Smartphoned Tourists in the Phygital Tourist Experience

Mieli, Micol

2022

Document Version:
Publisher's PDF, also known as Version of record

Citation for published version (APA):
Mieli, M. (2022). *Smartphoned Tourists in the Phygital Tourist Experience*. [Doctoral Thesis (compilation), Department of Service Studies]. Lund University.

Total number of authors:
1

Smartphoned Tourists in the Phygital Tourist Experience

MICOL MIELI

DEPARTMENT OF SERVICE MANAGEMENT AND SERVICE STUDIES | LUND UNIVERSITY

Smartphoned Tourists in the Phygital Tourist Experience

Smartphoned Tourists in the Phygital Tourist Experience

Micol Mieli

DOCTORAL DISSERTATION

by due permission of the Faculty of Social Sciences,
Lund University, Sweden.
To be defended at Campus Helsingborg, U203. October, 14, 2022, 10.15

Faculty opponent
Professor Maria Lexhagen
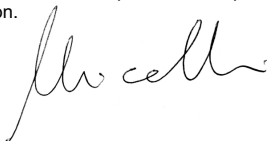Department of Economics, Geography, Law and Tourism (EJT)
ETOUR Research Centre
Mid Sweden University, Sweden

Organization	Document name
LUND UNIVERSITY	Doctoral Dissertation
	Date of issue 2022-10-14
Author: Micol Mieli	Sponsoring organization

Title and subtitle: Smartphoned Tourists in the Phygital Tourist Experience

Abstract

The present thesis explores how the tourist experience is re-articulated through the mediation of smartphones. I adopt the postphenomenological theory of mediation as the overarching ontological position, placing the role of technologies on an ontological level, as mediators of perception and experience. The new tourist that emerges from smartphone mediation is the *smartphoned* tourist, that is a tourist whose experience is shaped by the availability and use of this technology.

The thesis focuses on two aspects: first, how smartphones mediate tourist information behaviour. It is argued that information behaviour is a more comprehensive term than information search behaviour because it includes a passive component of behaviour, where information is not only actively searched, but also encountered serendipitously. The concept of *planned serendipity* is proposed to indicate how smartphone-mediated information behaviour is complex and cannot be reduced to a dichotomy of serendipity and planning. Second, how smartphones mediate tourists' experiences of *phygital* worlds. The term *phygital* is adopted to indicate how the technologically mediated tourist experience is neither physical nor digital, but both. These questions are answered through conceptual and empirical work in four papers.

Paper I explores how smartphones mediate tourists' relationships with traditional information sources, in particular the guidebook. The study applies the theory of consumer value to understand how the guidebook is not only used for information purposes, but is also valued as an object of consumption. The different types of value attributed to the guidebook are preferential and relative to the smartphone.

In Paper II, after a reflection on the technological mediation of the experience on-site, a qualitative methodology is presented, which combines the experience sampling method with semi-structured interviews.

Paper III, offers a critical review of tourist information search behaviour literature and adopts the concept of *planned serendipity* to investigate how planning and spontaneity are simultaneously reduced and amplified through smartphone mediation.

Paper IV focuses on the question of how tourists' time-space behaviour is mediated by the smartphone, and how such mediation makes the experience phygital. The paper offers a new conceptualization of time geography, adapted to the phygital tourist experience.

Key words smartphone, tourism, phygital, mediation, tourist experience, tourist information search behaviour		
Classification system and/or index terms (if any)		
Supplementary bibliographical information		**Language**
ISSN and key title		**ISBN** 978-91-8039-350-8 (print) 978-91-8039-349-2 (electronic)
Recipient's notes	**Number of pages** 107	Price
	Security classification	

I, the undersigned, being the copyright owner of the abstract of the above-mentioned dissertation, hereby grant to all reference sources permission to publish and disseminate the abstract of the above-mentioned dissertation.

Signature _(signature)_   Date 2022-09-02

Smartphoned Tourists in the Phygital Tourist Experience

Micol Mieli

LUND
UNIVERSITY

To my family

Table of Contents

Acknowledgements

I have been thinking of what to write in the acknowledgements since the first days of my PhD. I would just daydream of the day when I would complete my thesis and reflect back on all the people who helped me and supported me along the way. Now that the time has come, I realise that it is not an easy task to write down in words how incredibly grateful I am to all these people. I will give it a try anyway.

First and foremost, I would like to acknowledge and thank my supervisors. I want to thank Malin Zillinger for believing in me and for supporting me throughout the process of writing a PhD thesis, from start to finish and everything in between. You were my teacher, advisor and mentor before I even started the PhD, and you have remained that throughout these years. Thank you, Jan-Henrik Nilsson, for always being there, for encouraging me to be curious and explore during these years. I hope you know how greatly supportive you both have been, I am amazed at how smooth it was to work together. I have learned so much from you and hope to keep doing so in the future.

My thanks go to the Department of Service Management and Service studies for welcoming me as a Master's student seven years ago and making me feel welcome every day since. I have loved meeting all the people and enjoying the environment in our Helsingborg "bubble". I remember going to academic seminars in my first year and being astonished at how intelligent, well-read, and interesting everybody was. And I remember feeling lucky that everybody was so helpful, so a big thanks goes to the administrative staff at the department. Thanks to those who have taken the time to read my work as it was progressing and to discuss it during seminars, and especially to the seminar opponents in and outside of the department. Thanks to all the teachers and colleagues with whom I've had excellent conversations during my time here. Elin Bommenel, thank you for being my unofficial teaching mentor. You are an excellent teacher and inspire me every day.

Of course, my journey would not have been the same without my travel companions, the doctoral students that shared time, thoughts, train rides, coffees, and wine with me. I have been lucky to look up to those who made it to the finish line before me, Malin Andersson, Josefine Østrup Backe, Devrim Umut Aslan, Stuart Reid. Thank you for showing me the way. And to you who have shared the journey with me, Ida Wingren, Carin Rehncrona, Rui Liu, Anna Spitzkat, Aurimas Pumputis, Marthe Nehl, Réka Ines Tölg, Annabell

Merkel, Marcus Persson. Our writing retreats will be one of the best memories from these years. It has been a joy and an honour to be your colleague. Aurimas, Stuart, Rui, thank you for all our interesting conversations. Marthe and Reka, a special thanks goes to you for keeping me sane during Covid with our morning chats. And just thank you all for being my friends.

I dedicate this thesis to my family, because they are my pillars. To my parents, I may not say this often, but I owe all of this to you. You have taught me to be curious, and that is the greatest gift of all. Thank you for letting me be the person I am, for letting me go look for my own path all the way across the world, all the way to New Zealand. I hope you are happy that at least I landed in the same continent. To my grandparents, who have taught me resilience, who have shown me how to always see the best in people and in life and who have always believed in the importance of learning.

Thank you to all my friends, near and far, but in particular my best friend Viviana. You know I miss you and appreciate your friendship more than anything in the world.

And to my life partner, Fredrik, how can I say this in words? You have been there from day one and have seen me at my best and my worst. Thank you for everything, for taking this and many other journeys with me. Thank you for literally helping make my dreams come true, from learning to woodwork to building and travelling in a van, and finally to finishing my PhD. I love you.

Last but not at all least, I have to thank Franco (yes, he is my dog) for literally walking next to me every step of the way.

Helsingborg, September 2022

Micol Mieli

Preface

Sweden, summer 2020: in the middle of a global pandemic, amidst closed borders, travel bans and social distancing, I have not stopped travelling, although I have decided to take a "Swecation" and travel locally. Driving along the beautiful Swedish roads, gazing upon the breath-taking scenery of forests, lakes and mountains, there is a guidebook of Sweden sitting on the dashboard together with a bunch of maps and brochures raided from several tourist information centres, and I am holding my smartphone in my hand. My travel partner is driving and his phone is mounted on the dashboard, navigating us to our destination.

I can hardly remember a moment in this trip when my phone was not either in my hand or within sight. I look down on the phone and search in the app store for new useful applications: I have just downloaded one for parking, three for camping, two for hiking, one for the weather, one for restaurants, and one to track our journey. I pause for a second and think of these things I am using, of the technologies and the information that I am carrying around with me and on which I am relying to plan and execute my trip. Artefacts, text, images that shape whatever experience I am going to have of this trip and however I will behave throughout it. Yet I still want to experience something new when I finally get to my destination, I still want to be spontaneous and be surprised by serendipitous encounters. I want to experience things on my own skin, through all my senses, not only by reading about it on a screen. I want to be there, immersed, present. I wonder, what would my travel be without these devices I carry with me?

Later, sitting at my desk in front of my computer, many more questions keep me wondering. Had I not read in my guidebook that a place was worth traveling to, what would that place have been to me? Had I not known the lighthouses and town squares with their churches and city halls were worthy of appreciation, would I have appreciated them as tourist attractions? Had my phone not signalled to me on the map that a landmark was coming up on the road, or had I not Googled what are the most picturesque towns in Sweden, would my travel experience have been the same? Had I not been able to keep in touch with my family and keep track of my friends' travels on social media, would I have felt the same about the places I was visiting? With these and many more questions in mind, I continued my journeys, both in my campervan and on the white pages that would become my PhD thesis.

1 Introduction

Information and communication technologies (ICT) are transforming the way tourists travel so much that some authors have been writing of "Travel 2.0" (Buhalis and Law, 2008; Xiang and Gretzel, 2010) or "e-Tourism" (Xiang, Magnini and Fesenmaier, 2015; Xiang, Fuchs, Gretzel & Höpken, 2021). In particular, tourists have adapted and even become dependent on the use of the internet and mobile technology (Gretzel, Zarezadeh, Li & Xiang, 2019). Gössling (2021) points out how ICT innovations, and in particular smartphones, have brought about unprecedented changes in human behaviour and psychology. He offers an overview of the technological development in the last 30 years and points out the smartphone as the most significant hallmark, positioning its introduction in the market in 2007. After Apple launched the first iPhone in 2007, the smartphone market took off, and represented a major development step in the digitalisation of the tourist experience (Zillinger, 2021).

Tourism research shows time and again that tourism is "re-articulated" through emerging technologies (Wang, Xiang & Fesenmaier, 2016), and the fact that they are continuously developing leaves room for new research on tourist behaviour (Buhalis, & Law, 2008; Cohen, Prayag and Moital, 2014). Changes in technology, in fact, also transform the tourist experience itself as well as tourism behaviour (Wang, Xiang, & Fesenmaier, 2014; Wozniak, Schaffner, Stanoevska-Slabeva & Lenz-Kesekamp, 2017). Research has shown that the technological objects themselves mediate tourists' behaviour (Ayeh, 2018; Kah & Lee, 2014; Molz, 2012; Neuhofer, Buhalis & Ladkin, 2012; Wang, Park & Fesenmaier, 2012; Zhang & Zhang, 2022). Such mediation has the potential to "reconfigure the perceptions of (and interactions with) time, space, and the physical and virtual worlds" (Lamsfus, Wang, Alzua-Sorzabal & Xiang, 2015 p.694).

