenon that is implicitly psychological in nature, and indeed holidays are often used in psychological research as stimuli to investigate hedonic imagery and mental processes (Kane et al., 2012). Thinking about holiday-taking may stimulate fantasy (Rubenstein, 1980) and emotions that play an important role in shaping vacation and destination choices (Decrop & Snelders, 2004). Tourism experience involves fun, amusement, fantasy and sensory stimulation (Babin et al., 1994; Holbrook, 2006) and increasingly 'creativity', as a new experiential offering appealing to tourists' creative skills.

Positive and pleasurable emotions and feelings are important components of tourism experiences (Tung & Brent Ritchie, 2011). Tourism produces hedonic and memorable consumption experiences and promotes and fosters hedonic behaviour (Williams, 2006) that are essentially pleasurable (Floyd, 1997; Gnoth, 1997; Goossens, 2000) and elicit positive emotions (Gretzel et al., 2006; Li et al., 2014). Interestingly, however, whether a holiday experience is considered eudemonic, hedonic or utilitarian is dependent on the goals of the tourism which is implicit in predictions from the cognitive appraisal theory of emotions (Alba & Williams, 2013; Batra & Ahtola, 1991; Pham, 1998). Tourism experiences are multisensory and include tastes, sounds, scents, tactile impressions and visual images (Agapito et al., 2013; Hirschman & Holbrook, 1982, p. 92). Individuals respond to multisensory

perceptions of external stimuli by generating multisensory mental images of their experiences (Hirschman & Holbrook, 1982).

Imagining, daydreams, emotions and desires play an important role in hedonic consumption (Goossens, 2000; Hirschman & Holbrook, 1982) such as when visiting a historic battlefield (Chronis, 2012), casino (Wong & Wu, 2013) or theme parks (Bigne et al., 2005). Holidays are memorable and emotions influence memorability (Larsen & Jenssen, 2004; Wirtz et al., 2003). Successful adventure businesses such as rock-climbing gyms, theme parks, museums, hot air balloon rides experience must be personally relevant, novel, surprising and provide learning and engagement (Poulsson & Kale, 2004).

Tourism produces unusual or distinctive events, incorporated in autobiographical memory, often linked to emotion, and such events are therefore more likely to be remembered (Kim et al., 2010). Thus, many concepts studied in tourism are application areas for cognitive science – memory, attention (Campos et al., 2020), beauty (Scott et al., 2020), coping (Jiang et al., 2020), novelty, surprise and unexpectedness (Skavronskaya, Moyle, et al., 2020; Skavronskaya, Scott, et al., 2020).

To conclude, this chapter introduced the cognitive paradigm and emphasised its relevance in the field of tourism. The chapter discussed the translation problem and provided arguments for the adoption of a cognitive sciences approach to better understand the emotional nature of tourism experiences, the importance of imagining and daydreaming in travel decisions and the significance of autobiographical memories for tourism. The chapter highlighted that the cognitive paradigm offered a valuable perspective for comprehending the complexities of the tourism field. The following chapter delved deeper into 'the cognitive wave' to further illustrate the usefulness of the cognitive paradigm in studying concepts such as consciousness, attention, sensation, perception, emotion and memory in the context of tourism.