Within the tourist experience, smartphones have earned a fundamental role (Dickinson, Ghali, Cherrett, Speed, Davies & Norgate, 2014; Kang, Jodice & Norman, 2020; Fernández-Cavia et al., 2020). The smartphone is a small hand-held device in which several technologies converge: mobile phones, portable

computers, digital cameras, portable music players, and GPS-enabled navigation systems (Benckendorff, Xiang & Sheldon, 2019). Both in everyday life and tourism, smartphones allow people to carry out several activities while they are on the move, including information-intensive activities and activities that require an internet connection. Fernandez-Cavia et al. (2020), for example, found that four out of five tourists were connected to the internet during their trip, of which 87% used the smartphone. Chen, Huang, Gao and Petrick (2018) found that the majority of tourists use smartphones during vacation, and about half of them even use it for work-related tasks during the trip. Indeed, being able to use the smartphone during a trip might even make "an otherwise impossible trip possible" by allowing tourists to stay connected and work while they travel without drawing a neat distinction between leisure and work time (Tan & Chen, 2021 p.1526).

Authors have referred to mobile phones as a "catalyst" for the modern tourist (Gretzel, 2010; Lalic & Wesmayer, 2016) or "travel buddies" (Tussyadiah, 2013). Lalic and Wesmayer (2016) even studied how tourists are "passionate" users of smartphones. In the tourism research landscape there is an abundance of studies on who uses smartphones, for what purposes and in what ways, as well as which apps they prefer and how tourism service providers can use this to improve and market their offering (Dickinson et al., 2014; Kim & Law, 2015; Law, Chan & Wang, 2018; Tussyadiah, 2016; Vallespín, Molinillo & Muñoz-Leiva, 2017, among others). Wang et al. (2014), for example, offered an analysis of motivations for smartphone use by tourists: there are functional reasons, namely information searches through smartphones to learn about the destination; hedonic reasons, that is finding innovative ways to travel, starting to feel excited and experience local culture before the trip starts, and experiencing it more intensely during the trip; aesthetic reasons, which means that through the mobile phone tourists can form expectations before the trip; and social reasons, which translate into communicating with others about the trip before and throughout.

The effects of smartphone use on the experience are many and well-documented. Yu, Anaya, Miao, Lehto and Wong (2018) give a phenomenological account of how smartphones interfere with the experience and how fundamental aspects of vacation have changed. Research has shown that smartphone use results in a greater control of experience, better information and decision-making for tourists, but it also results in an increase of smartphone-mediated behaviour, reducing a sense of adventure and creating paradoxical effects (Yu et al., 2018; Neuhofer et al., 2012; Wang et al., 2016). In relation to information search behaviour, recent research has shown that the

use of smartphones influences the way people find and use information when it comes to making spontaneous decisions, not always resulting in more spontaneity (Kang et al., 2020; Yu et al., 2018; Kang & Lee, 2022; Vaez, Burke & Yu, 2020).

The mobility of the smartphone is a key feature of this device that allows for the mediation of the tourist experience to happen *during* the trip. Early versions of the mobile phone had already turned out to be a disruptive technology for the understanding of society in general, accompanying various other technological developments (in communication, infrastructure and transport) and leading to a "mobility turn" in the social sciences, where people and society have become defined by some kind of mobility or immobility (Adey, 2017; Hannam, Sheller & Urry, 2006; Germann Molz, 2012). Mobile phones allowed tourists to continue their everyday life while travelling, conducting their everyday activities regardless of where they were or where they were going, and providing constant micro-coordination (Lamsfus et al., 2015).

The point of departure in this thesis, however, is the claim that it is not enough to focus on the mobility of the smartphone: the *smart*phone offers more than just mobility and communication on the move. It has an internet connection, which has recently become much more broadly accessible thanks to the reduction or elimination of internet roaming fees (for example, within the EU) (Magasic & Gretzel, 2020; Zillinger, Eskilsson, Månsson, & Nilsson, 2018). It also has GPS (Global positioning system), which implies a wide range of affordances for tourists, from giving context-relevant information, to allowing one to determine the precise location of one's self or others (including attractions and activities) and provide navigation, location sharing and micro-coordination. Finally, it is a multimedia device that allows users to access, record and share all kinds of content, from text to images to sound and any combination of these. Through their digital, colourful, bright screens, smartphones act as a "wall-window" for their users, which on one hand offers a view into a different world than the one they are physically in, and on the other hand creates a wall around the user (and their attention), which blocks out their perception of their physical surroundings (Wellner, 2011, 2016).

Studies focusing on the mobile phone before it became smart could not possibly gauge the impact of these devices and their use on the tourist experience, that is, how they mediate it. However, now 15 years have passed since the launch of the first iPhone in 2007, so it is time to take stock of the situation and ask: what does the smartphone do to tourists and their experience of travel?

Xiang (2018) discusses a shift from digitalisation to an age of acceleration in tourism and suggests that it is time to rethink and challenge the current scholarly thought on the relationship between technology and tourism. Today's technology cannot be reduced to a mere tool for "e-Tourism". Thanks to ubiquitous computing and connectivity, "it has blended into our everyday life and travel and, perhaps, has become ´amorphous´" (Xiang, 2018 p.149). Indeed, ample literature has explored how mobile phone use during travel contributes to blurring some defining dichotomies of the tourist experience: home/away, leisure/work, extraordinary/mundane, and present/absent (Hannam et al., 2006).

In this thesis, I adopt the postphenomenological theory of technological mediation as the overarching ontological position of the thesis. Deriving its main principles from classical phenomenology, postphenomenology welcomes some influence from pragmatism and places the focus on the role of specific, concrete technologies in mediating the human experience of the world (Ihde, 1990, 2009, 2015; Rosenberger & Verbeek, 2015; Verbeek, 2001, 2005, 2016). This thesis relies on the fundamental idea that humans and technologies cannot be thought of or studied independently by each other, and the uses of technologies transform the tourist experience as well as tourist behaviour. Lamsfus et al. (2015), in fact, observed the emergence of a new "class" of tourists who heavily rely on information technology in general, and mobile/network technology in particular, in constructing their personal and social experiences in travel. In this thesis, I call this new class "smartphoned tourists". These tourists are not just connected and hypermobile tourists; they are also informed, interactive, and immersed in different contexts all at once.

Research in the managerial stream of tourism is quite optimistic on the benefits of using technology, emphasising the confidence, safety, connection, flexibility, fun and convenience that tourists can gain from using digital technologies; it considers digital technologies crucial to offering a better tourist experience (Ayeh, 2018; Buhalis & Law, 2008). With their applications and ubiquitous connectivity, smartphones are powerful devices considered "inevitable partners" of tourists (Dickinson et al., 2014). They offer tools for navigation, spatial orientation and awareness, as well as communication and temporal alignment between travel companions and people back home (Dickinson et al., 2014; Mascheroni, 2007; Tussyadiah 2013; Lalicic & Weismayer, 2016).

However, negative consequences and problematic uses of smartphone use have also been documented, for example, Lalic and Wesmayer (2016) refer to James and Drennan's (2005) concepts of "mobile addiction" and "phone junkies" to

indicate how, despite the many positive effects of integrating mobile phones into the tourist experience, negative effects are also present. Authors from other disciplines have also suggested different, less rosy perspectives on the matter: for example, there is a concern that human sociality has been damaged or radically changed by the internet and mobile devices (Turkle, 2017). Ayeh (2018 p.35) argues that both research and practice assume that technology is fundamental to improving the tourist experience; however, in his own research, many deleterious effects of smartphone use emerged, leading him to claim that "this assumption seems exaggerated and perhaps inaccurate".

In the debate on the positive and negative effects of smartphone use in the tourist experience, the theory of technological mediation can offer a more complex and comprehensive view of the relationship between people and technologies. This approach allows for an analysis of the relationship with technologies without attributing a positive or negative value to the outcome of such mediation, merely focusing on the interaction between people and technologies and the effects that the latter have on how humans (in this thesis, tourists) experience the world.

In light of these considerations, this thesis sets out to study the experience of "smartphoned" tourists: it is not enough to study tourists "and" technologies, or tourists "and" smartphones, rather it is important to study tourists-with-technologies, the smartphone-tourist or tourist-smartphone as Latour would call it; the smartphone and the tourist in their embodied, hermeneutic relationship (Ihde, 1990). I focus my attention on the tourist's technologically-mediated tourist experience and behaviour, referring particularly to the tourist's relationship with the smartphone.

I explore the re-articulation of tourism in terms of technological mediation, studying how tourists' experience of the world is shaped by the devices and the technologies they use. I focus on two aspects that emerge from the literature as the most relevant ways in which smartphone technology mediates the tourist experience, that is, the hybrid nature of the experience and the changes in tourists' information search behaviour (Xiang & Fesenmaier, 2020; Wang et al*.,* 2016; Yu et al., 2018; Benckendorff et al., 2019; Wang et al*.,* 2016; Choe, Fesenmaier & Vogt, 2017; Gretzel et al*.,* 2019). Many other aspects of the tourist experience are clearly mediated by smartphones, two of the most obvious examples being social media and integrated cameras. Indeed, social media and photography in the tourist experience are very well researched topics (see, among others: Walsh, Johns & Dale, 2019; Chung & Koo, 2015; Jansson, 2018; Munar & Jacobsen, 2014; Gretzel, 2018; Mkono & Tribe, 2017; Munar, Gyimóthy & Cai, 2013; Dinhopl & Gretzel, 2016). However, departing

from information search behaviour, my thesis project focuses on those concepts that emerged as sensitising concepts throughout the research process. In particular, two key concepts constitute the foci of this thesis: "phygital" and "planned serendipity".

The first term indicates the hybrid nature of the tourist experience in which physical and digital reality are enmeshed and result in a phygital reality. The phygital tourist experience is something qualitatively different than either a physical or a digital experience, as the two aspects are complementary. I discuss this particularly in terms of spatial behaviour and spatial perceptions, approaching the subject from the perspective of time-geography and specifically adopting Torsten Hägerstrand's theory of constraints, which theorises the ways in which time and space act as constraints for human movements (Hägerstrand, 1970; Shoval, 2012).

The second term and focus of this thesis, "planned serendipity", refers to the ways in which, through smartphone mediation, information search behaviour during the trip becomes more complex and overcomes a neat distinction between serendipity and planning. The term planned serendipity emerged from my research on tourists' information search behaviour in relation to smartphones. I explored how information search and decision-making are affected by the constant availability of a large amount of information and claim that this smartphone-mediated behaviour results in a combination of planning and serendipity, where the two are not opposites but complementary.

What these terms have in common is to implicitly challenge some assumptions that are at the basis of tourism scholars' thoughts on the tourist experience, inviting the reader to embrace the complexity of tourists' reality, their behaviour and their perceptions and focus on the complementarity of apparently opposite words: physical and digital on one hand, and planning and serendipity on the other.

1.1 Aim and research questions

The aim of the thesis, therefore, is to explore the role of smartphones in mediating the tourist experience, and in particular in mediating tourists' information behaviour (Papers I and III) and the spatio-temporal dimensions of their experience (Paper IV). I do so through four papers that challenge dichotomies and linear thought in tourism theory by focusing on the

abovementioned aspects of the tourist experience and by answering the following questions:

RQ1: What is the role of smartphones in mediating tourists' information behaviour?

Following this research question, I first explore how tourist information channels are valued by tourists when they can constantly access information through their smartphones. Then, against the same backdrop, I use the concept of planned serendipity to investigate how tourists balance planning and serendipity in their information search behaviour.

RQ2: What is the role of smartphones in mediating tourists' experience of phygital worlds?

To answer this question, I first reflect on the boundaries between everyday life and the tourist experience and how they are mediated by smartphone use. Then, I analyse how time-space constraints are reconfigured when tourists have access to the internet and the computing capabilities of the smartphone throughout the trip.

1.2   Disposition of the thesis

The thesis is comprised of eight chapters which include four papers. The first six chapters offer an introduction to the four papers and contextualise them within the field of tourism studies. The seventh chapter offers a summary of the papers. The last chapter is a conclusive discussion on the results and contribution of the whole thesis. In Chapter 2, *Tourist with smartphones: technological mediation* I will offer an overview of the ontological position of this thesis, presenting postphenomenology as the philosophical approach to the thesis and the theory of mediation as the framework within which I approach the research. In chapter three, *Understanding the tourist and the tourist experience*, I review some fundamental concepts used in the thesis, briefly summarising the debates and definitions of "tourist" and "tourist experience" and then moving on to a critical reflection on the escape paradigm in tourism theory. Chapter four, *The phygital tourist experience*, offers a discussion of the term phygital as used in this thesis and connects it to the subjects of tourists' information search and spatial behaviour, which are the foci of the three empirical articles. Chapter five, *Information behaviour during the trip*, then moves on to critically review existing literature on information search

behaviour, challenge its assumptions, and then proposes a new concept that embraces the complexity of tourists' information behaviour in the phygital world. The sixth chapter presents reflections on the research design and interdisciplinary approach of the thesis, and then briefly describes the methods used in the empirical articles.

The themes presented in the first five chapters are studied empirically and conceptually through four articles. In the first paper, *Tourist information channels as consumer choice: The value of tourist guidebooks in the digital age* (henceforth: *Tourist information channels* or Paper I), my co-author and I investigate how the uses and value of travel guidebooks are mediated by the availability of information through smartphones. Following the guiding question "why do some tourists still *prefer* guidebooks?", the paper analyses tourists' perception and evaluations of guidebooks through Holbrook's (1999) consumer value typology.

In the second paper, *Experience Sampling Method in a Qualitative Study of Tourists' Smartphone Use* (henceforth: *Experience sampling method* or Paper II), I focus on the methodological and epistemological questions of how everyday life and tourist experience become enmeshed through the use of smartphones as well as how smartphones can help researchers access new sites of inquiry. The paper is a chapter for an anthology on contemporary methods for tourism research where I describe in detail how I developed and applied a qualitative methodology that combines an adapted version of the experience sampling method with semi-structured qualitative interviews.

In the third article, *Planned serendipity: exploring tourists' on-site information behaviour* (henceforth: *Planned serendipity* or Paper III), I set out to analyse tourists' mediated information behaviour by challenging the linear thought of existing theories of information search, proposing the concept of planned serendipity, which I explain and illustrate with the support of the empirical data collected with the method presented in paper two.

In the fourth article, *Phygital time geography: what about smartphones in tourists' time-space behaviour?* (henceforth: *Phygital time geography* or Paper IV), I, together with my co-authors, illustrate conceptually and empirically how space and spatial constraints become phygital when tourists interact constantly with their smartphones throughout the trip. We use Torsten Hägerstand's (1970) theory of time geography and try to adapt it to the technologically mediated tourist who travels in a phygital world.

1.2.1 Authors' contributions

Paper I: *Tourist information channels as consumer choice: The value of tourist guidebooks in the digital age*

Micol Mieli: research design; data collection; literature review; conceptualization (lead); analysis (lead); writing – original draft; writing – review and editing (lead).

Malin Zillinger: conceptualization (supporting); analysis (supporting); writing–review and editing (supporting)

Paper IV: *Phygital time geography: what about smartphones in tourists' time-space behaviour?*

Micol Mieli: research design; data collection; literature review (lead); conceptualization (lead); analysis (lead); writing – original draft (lead); writing – review and editing (lead).

Malin Zillinger: literature review (supporting); conceptualization (equal); analysis (supporting); writing – original draft (supporting); writing – review and editing (supporting)

Jan-Henrik Nilsson: conceptualization (supporting); analysis (supporting); writing–review and editing (supporting)

2 Tourists with smartphones: technological mediation

I will now turn the attention to the overarching ontological position of my study, that is, how the tourist and the experience are to be understood in relation to technology. The protagonists of this thesis, in fact, are the smartphoned tourist and the phygital tourist experience. That is, a technologically-mediated tourist whose experience and behaviours are influenced and shaped by their use of technology. In this chapter I will introduce the philosophical school of thought called postphenomenology and the theory of technological mediation.

The smartphone, like any technology, has the potential to mediate the tourist experience. The fundamental idea in this thesis is that "it is impossible to see the human subject and machinic technology as particularly separate things" (Thrift, 1996 p.112). By adopting mediation as the ontological approach of the thesis, this inability to distinguish the two becomes an asset, and not a weakness. It becomes the focus of the inquiry, as the argument about mediation is that technologies cannot be neatly distinguished from their human users. Instead, it is necessary to focus on how users use technologies and what behaviour results from the interactions between humans and technologies. In order to do so, I will now turn the attention to philosophy of technology and the postphenomenological school of thought.

2.1 Philosophy of technology and Postphenomenology

The field of philosophy of technology has a long tradition of philosophers trying to grapple with the relationships between technology and technologies, society, humans and reality. A philosophical reflection on technology can be traced back to the first western philosophers in ancient Greece such as Aristotle, Plato and Democritus with their concerns about *technè* (Franssen,

Lokhorst & van de Poel, 2009). However, the first generation of philosophers to make technology a central theme in their thought comprised thinkers like Martin Heidegger, Hans Jonas and Jacques Ellul (Achterhuis, 2001). However, these classical philosophers of technology offered only a limited analysis of the consequences of technology on society, as their philosophies were transcendental, only focusing on the conditions that made technology possible. In fact, they often offered grim, dystopian views on the effects of technology on humans and society, understanding technology as a single, reified thing (Ihde, 2009).

Contemporary philosophy of technology, instead, emerged from an "empirical turn" (Achterhuis, 2001). The empirical turn led philosophers of technology "away from the transcendental orientation toward a more practical, contextual interpretation of artifacts and machines" (Kaplan, 2009 p.1). Verbeek (2005) explains the empirical turn as a change in perspective about technology, where technology is not reduced to its conditions of possibility anymore, but the focus shifts to specific technologies and the way they affect our experience of the world. From this empirical turn emerged the school of thought called "postphenomenology", whose founding figure is the American philosopher of technology Don Ihde (cf. Ihde, 1990, 2009, 2015). In this thesis, I adopt Don Ihde's postphenomenological views of technology, posing questions on how a concrete technological artefact, the smartphone, mediates a specific instance of human existence and experience, that is, the tourist experience.

Postphenomenology, as the name suggests, takes classical phenomenology as its point of departure, but moves beyond phenomenology and combines it with pragmatism. The phenomenology of Martin Heidegger, Edmund Husserl and Maurice Merleau-Ponty and the pragmatism of William James, Charles Sanders Pierce and John Dewey, in fact, not only developed at the same time historically, they all placed *experience* at the centre of their investigations, a characteristic that postphenomenology inherited (Ihde, 2009). Moreover, both phenomenology and pragmatism are based on a relational ontology, that is, an ontology that rejects the Cartesian division between subject and object and instead focuses on the relationship between them (Ihde, 2009; Moran, 2000).

Postphenomenology owes to classical phenomenology three of its cardinal tenets, although also breaking with the classical tradition on each of them in terms of methods and analytical orientations (hence the "post" prefix) (Ølgaard, 2022). First, phenomenology aimed at overcoming the Cartesian dichotomy between subject and object and posited that the two cannot be thought of independently from each other, but only in their relation (Moran, 2002). The subject is a subject in-the-world and the object is an object

perceived by a human: they can only be thought of in their relation with each other (Verbeek, 2001). From this relational ontology one key concept of phenomenology is derived: *intentionality*. In Husserl's phenomenology, intentionality means that humans' experience of the world is not an abstract "consciousness" but is embedded in the context within which it is experienced (Crowell, 2006; Moran, 2000). For Husserl, all consciousness is *consciousness of* something. Ihde maintains this relational ontology but includes the technological element, contending that through technology, consciousness itself is mediated (Ihde, 2009). Technology, therefore, is not something that one is conscious of, but it mediates consciousness itself.

Second, classical phenomenology conducted the analysis of experience through a method called *variation analysis* or *eidetic reduction* (Føllesdal, 2006; Moran, 2000). The analysis of variations was aimed at discerning the essence of things by isolating all the elements that would vary or not vary between instances of the same experience or thing (variants/invariants). Ihde (1990, 2009, 2012) finds that an attempt at variation analysis of the technologically mediated reality showed something different than Husserl's "essences" or "essential structures": things do not have one essence but are – what Ihde calls – "multistable". According to a postphenomenological view of technological artefacts, technologies cannot be separated from their uses and thus have no "essence" of their own: technologies cannot be spoken about independently from the uses humans make of them (Ihde, 2009; Verbeek, 2005). Therefore, technologies only gain their "stability" in their use, and since many uses can be made of any technological artefact, these are multistable (Ihde, 2009; Verbeek, 2005).

The smartphone is a clear example of this: it can be used as a source of information, a photo camera, a communication device, a map, a gaming console, a music player, and more. This is not only due to the multitude of software applications that can be installed on smartphones, but also to the complex hardware that contains many different pieces of technology in one device: a camera, GPS, light and movement sensors, microphone, loudspeaker, telephone, step counter, internet browser and so on. Moreover, the uses that people can make of smartphones are not limited to those intended by the manufacturers: for example, it can be used as a phone, as a paperweight, or to push a button in the elevator to avoid infection with a contagious virus. The contribution of pragmatism to phenomenology lies in this recognition that the experience is embedded in the physical and material world as much as the cultural and social reality in which it is experienced (Ihde, 2009).

The third takeaway from classical phenomenology is Maurice Merleau-Ponty's attention to embodiment, that is the role of perceptual and "praxical" experience (Ihde, 2009; Merleau-Ponty, 2012). Although embodiment was already part of Husserl's analysis, Merleau-Ponty offers a much richer concept, which Ihde brings into his postphenomenology. Merleau-Ponty discusses how perception is praxical, meaning that the phenomenal body is not defined by its position in objective space but by a "system of possible actions", by the tasks and situations that the context offers: "my body is wherever it has something to do" (Merleau-Ponty, 2012 p. 298). The body, for Merleau-Ponty (2012), is indispensable to the existence of consciousness: the body is there to perceive and experience one's presence in the world. Moreover, Merleau-Ponty also acknowledged that bodily movement may incorporate a technology: a woman who is wearing a feather on her hat might move in a way that keeps the feather away from things that might break it, or a blind man with a cane perceives the world *through* the cane: the artefact is incorporated into the man's perception (Ihde, 2009; Merleau-Ponty, 2012). Postphenomenology maintains this attention to perception and experience, placing the mutual relationship between humans and world within experience (Ihde, 1990; Verbeek, 2001). Such experience in postphenomenology is analysed through the theory of technological mediation.

2.2 Technological mediation

Historically, two views have dominated the thought around technology: instrumentalism and determinism. These two views offer opposite answers to the question of whether technology is neutral, "meaning that it has no preference as between the various possible uses to which it can be put" (instrumentalism); or whether it has some inscribed purpose which it will fulfil with its existence (determinism) (Feenberg, 2006 p.9). In the instrumentalist view, technology is only a tool, an instrument that humans use for their own purpose, and it is humans who decide the purpose of the technologies they use and develop. In the determinist view, on the contrary, technology and technological development have some kind of autonomy, and technological development determines how society evolves (Selinger, 2006). Postphenomenology offers a third way: technological mediation. In this view technologies are understood in terms of how they mediate the relationship between humans and world, amongst human beings and between humans and

technology itself and thus "can no longer be pigeonholed simply as either neutral or determining." (Verbeek, 2005).

For postphenomenology, experience plays a central role, because that is where the mutual relationship with the world can be localised (Verbeek, 2001). Ihde discusses experience in terms of perception and proposes a structure of perception in terms of technological mediation, which consists of three elements: I – Technology – World (Ihde, 1990). Within this relationship, the role of technology is to be a mediator of reality. The ways that such relational ontology can be investigated is through the macro-theory of technological mediation (Ihde, 1990, 2009, 2015; Verbeek, 2005, 2016). The theory of mediation aims to conceptualise "various ways in which the boundaries between the human and the technological are fading and how the concept of mediation can help to analyse human-technology relations." (Verbeek, 2016 p.190). The theory tries to understand both how specific technologies mediate human existence and how humans interpret or appropriate these mediations and understand the reality around them. The core idea is that mediation does not just affect the reality of humans and technologies and their relations, but that those realities are constituted in the act of mediation: they do not exist before and independently of each other and the process of mediation.

A typical example of mediation brought forward by postphenomenologists is that of the sonogram (see, for example, Rosenberger & Verbeek, 2015; Verbeek, 2005). The invention of the sonogram has redefined not only the image of the foetus throughout the pregnancy, it has also reconfigured what it means to be a doctor and a patient, and what it means to be a parent and a child. It has brought along new responsibilities for parents, who find themselves responsible to decide for the life of their children, for example, in case of some prenatal condition that can impact the future child's quality of life. See, for example, the rare (but philosophically interesting) cases of children suing their parents or doctors for not terminating the pregnancy upon discovering a disability the child would develop. A technology, the sonogram, has turned the foetus into a patient, because now not only the mother is the doctor's patient, the foetus is too. At the same time, it has virtually created a "right to sue for being born" and "wrongful birth tort" (Ahuja, 2011; Eaton, 2002). As in this thesis I explore the mediating effects of smartphones in the tourist experience, smartphones are not merely tools used by tourists to achieve goals and complete tasks. Rather, they transform the tourist into a smartphone-mediated tourist and the whole experience into a phygital experience.

Verbeek (2005) attempted a synthesis of Ihde's ideas on mediation with those of Bruno Latour. Although more closely related to Science and Technology

Studies (STS) than postphenomenology, Bruno Latour also adopted the concept of technical mediation as the basis for his actor-network theory and holds an anti-essentialist and relationalist approach to the study of technology (Feenberg, 2009; Latour, 1994; Verbeek, 2005). In his 1994 paper "On technical mediation" he brings forward the example of the citizen with the gun: it is not the gun nor the citizen that shoots, it is the citizen-with-the-gun, the gun-citizen or citizen-gun, a third actor that emerges from the technical mediation of the gun. The gun-man then is not the same as the man without a gun. The two views, however, differ fundamentally in that Latour proposes a flat ontology, where relationships are exactly symmetrical, and the gun has just as much agency as the citizen, since the actant is in fact the gun-citizen or the citizen-gun. Therefore, in Latour's theory the focus is not only on the relationships between actants but on the network itself.

In Ihde's postphenomenological view, the focus is instead on the hermeneutic dimension of mediation, that is, its understanding, experience and perception from the human's perspective. Moreover, Latour's and Ihde's philosophies of technology have different foci: while the former focuses on the constituting processes of subjects and objects through mediation, the latter puts the spotlight on the experiences of the already constituted subjects and objects (Feenberg, 2009). In the present thesis, the methodological approach focuses on the tourists' perceptions of smartphone use and how they mediate the experience. The ontology is not flat, as the focus is on the humans, but it is relational, in that the tourists' experience can only be understood as an outcome of the mediation between tourists, smartphones and the world within the temporal and spatial limits of their tourist experience, that is, the world in which they are tourists, or in other words, their *lifeworld* (Ihde, 1990).

Mediation organises this relationship in different ways. Ihde (1990) identifies four ways in which humans can relate to technologies, through four human-technology relations. 1) Embodiment relationship: like glasses, technology is something we wear; we do not look at it but through it. 2) Hermeneutic relationship: like a thermometer, when a technology gives us an interpretation of the world. The thermometer does not give us a sensation but a number which we must read and interpret to understand the world. 3) Alterity relationship: like the ATM machine, technology can be something we interact with. In this relationship, the world behind the machine does not matter much. 4) Background relationship: like electric lights, technology may not be an experience in itself but it contextualises other experiences. Here the technology is simply in the background.

These relations can be easily recognised in tourists' interaction with their smartphones: smartphones are metaphorically an extension of tourists' bodies, and the integrated cameras are more literally lenses they can look through (embodiment). They give constant information about the world, within or outside of the destination, while integrated cameras and social media quite literally offer filters to alter how reality appears (hermeneutic). Tourists interact with their phones and at times are very conscious of the alterity of the device, for example, when intentionally putting it away while on vacation or spending quality time with one's partner (alterity). Smartphones are in the background of other interactions as well: in using a guidebook, for example, tourists know they can retrieve the information online from their phones at any time but choose to use the book nonetheless (background).

Galit Wellner (2016), in her *Postphenomenological inquiry of cell phones*, analyses the different mediating capabilities of cell phones by reconstructing a genealogy of the cell phone through three historical variations: "talking heads" (Motorola's StarTAC 3000 – launched in January 1996), "texting-at-hand" (Nokia's 5110 from March 1998), "the kingdom of multimedia applications" (Apple's iPhone from January 2007). Mobile phones, in fact, are direct descendants of the stationary telephone: in their inception phase they were primarily a talking device, focused on voice and oral communication. In their first variation (the first generation of mobile phones which could only make phone calls while on the move), Wellner recognises new forms of embodiment, for example through the vibration of the phone. At this stage, the phone is already a quasi-other with which humans establish an alterity relation, it offers companionship and changes what is considered appropriate public behaviour. Moreover, already with the first variation of the mobile phone spatial distinctions between places (home/office) start "melting down" (Wellner, 2016 p.29), and the same goes for notions of being alone or together. Lyons and Urry (2005) observed that already with the first mobile phones, travel time stopped being considered "wasted" time, since people could work and communicate on the move.

In the second historical variation, "texting-at-hand", textual communication became the prominent feature. At this point, cell phones could also function as a gaming console, calculator and clock, besides being telephones and "cellular writing machines" (Wellner, 2016). Wellner also noted that at this stage the cell phone already had a different hermeneutic, which thanks to the adoption of emoticons went beyond alphanumeric discourse. A different embodiment also emerged, in which the thumb assumed a central role in the interaction with the phone – and therefore with others. Again, ideas of proper social behaviour

keep changing with the evolution and adoption of the technology. For example, as Wellner (2016) observes, it becomes acceptable to inform someone at the last minute via text that we are about to be late for a meeting and adjust the time of the meeting accordingly. Moreover, in this variation, the cell phone starts also being a non-communication device, since it allows one to make notes for one's self, to-do lists and memos, as well as play games (like the game Snake on Nokia cell phones).

Finally, the latest evolution of the mobile phone resulted in another variation "the kingdom of multimedia applications": the phone can now not only let us talk, write, play simple games and check the time (indeed, talking is not even the main function of the phone anymore), it also offers a multitude of functions. Through the touch screen and the absence of a physical keyboard, a different embodied relation with the phone is established. The phone is a quasi-other just as much as other people become mediated others, a combination of a person and a phone (as well as the complex infrastructure that allows remote communication). Another consequence of this multifunctionality of the phone is the elimination of "everyday carry", that is, things like watches, notebooks, recorders, cameras, diaries, and so on, which one would usually carry before the smartphone integrated all their function within an "application paradigm" (Wellner, 2016). This is particularly evident in the case of tourism, where objects like guidebooks and photo cameras have – if not disappeared – changed their meaning, value and uses, which is the theme explored in the first paper (Mieli & Zillinger, 2020).

Wellner (2016) analyses how the inclusion of a built-in photo camera in the cell phone results in a hermeneutic extension that increases the capabilities of a person to understand and interpret the space around them, which becomes augmented by layers of digital information. Moreover, the built-in GPS functions blur the distinction that de Certeau (1984) made between maps and city plans as theory, versus walking as practice: walking with GPS is a mediated practice where the map (theory) is combined with the walking (practice) (Wellner, 2016). These new hermeneutics and new embodiments give place to new forms of mobility (Wellner, 2016).

2.3 Technological mediation in tourism research

Although postphenomenology is not commonly used as a framework for tourism research, the postphenomenological and mediation literature offers useful concepts that can help analyse the relationship between tourists and technologies and how this shapes the tourist experience. With its relational ontology, postphenomenology focuses the attention on how concrete technologies mediate reality for humans, that is, how they help co-constitute it. Indeed, theories of mediation do appear in tourism, although not always explicitly (see, for example: Liu, Wang & Gretzel, 2022; Germann Molz & Paris, 2015; Neuhofer et al*.,* 2012; Tussyadiah & Wang, 2016; Wang et al*.,* 2012; Yu et al 2018; Zhang & Zhang, 2022). In tourism, in fact, like in any other instance of life, two interrelated processes take place between humans and technologies: on one hand, technologies are created by humans in order to carry out tasks for them, namely they do what humans program them to do and fulfil the roles that humans give them; on the other hand, technologies also impose behaviours on people, as they affect people's behaviours and humans become dependent on them (Tussyadiah & Wang, 2016).

These ideas and the concept of technical mediation have permeated research about tourist behaviour in relation to smartphones (Wang et al*.,* 2012). Tussyadiah and Wang (2016), in their study of tourists' attitude towards proactive smartphone systems, recognised within the mediated tourist experience the paradox suggested by Verbeek (2005), where the amplification and reduction of certain aspects of the experience co-exist. Due to the technological mediation of the experience, they observe, tourists will have "increased capacity to engage with the world in a particular way that is accompanied by a reduced capacity to engage with it in other ways" (Tussyadiah & Wang, 2016 p. 503). Liu et al. (2022 p. 4) explored the smartphone mediation of vacation contexts, showing how smartphone use "turned the physical world into a multi-dimensional phygital context".

Multistability is a useful concept for the analysis of tourist objects. Other tourist-specific objects like a travel guidebook, a suitcase or, to a certain extent, a camera are also multistable: a guidebook, for example, can also be a device to signal the tourist identity to other tourists, or a keepsake to display in one's bookshelf at home (Mieli & Zillinger, 2020). However, the multistability of smartphones is even more interesting from a tourism perspective because these devices are used regularly both in everyday life and in tourism (Wang et al*.,* 2016). Smartphones can fulfil the roles of many of those tourist-specific

objects, but in all its many uses, the object is the same; it is not tourist-specific. When it is used to fulfil tourism-specific functions, it also contains the potential to be used for non-tourist-specific activities, raising questions concerning how it can mediate the way tourists "have access to their world by the roles that such things play in human experience" (Verbeek, 2005 p.119).

The concept of mediation is at the core of the questions that I ask in each of the papers in this thesis. In the first paper, *Tourist information channels*, it functions as the backdrop of the investigation: smartphones are not only a substitute of the guidebook because they offer on-site, updated information, they also have a multitude of other functions that the tourist relies on. Tourists bring smartphones on their trips for all kinds of functions: from photography to keeping in touch with family and friends, entertainment, buying, storing and retrieving tickets and other travel documents. Here, the relationship with the smartphone is clearly a background relation in which the smartphone exists, and the guidebook is valued against the backdrop of the smartphone's capabilities, yet in using guidebooks tourists do not engage directly with the smartphone. The paper shows that tourists do attribute some value to the limited uses you can make of a guidebook, especially in relation to the smartphone: the book is a less expensive object; it can be kept after the trip as a memento; it can signal unequivocally to other tourists that the holder of the guidebook is a tourist herself; it can even signal what kind of tourist they are. In this sense, guidebooks are also multistable.

The second paper, *Experience Sampling Method*, also shows how, methodologically, different things are possible and new sites of inquiry become accessible because of mobile technologies, leading researchers to ask new questions about the experiences of tourists at the destination. As Ihde (2009) shows, science is not chronologically, logically or ontologically prior to technology: it is *technoscience*, that is to say, technology and science are interrelated and depend upon each other. Here I argue that the smartphone should not only be the object *of* research but also a tool *for* research, and I show how it can be done in practice. The paper also hints at a theme later developed in Paper IV, that is, what happens to the tourist experience when activities and functions of everyday life can be carried over into the time-space dimensions of the tourist experience thanks to mobile, internet-enabled technologies. Ontologically, just like the distinction between different places "melts down" (Wellner, 2016), it becomes superfluous to distinguish between everyday life and tourism.

In Paper III, *Planned serendipity*, I explore mediation regarding tourists' information search behaviour. Due to the pervasive use of smartphones, it is

not only the accessibility to information that has changed and the behaviour of tourists vis-à-vis information. Rather, it is the whole meaning of the experience. Being an independent traveller, for example, used to mean that one was not relying on organised trips and making bookings and finding information by themselves. Nowadays, many more people are able to do that, and finding your own information and booking your own travel, accommodation and activities has become the norm for many travellers, especially in the age group of the study, that is, "millennials" or generation "Y". The juxtaposition between planning and serendipity in this digitalised context does not suffice anymore to describe tourist information behaviour, and the consequences of such behaviour on the experience can only be understood if we can point our finger at the phenomenon.

In the fourth paper, *Phygital time geography*, my co-authors and I explore how the experience itself can be described as a hybrid of physical and digital through the term phygital, which is analysed in relation to space. Here the experience is understood in two ways: both in the phenomenological sense, in close connection to perception, and in the general sense used within tourist studies as the temporal and spatial context within which the tourist travels. Through smartphone mediation, several contexts blend into the vacation context, creating hybrid spaces that can be defined phygitally. Epistemologically, new ways of gaining knowledge about such a complex and hybrid reality become possible and new questions arise. For example, the questions "where is the tourist?" and "where can the tourist be" become fundamental to defining what a tourist experience is when it is mediated by various technologies.

3 Understanding tourists and the tourist experience

In this chapter I will present an overview of some fundamental concepts that are used in this thesis, which are often subject to debate and misunderstandings. In particular, I will discuss the terms tourist and tourist experience and how they are used in this thesis, including some reflections on why I believe they are worthy of being studied. After defining the terms, I will elaborate on the relationship between everyday life and the tourist experience, which is further discussed in Paper II, and I will then turn attention to the on-site stage of the experience, which is the focus of the empirical material collected for the research.

3.1 Tourists

Twenty years ago, Dann (2002) wrote of the tourist as a metaphor for a changing social world. The author surveyed several examples where the tourist was used as a metaphor for the postmodern human, "connotative of a dilettante life of fun in the sun and hedonism ad libitum" in the "unbridled pursuit of individualism sans frontières" (p.6). At the same time, the author wondered if the metaphor still worked in an ever-changing and technological world.

In his preface to the 2013 edition of The Tourist, MacCannell reflects on the impact and ambitions of his work, referring to the tourist as "a cipher of a changing world" (MacCannell, 2013 pp.xviii-xix). Originally, he chose to study tourists to write "an ethnography of modernity" because tourists were moving around and exploring the changing world "more thoroughly and more avidly than social scientists" and in doing so they were changing the world around them, or rather the "world was rapidly remaking itself in the tourists' image of it" (MacCannell, 2013 p. xviii).

MacCannell (2013) writes of an isomorphism between the tourist and the internet, which mutually mirror their fundamental features. He draws a parallel between the tourist site and the web site, the visitor of a tourist attraction and that of an internet site, the exploration of the world and the exploration of the web. "Tourists were among the first non-specialists to make use of new digital and internet-based technologies" and "while increasing the efficiency of international tourism", information technologies have not changed "the underlying motivational structure of tourism or the sightseeing event […] the 'tourist moment'" (MacCannell, 2013 pp.xxi-xxv).

The "liquid modernity" sociologist Zygmunt Bauman used tourism as a metaphor for contemporary life in western societies (Franklin, 2003) and termed it "tourist syndrome". For Bauman, the tourist experience "grasps in a purified form what in ordinary life is mixed and obscured" (Franklin, 2003 p.208). The tourist is the exemplification of the characteristics of the contemporary (western) human: looseness of ties with the places where their experience takes place, a presumption of temporariness, a "pure" relationship with places, which they "consume" or "graze" only for pleasurable consumption, only to move onto the next place once the satisfaction wanes. In contemporary sociology, Gössling, Cohen and Hibbert (2018) have defined tourism as a necessity to maintain sociality and construct, affirm or alter one's identity, a social necessity for shaping a liquid identity.

Finally, I agree with MacCannell (2013 p.xix) that "tourists have always been a subjective blank slate. They are as smart and as stupid, as well- and ill-informed, as gentle and brutal, generous and stingy, curious and closed-minded as any random sample" but at the same time they also "occupy a privileged place in the sociotheoretical landscape" as "they are the last remaining class that exhibits consciousness for itself". In this sense, tourism can be a useful site of access to gain knowledge about society at large, through investigations of this peculiar, metaphorical creature that is the tourist.

3.2 The tourist experience

If the tourist can be a metaphor for the contemporary human, and the tourist experience is the context within which the tourist exists and behaves, then the tourist experience is a somewhat controlled environment that encompasses several stages and several situations that correspond to the everyday life of the non-tourist human. McCabe (2002) argues that the tourist experience is not

only a metaphor for everyday life, but it exactly replicates and mirrors it. However, it is an easier context to study due to its episodic nature and because it is generally un- (or less) constrained by everyday norms, duties and social roles, as well as the fact that it is clearly situated in a limited time and space.

Tourist experience is a popular term in tourism studies, which has been used to indicate the different concepts and foci of tourism research (Pearce, 2019). Volo (2009) highlights how the tourist experience is a complex phenomenon, and research has not yet reached a definition or an agreed upon understanding of what it is and what it entails. The author even wonders how tourists perceive tourist experiences and whether they do indeed have a mental framework for understanding them or if it is research that tries to impose one. Ultimately, Volo (2009) agrees with Chhetri, Arrowsmith, and Jackson (2004) that there is no one single theory that can explain tourism experiences, although many authors have tried to come up with models and definitions. However, in general, in tourism research the term experience is used broadly to capture the lived psychological realities of travelling (Pearce, 2019).

One main sense in which the term entered the tourism academic jargon, within the management/marketing field, is in reference to the so-called "experience economy", which refers to a new form of economy theorised in 1998 by Pine and Gilmore (Pearce, 2019; Pine & Gilmore, 1998). In 1998, Pine and Gilmore introduced the very successful concept of 'experience economy' in a paper that claimed that firms do not deliver a service but engage their customers through staged events; the actual offering in the marketplace is the experience itself (Pine & Gilmore, 1998; Volo, 2009). These authors believe that an experience is created when a company uses services and goods as stage and props to create a memorable event for customers, where they can engage (Pine & Gilmore, 1998). Following this, a managerial approach to the tourist experience developed in tourist studies, which focuses on companies and service providers, putting the emphasis on how they can create experiences for their customers and engage them. Since the 1990, in fact, tourism studies have been moving from the classical approach of services towards an experience design approach (Andrades & Dimanche, 2014).

Quan and Wang (2004) make a distinction between the different ways in which the tourist experience is understood in the social sciences, on one hand, and marketing/management on the other. In their review, Quan and Wang (2004) find that while management studies usually equate the tourist experience with "consumer experience", the social sciences study it in terms of "peak experience". Moreover, some sub-approaches within the social sciences can also be identified: 1) the tourist experience can be studied phenomenologically

as the subjective experience of the tourist from a common-sense perspective; 2) it can be seen as a pilgrimage, an escape which assumes "sacred", or spiritual connotations; 3) it can be a subjective psychological process to study quantitatively and therefore objectively; and 4) it can be an object of critical studies (Quan & Wang, 2004). The approach I adopt in the present thesis is inspired by phenomenology or, more precisely, postphenomenology, and it therefore falls within Quan and Wang's (2004) first category.

From a sociological perspective, the tourist experience has been studied by several authors, from Boorstin's (1964, ed. 1992) view of such experience as frivolous and superficial, to MacCannell's (1973) idea of tourism experiences as a pure quest for authenticity and Cohen's (1979) phenomenological view of different tourist experience modes for different people. Boorstin (1992) was the first sociologist to put the spotlight on the tourist experience per se as a sociological phenomenon, using it as an example of the contemporary (American) human. Although his analysis is more generally about American culture, he points out how the "art of travel" has been lost, and the modern tourist does not experience "reality" but merely an artificial, staged spectacle (Boorstin, 1992; Cohen, 1998). Boorstin's critique of the modern tourist is based on his observation that they are satisfied with "pseudo-events" and their experiences lack authenticity. McCannell (1973), on the other hand, adopted an opposite but equally totalising view of the tourist experience as a meaningful modern ritual, which is primarily aimed at reaching authenticity (Uriely, 1997).

Cohen (1979), however, claimed that it was reductive to define the tourist experience as either a superficial and frivolous pursuit of meaningless experience (Boorstin, 1992) or a deep search for authenticity and meaning (MacCannell, 1973). According to the author, such definitions could not grasp the nature of tourism and the reasons why people travelled (Cohen, 1979). Borrowing from religious studies, Cohen (1979) used the concept of 'centres' as loci – not necessarily geographical – that hold the ultimate meaning for the individual. Cohen (1979) criticised the structuralist view of the tourist experience, which saw it as a recreational activity that allows individuals to appease the tensions that arise from the attempt to conform to society and its centres. Instead, he claimed that the modern individual can have several different attitudes towards these centres: from not looking for a centre at all, to seeking to experience authenticity vicariously through others or making the quest for the centre the purpose of their life, even believing that the centre lies in a different place or culture (Cohen, 1979). The author claimed that, depending on an individual's attitude to the centre, the tourist experience can

have a different role and meaning: it could be a diversion, a form of recreation, a way to seek experiences or to experiment, and it can also be existential (Cohen, 1979).

The concept later developed towards a more postmodern approach where new theories have introduced complementary concepts to expand earlier modernist views, rather than to exclude them (Uriely, 2005). Uriely (2005) highlights the role of subjectivity in current understandings of the tourist experience: while earlier conceptualisations focused on the object provided by the tourism industry, more recent literature has shifted the attention to the subject and their negotiation of meaning as a determinant of the tourist experience. However, the subjective approach of postmodernist theorists can be incomplete in the sense that it tends to ignore external opportunities and constraints, while future research should try to focus more on the interaction between the subject and the object that constitute the tourism experience (Uriely, 2005). In fact, I argue that in order to understand the role of technologies in the tourist experience, it is necessary to overcome the subject-object dualism and focus on the relationship between the objects and the tourist, and how the tourists' experience of reality is mediated by the technologies they have access to throughout the trip.

In this thesis, the term experience is used not only as an outcome but also as a process, as the process of experiencing is itself the precursor to experiences (Gnoth and Matteucci, 2014). Gnoth and Matteucci (2014 p.4) define tourists' experiencing as ''the conflux of what is sensually perceived, how it is processed, and how it is retained in the resulting experience''. I would like to focus on tourist experience in a (post)phenomenological sense, that is, how tourists experience the world when they travel, especially when the world is full of technologies. In a postphenomenological sense, in fact, experience is where the relationship between humans, technologies and the world can be located and therefore studied (Ihde, 1990.; Verbeek, 2001). In this thesis I focus on different experiences and different aspects of the tourist experience: a value experience, a behaviour within the experience and its consequences for the experience itself, the technologically mediated experience (as perception) of space and place, and the methodological challenges and opportunities of studying on-site experiences.

3.3 Challenging the escape paradigm: the relationship between everyday life and tourism

Throughout the thesis, and in particular in the second paper, *Experience Sampling Method*, I explore the boundaries between everyday life and the tourist experience, questioning the distinction between the two and reflecting on the epistemological and methodological implications of such a distinction. Uriely (2005) identifies de-differentiating the experience as one of the trends in the more recent development of the concept: earlier authors emphasised the difference between tourism and everyday life, making this difference the essence of tourism. Although the tourist experience is often seen within an "escape paradigm" (Germann Molz, 2012), several authors have shown how such experience is intertwined with everyday life (Xiang & Fesenmaier, 2020; Larsen, 2008, 2019).

In Urry's seminal text *The tourist gaze* (1990), the author wrote that tourism is the result of a fundamental "binary division between the ordinary/everyday and the extraordinary" (Urry, 1990 p.11). His very concept of a *tourist gaze* is based on the idea that such a gaze has a different object from the ordinary and everyday life. However, such a notion has been challenged by postmodern authors, some of whom went as far as to say that people are always tourists and tourism is a metaphor for contemporary life in western societies (see Bauman's interview in Franklin, 2003). Larsen (2008; 2019) calls for a de-exoticisation of the tourist experience, arguing that all aspects of social life, including the tourist experience, are infused with elements of everyday life. In fact, the author argues that tourism practices are "fuelled" by everyday practices and that, in turn, tourism has a real impact on the everyday life of the host communities (Larsen, 2019). While mainstream tourism research tends to neglect the everyday life quality of the tourist experience, research in practice theory and everyday studies generally neglect to study the tourist experience (Larsen, 2019).

Quan and Wang (2004) claim that although the tourist experience is often studied as a "purified" experience, in stark contrast with everyday life, it is misleading to exclude the everyday from the tourist experience, a point also put forward by McCabe (2002). In fact, the tourist experience, according to the authors, consists of both a peak experience – that is, the extraordinary activities and events for which people travel – and a supporting experience – that is, all the daily activities that tourists perform during travel like sleeping, eating, playing (Quan & Wang, 2004). While the peak experience is indeed usually in

stark contrast with everyday life, the tourist's overall evaluation relies on both types of experience, which reinforce each other (Quan & Wang, 2004). The tourist experience is made up of "tourist moments", and these moments can be both extraordinary and ordinary (Edensor, 2001; Cary, 2004; Larsen, 2008). In the thesis, I refer to the peak experience as the extraordinary (serendipitous) moments and the supporting experience as the ordinary moments. However, it is important to reiterate that these different moments are not temporally or logically distinguishable; they happen contextually.

I argue that technologies play a significant role in this de-differentiation of everyday life and tourism, in particular mobile technologies such as smartphones, which can be "carried over" from everyday life into the tourist experience, allowing tourists to carry out many everyday activities while travelling (Lamsfus et al., 2015; Wang et al., 2016). As Larsen (2019 p…) points out, on one hand "tourism is no longer a bounded activity" and on the other "the everyday can be mobilised and performed on the move". In Paper IV, my co-authors and I explore how everyday life is performed on the move through the use of smartphones and how the tourist experience becomes differently bounded or constrained according to Torsten Hägerstrand's (1970) theory of time geography.

4 The phygital tourist experience

In this thesis, I adopt the term "phygital" to indicate how ICT mediate the experience: not just physical and/or digital, but something qualitatively new, a phygital experience. The term "phygital" is a portmanteau of the words physical and digital, indicating the condition in which an experience is not only physical nor only digital, but a hybrid of both (Mieli, 2022a).

Research tends to distinguish physical and digital experiences as two separate things that can be studied independently of each other: Belghiti, Ochs, Lemoine and Badot (2017) suggest a paradigm shift from the prevailing dichotomous logic to a ubiquitous one, where experiences are neither physical nor digital, but are both physical and digital at the same time, that is, phygital. In a phygital experience, space or object, physical and digital do not replace each other, nor do they only complement each other: physical and digital reinforce each other and become deeply and seamlessly intertwined (Andrade & Dias, 2020; Lo Turco & Giovannini, 2020; Nofal, Reffat & Vande Moere, 2017; Zurlo, Arquilla, Carella & Tamburello, 2018). Thus, they assume new meanings and values (Lo Turco & Giovannini, 2020). The emergence of phygital realities is linked to the pervasiveness of ubiquitous technologies and internet connectivity, which Belghiti et al. (2017) have also termed "ATAWADAC": anytime, anywhere, any device, any content. Smartphones and other mobile devices, wireless connectivity, wearable devices such as smart watches, haptic technologies, Augmented and Virtual Reality (AR and VR) are important factors in the phygital experience (Mieli, 2022a).

The first appearance of the term phygital in an academic publication was in a 2007 paper on phygital maps: the paper presented a software application that could integrate physical maps with digital information through a smartphone application (Nakazawa & Tokuda, 2007). The authors did not define the term phygital beyond stating that it came from the words physical and digital (Nakazawa & Tokuda, 2007). Until 2017 the term appeared sporadically in academic texts in different fields, from urban planning, to gaming, marketing and retail, until around 2017 when the term became rather established in the academic jargon, especially in marketing and retail research and in connection

with omnichannel marketing (Belghiti et al., 2017; Lo Turco & Giovannini, 2020; Vel, Brobbey, Salih & Jaheer, 2015). A study by Neuburger, Beck and Egger (2018) used the term phygital in the tourism context to explore AR and VR in the tourist experience. Ballina, Valdes and Del Valle (2019) also focused on the field of tourism, studying the phygital experience in smart tourism destinations. Both papers use phygital as an adjective to referr to the tourist experience; however, Gretzel et al. 2019 refer instead to tourists' information environments in the age of digitalisation. In most cases, the term is used as an adjective, most often associated with an experience. Nevertheless, Klaus (2021) suggests the noun "phygitality" as it describes the concept more precisely.

Klaus (2021), however, proposes a critique of the term, questioning whether it is just the "emperor's new clothes". The author reiterates that physical and digital elements of customer experience cannot be separated and studied individually but wonders whether the term phygital is itself useful. The critique is based on the argument that customer experience must be seen as a holistic construct, but it is exactly because phygital is a holistic and, according to the author, too vague concept that it is of little use and guidance to management practitioners. Klaus (2021) argues that the term adds too little to the understanding of customer experience to be a useful theory, thus remaining an idle speculation (Klaus, 2021). However, although it may not be useful for marketing practitioners, the term might still help to address a different type of question, an ontological one, relevant to understanding the world we live in, to give academics and society a better suited vocabulary to discuss reality.

In marketing and management discourse, the concept of "smart" tourism is particularly close to the concept of "phygital". However, Gretzel, Sigala, Xiang and Koo (2015) observe how smart tourism research focuses on the integration of digital technologies in infrastructure and often translates into trivial projects such as promoting free wi-fi or the development of mobile applications. The authors note that the concept lacks definitional clarity, "suddenly everything is smart" and the concept becomes "fuzzy", often being used to drive specific political agendas and to sell technological solutions (Gretzel et al., 2015 p.180). Moreover, the term "smart" holds a certain normative connotation, implying that smart is better and often offering a utopian view of happy collaboration among various actors in a self-regulating ecosystem (Gretzel et al., 2015). Unlike "smart tourism", the term phygital refers to the ontological aspect of the experience, pointing to how there is no neat distinction between the physical and digital dimensions of the experience. Although it has been used in marketing and management literature, particularly

in reference to omni-channel marketing, the term is not necessarily normative, and therefore it opens up the discussion for critical thinking. It is not implied that phygital is better or worse than physical, and the focus is on how it is qualitatively different.

According to Gaggioli (2017), phygital refers to a concept of space: "a new concept of space that originates from the increasing convergence of the physical dimension and the virtual dimension" (p. 774). The digital transformation that is happening in all contexts of life leads to a blurring of the distinction between physical and digital and to defining our living space as a "digitally enriched" environment (Gaggioli, 2017). Other authors have used it in reference to phenomena, objects, places, environments and experiences. In a humanistic sense, the term can also refer to "a generation of people for whom the real world and the digital world overlap" (Lo Turco & Giovannini, 2020 p.3). In this thesis, I refer mainly to and expand on Gaggioli's (2017) spatial definition. I propose to adopt the term phygital as a way to focus on both the physical and digital and challenge the distinction between the physical and digital dimensions of the tourist experience. Challenging such distinction also means challenging the distinction between the mundane lifeworld that tourists leave behind when they travel and the liminal lifeworld to which they travel.

As Lamsfus et al. (2015) observed, mobile technologies enable tourists to travel both on and with the internet. Here Wellner's (2011, 2016) concept of the wall-window is helpful to understand what happens to the tourist experience when tourists travel with and on the internet through their smartphones. In Wellner's (2011, 2016) analysis, the phone, as a window, opens a view into some other space, but it also creates a wall between the user and their physical surroundings. The space accessed by the tourist through the window is the mundane world of everyday life, while the surrounding from which the phone use raises a wall is the destination of their travel and what happens there. Tourism scholars have acknowledged that mobile technologies cause time, space, physical and virtual worlds to be reconfigured (Lalicic & Wesmaier, 2016). In this thesis, I explore how such reconfigurations happen for the tourist and what that means for their behaviour and their experience.

4.1 The role of smartphones in the on-site stage of the experience

The tourist experience is not only situated in space but also in time (Hall, 2012; Zillinger, 2007). Traditionally, the timeline of the tourist experience is divided into distinct phases, generally between three and five: pre-trip, travel to site, on-site, return trip, post-trip (Leiper, 1990; Prebensen, Chen & Uysal, 2018; Zillinger, 2007). Each phase has typically been associated with certain activities (e.g., information search, sightseeing, reminiscence, etc.). The pre-trip stage typically involved anticipation, information search and planning; the on-site stage is the experiential stage, and the post-trip stage was mainly about reflection and sharing (Wang et al*.,* 2012; Wang et al*.,* 2014). However, thanks to mobile technologies, many of these activities can be conducted on-site: tourists can search for information, book services, share instant memories, stay in touch with family and friends, work and manage their everyday life through their smartphone while they are at the destination. The activities of the three-stage understanding of travel have now converged into the on-site stage (Tussyadiah & Wang, 2016)

Smartphones allow tourists to continue everyday-life activities when on their trip and micro-coordinate with travel partners and other people (Lamsfus et al. 2015; Wang et al., 2016). In this sense, the use of smartphones can transform tourists' interactions with places, activities, other tourists and locals. Authors have commented on how this digital elasticity can displace the concept of liminality, mitigating the effects of travelling to a new place like cultural shock (Pearce, 2011), and "removing some of the magic and sense of escape created by travel" (Beckendorff et al., 2019). Kirillova and Wang (2016) also found that using the smartphone, often for activities related to work, reduced the sense of recovery that is often sought in leisure travel. Wang et al. (2016) wrote of a "spill over effect" by which tourists carry out everyday functions and activities while on vacation through their smartphones.

During the tourist experience, the smartphone can have different functions: from socialising, which includes messaging, telephony, and social media; to informing, which includes information about attractions and destinations, timetables and schedules, currency conversion, QR codes and virtual guides (Benckendorff et al., 2019; Dickinson et al*.,* 2014; Wang et al*.,* 2014). Overall, the smartphone is a very useful tool for information search, problem solving, communication, and entertainment (Tussyadiah & Wang, 2016). Finally, the smartphone enables a number of activities that are not specifically travel-

related such as many forms of entertainment, work, and everyday chores (Wang et al., 2014; Xiang & Fesenmaier, 2020).

The smartphone also offers context awareness to tourists: it gives access to real-time and location-based information, updates, tracking and tagging (Benckendorff et al., 2019; Dickinson et al, 2014; Yu et al., 2018.). Through recommendation systems, trip planning, scheduling, and facilitating personal interactions, this device also allows for a personalisation of the experience; while other services such as text or voice translations further facilitate it (Benckendorff et al., 2019; Wang et al., 2014). Benckendorff et al. (2019) also mention how the smartphone can augment the experience by overlaying the real world with digital content and facilitate reflection by capturing travel experiences for future enjoyment.

Through constant communication via mobile telephony and the internet, social networks have become stretched across space, and they do not necessarily rely on physical proximity to exist. Instead, they increasingly rely on mediated communications, transport and access to physical and virtual mobilities (Germann Molz, 2012). Social media, which are some of the main functions enabled by the smartphone, allow tourists to stay connected despite the distance and allow for "co-presence", a form of mediated presence that enables the tourist to be physically in one place and virtually in another (Gössling, 2017).

Because they can assist the tourist throughout the anticipatory, experiential, and reflection stages of the tourist experience, several authors have suggested that the use of mobile devices has "muddled" or "blurred" the boundaries between the different stages (Tussyadiah & Wang, 2016; Wang et al., 2016; Xiang & Fesenmaier, 2020) or "unlocked" the traditional three-stage view of the tourist experience (Wozniak et al., 2017). I prefer the latter definition, since I believe that the stages still logically exist. However, I agree that activities typical of the pre-trip and post- trip stage are performed during the trip (for example, information search and sharing photos) (Wozniak et al., 2017). Therefore, saying that the boundaries between the stages are indistinguishable is not entirely accurate, while it makes more sense to say that the stages have been "unlocked" in the sense that activities can be carried out at different stages and in particular many activities have converged to the on-site stage.

According to Kang et al. (2020), smartphone use during travel means that information behaviour should be understood beyond the three phases of pre-, during and post- trip. The authors claim that, since tourists have the possibility to use the internet when they are already at their destination, traditional

information search behaviour literature may not apply to the on-site trip stage (Kang et al., 2020). In fact, research has traditionally assumed that travellers decide an itinerary prior to their trip and follow it more or less to the letter, failing to recognise the dynamic nature of the travel experience, "whereby the trip actually evolves throughout its course from planning, actual travel and remembrance" (Hwang & Fesenmaier, 2011). Thanks to mobile technologies, the information search phase has been extended and therefore decision-making can best be defined as a flexible, temporal and successive process (Kah & Lee, 2014).

Besides information behaviour, other activities belonging to other stages of the trip as well as to everyday life can be conducted on site. Wang et al. (2016) write of a "spillover effect" of functions and activities related to smartphones from everyday life into travel. Activities that traditionally belonged to the post-trip phase have now shifted to the on-site stage of the trip. The most obvious example is sharing photos, videos, text and other media with people that are not in the travel party, in particular through social media and multimedia messaging services such as Whatsapp, Messenger, Telegram, and more. Zhang and Zhang (2022), in their study of the relationship between "escape" and "return" in travel, view everyday life and travel as "interlaced" due to the use of smartphone technology. Instead of defining the tourist experience according to the dichotomy connected/disconnected, plugged/unplugged, they explore the concept of "selective unplugging" as a more complex view of tourists' relationship with their smartphone during the trip (Zhang & Zhang, 2022).

Such changes are particularly enabled by mobile and internet-enabled technology, as "from booking and 'reading up', to writing down and reminiscing, most stages of a traveller's trip today are framed by the digital environment" (Arthur & van Nuenen, 2019 p. 504). The information environment of the modern tourist is deeply changing due to the continuous evolution of digital technologies, and thanks to mobile technologies, tourists can carry with them their own digital information environment in whatever physical situation they may be. In this sense, the on-site stage of the trip becomes a phygital experience, where physical and digital worlds are entirely enmeshed.

The papers in this thesis focus particularly on the on-site stage of the trip. The mobile nature of information technologies such as the smartphone and the guidebook are interesting in how they move together with the tourist and accompany the tourist along the whole trip. The on-site phase, however, is traditionally harder to explore than pre- and post-trip simply because of the accessibility to researchers of people who travel, while they travel. However,

the pervasiveness and ubiquity of smartphone use have made this stage ever so important to study and understand, and the tourist experience takes place largely on-site.

The issue that this thesis attempts to overcome, however, is not with the phases themselves but with a linear conceptualisation of the three or five phases (Gretzel et al*., 2019). Such linearity results in an under-exploration of the on-site stage, which instead becomes increasingly important and varied, with activities that are ever more diversified. In Paper II, *Experience Sampling Method,* I reflect on the importance of developing methodologies that allow one to study the on-site stage of the experience and show how smartphones can be a useful tool for doing so.

4.2 Phygital information environment

MacCannell (2013) theorised that for a tourist attraction to be such, there needs to be a marker, that is, a piece of information pointing to it and indicating that it is a tourist attraction indeed. For MacCannell (2013 p.41), a tourist attraction is "an empirical relationship between a tourist, a sight and a marker". Without a marker (may it be a guidebook, a brochure, a sign in the street or a post on social media) and without a tourist to look at it, a place would not be a tourist attraction. Along the same line of thought, it could also be argued that without a sight or a marker, a person would not be a tourist.

Nowadays, reality is dominated by an abundance of information and the omnipresence of mobile internet-enabled devices that are constantly flooding users with markers of every kind: from the social media post about a beautiful destination, to an advertisement about a certain hotel, software applications that can make a better traveller, and photos and videos of close and far acquaintances enjoying exciting experiences. What a place is for the tourist, therefore, is mediated by what information they can access about it and what they know about it. Location based services (LBS) relying on a Global positioning system (GPS) locate users in physical space and provide information about it. Thus, layers of spatialised information are added onto physical space, which allow people to create their own personalised maps (Frith, 2012). Information that is personalised real-time augments the physical environment, and the maps that represent the physical space become individualised and personal (Besmer, 2014; Frith, 2012).

While the experience of space is personalised and differentiated from anyone else's, Frith (2012 p.140) notes that "information not in the database need not exist": that is, a place that is not on an online map is not a place that tourists will know about and therefore visit. By providing information about the place, MacCannell's traditional semiological system of tourist-sight-market is mediated. The information retrieved through the smartphone acts as a marker, and what is not visible on the map or accessible through search engines and social media is not a tourist attraction for the tourist. The layers of information provided by the map are overlaid on the physical reality, thus creating a hybrid reality where markers, too, are phygital.

4.3 Where is the tourist?

What makes the term phygital useful is that it does not only refer to what is digital, as the "physical" part of the concept is still fundamental. Dickinson et al. (2014) note that, given the ability of smartphones to connect people constantly and the capacity to transport them to different social settings, it has become harder to distinguish which place people are in, between digital and physical places. While digital devices and platforms can penetrate the tourists' perception of space, they will still physically be somewhere, that is, the destination. This begs the question: where is the tourist when she or he travels with the smartphone?

A tourist can be at the destination and at work at the same time; they can be interacting with locals during their travels and with their family back home or with their friends on the other side of the world through videos, photos and captions posted on social media. Smartphones connect tourists with both physical and digital, virtual and informational contexts at the same time (Lemos, 2014). The argument I put forward in this thesis, however, is that such contexts should not be considered separately: through the smartphone, tourists are in several contexts simultaneously. When tourists are constantly using their smartphone, with ubiquitous access to information, communication, and various forms of media, how can a line be drawn between the physical and the digital experience of the tourist? Where does the physical end and the digital begin? Smartphones relate people to both at the same time; physical and digital are not separated but a third, mediated environment exists that incorporates both, a phygital place.

In tourism and mobility research, the phenomenon of engaging with different contexts simultaneously through the mobile phone has been defined in various ways: distracted gaze, doubling, digital elasticity, e-lienation, and co-presence (Ayeh, 2018; De Souza e Silva, 2006; Pearce, 2011; Tribe & Mkono, 2017; Urry, 2002). The notion of "doubling" has been used to explain what happens when tourists' attention is split between their digital context and their physical one, and therefore in some way tourists are present simultaneously in two places (Sheller & Urry, 2006; Lamsfus et al., 2015; Lalicic & Weismayer, 2016). Concepts like enfolded space and doubling, however, still allude to some separation of the two aspects of the experience: enfolding implies overlapping, while doubling implies that the experience is somehow split, multiplied. De Souza e Silva (2006) argues that a better term is "hybrid" because the borders between the two types of space cannot be clearly defined. Frith (2012) also stresses that the digital has not replaced the physical but has become part of it. Phygital, then, can usefully represent this hybridity and complementarity. Hybrid is a general term that can indicate a mix of any two things, while phygital is specific to digital and physical.

Moreover, previous conceptualisations focus entirely on perception, attention and the mind. They lack focus on the embodied, spatial experience of the tourist. They do not ask the question of "where *is* the tourist" and, even more importantly, "where *can* the tourist *be*". Although it is outside the scope of this thesis to define what tourism is, most definitions would at least agree about the importance of space and movement in tourism, implying that tourism is about being somewhere else and involves a displacement. If being a tourist is about being somewhere else, the question of *where* becomes relevant when mobile technologies challenge the notion of being in space. The question is an ontological one: by asking "where is the tourist?" I want to situate the tourist's experience of the world in space, and ultimately investigate the ontological nature of this experience. With this question, I invite geographical thought into the discussion, and lend my ear to theories of geography, space and time to understand the issue at hand. By asking about where the tourist *can be*, moreover, I focus the attention on one aspect of space and movement within space, that is, the constraints that determine and limit how a person can move in space (Hägerstrand, 1970).

In Hägerstrand's (1970) time geography, people's movement in space is limited by three types of constraints: capability, coupling and authority constraints. Capability constraints consist of those physical limitations given by biology or the ability to use tools (e.g., sleeping, eating, transport technology); coupling constraints define "when, where and for how long the

individual has to join other individuals, tools and materials" (Hägerstrand, 1970 p.14); and authority constraints are those constraints given by some private or public authority that can limit or regulate access to a location (Shoval, 2012). Shoval (2012), Hall (2005), Zillinger (2007), among few others, have adapted and applied time geography to the tourism context. Tourists' stay at the destination, and the length of visit is, in fact, determined by several capability constraints, including food, sleep, transport type (Shoval, 2012). Shoval (2012) notes that the geographic range of tourists' activities will be very different depending on whether they are independent travellers or travel in a group, as such configuration determining coupling constraints for tourists' spatial activity. Authority constraints are also present for tourists in terms of, for example, opening hours of attractions, as well as visas and other national and international limitations to mobility (Shoval, 2012). Through the phygital concept in paper IV, *Phygital time geography*, my co-authors and I seek to adapt the theory further, not only to tourists' spatial behaviour but to the *smartphoned* tourists' spatial behaviour. In fact, new and different constraints exist when people use technology on the move (Thulin & Vilhelmson, 2018).

The focus on the spatial dimension of the tourist experience is based on two main reasons. First, tourism is essentially a spatial phenomenon; it is about people travelling and therefore moving in space (Dickinson et al., 2014). Second, the smartphone is a mobile technology; its peculiarity is its portability in space, and this therefore begs the question of "where" one is when being on the phone. Philosopher Maurizio Ferraris (2005), in his ontological exploration of the cell phone, claims that "where are you?" in relation to the mobile phone is a philosophical *grundfrage*. He explains that the question "where are you?" captures the essence of the transformation caused by the mobile phone, which is not just a telephone without wires and cables. The mobile phone can be many things: it can be a writing machine, a communication device, be used to make payments, take photographs, and so on. This multistability of the smartphone makes it "philosophically interesting" (Ferraris, 2005). Given the shared mobility of the tourist and smartphone, the question of where the tourist is when they are on their smartphones becomes even more philosophically interesting.

Applying the concept to space helps answer a call for a paradigm shift coming from several directions. Like Belghiti et al. (2017) in marketing, several authors in the field of geography have noted how the dichotomous paradigm of physical as separated from digital is anachronistic in the age of mobile technologies (Crang, 2009). Telecommunications, smart devices and mobile

telephones have made physical mobility unnecessary for spatial interaction (Adey, 2017; Crang, 2009; Hanson, 2009). What is more, virtual technologies are blurring the boundaries between the real and the virtual geographical worlds, thus requiring new critical approaches to geography that do not rely on a priori distinctions between real and virtual (Graham, 2009). On the other hand, Adey (2017) suggests that, rather than a substitution of physical displacement by virtual mobilities, the case is that "complementarity" should be the key word: virtual and telecommunication technologies not only augment physical journeys, they can also create new ones. In this thesis, and in particular in Paper IV, I add on to this argument by showing how these technologies can not only augment and create physical journeys, they also constrain them.

5 Information behaviour during the trip

Searching, finding and using information is arguably one of the crucial aspects of a tourist experience as tourism is an information-intensive industry (Benckendorff et al., 2019). Whether it is a bus timetable, the historical description of a royal palace, the opening hours of a theme park or the location of a stylish café, a piece of information can have a very important role in the creation of a tourist experience. Tourist information search behaviour literature places a particular emphasis on typologies of information sources, information needs, strategies and hierarchies, with most of the seminal texts dating to the pre-smartphone era (see in particular Fodness & Murray, 1997; 1998; 1999; Vogt & Fesenmaier, 1998; Jeng & Fesenmaier, 2002). However, Zarezadeh, Benckendorff and Gretzel (2019) noted that there is a tendency to cite this literature without engaging critically with it and suggest that tourist information search models need to be reviewed more holistically and critically.

While traditional research focuses on predicting tourists' information search behaviour through the core concepts of information sources, needs, strategies and hierarchies; more recent research suggests the importance of unplanned behaviour, spontaneity and the general "information will find me" attitude of the younger generations (Schultz et al., 2019). In fact, information is not always searched, it is also encountered and received, for example through push recommendation systems (Kah & Lee, 2014; Tussyadiah, 2016; Wilson, 2000). For these reasons, in the present thesis I refrain from referring to the theoretical framework as "tourist information search behaviour", as is usually done, and simply call it "tourist information behaviour": the active search component is not always present (Kah & Lee, 2014; Wilson, 2000). "Information behaviour" includes both active and passive information seeking and information use (Wilson, 2000), and is therefore the preferred term in this thesis.

Tourism scholarship has, of course, also considered unplanned behaviour and on-site information search; however, spontaneity has usually been considered

separately from, and as an alternative to, planning (Hwang & Fesenmaier, 2011; Hyde, 2004; Huang, Norman, Hallo, McGehee, McGee & Goetcheus, 2014). More recent trends in literature focus on the holistic view of tourist behaviour and the tourist experience, where opposites and dichotomies are overcome to consider things together in light of technological mediation through smartphones (Liu et al., 2022; Tussyadiah & Wang, 2016; Wang et al., 2012; Yu et al., 2018; Kang et al., 2020). In the following review of the literature, I will attempt a more critical analysis of existing theories of information behaviour with a focus on the junctions between information search and planned, unplanned, spontaneous and serendipitous behaviour, with particular focus on the consequences of smartphone use for tourist information behaviour.

5.1 A critical review of information search behaviour theories

The advent and increasing popularity of smartphones in the past fifteen years has challenged many of the core assumptions of previous tourism information literature. Sources, needs, strategies and hierarchies have all changed due to the smartphone's mobility and internet connectivity. Tourists use different sources and channels of information, both internal or external: internal information relies on memory and previous knowledge, while external information is gathered through various information channels (Fodness & Murray, 1999; Gursoy & McCleary, 2004; Moutihno, 1987). External channels include static and dynamic information, depending on how likely the information is to change in the short-term (Benckendorff et al., 2019). For example, maps, product descriptions and transportation routes are not likely to change in the short term, while product availability, schedules and weather conditions can change quite often. Static information does not require electronic channels of information to be kept up-to-date and communicated to tourists, while dynamic information does (Table X) (Benckendorff et al., 2019).

Different channels used to be associated with different phases of the trip. However, as discussed above, the overlap between activities carried out in the different stages of the trip extends to the channels of information that can be used in each stage because of internet access through mobile technologies. Therefore, channels such as websites, word-of-mouth, social media, internet

booking engines, photo and video sharing platforms and review-based sites can all be used during the trip. Although travel-related information is one of the most popular content areas on the internet, according to Tan and Chen (2012), online resources have not substituted offline ones: instead, travellers use both and are therefore 'hybrid' users (Beritelli, Bieger & Laesser, 2007; Tan & Chen, 2012; Zillinger, 2020).

Many existing distinctions between sources do not contribute to a better understanding of tourist behaviour because the smartphone has either replaced or incorporated them. Apps and websites have easily incorporated guidebooks and brochures and replaced physical tourist information centres (Kim, Xiang & Fesenmaier, 2015; Lyu & Hwang, 2015; Zillinger, 2020). Social media and instant messaging services have transformed word of mouth (WOM) into electronic word of mouth (eWOM) (Iaquinto, 2012; Pourfakhimi, Duncan & Coetzee, 2020; Xiang & Gretzel, 2010); and travel agencies have been replaced by online travel agencies (OTAs) (Benckendorff et al., 2019; Talwar, Dhir, Kaur & Mäntymäki, 2020).

Table. 1 Types of tourism information channels, from Benckendorff et al. (2019 p.9)

Trip stage	Static	Dynamic
Pre-trip	Brochures, guidebooks, fax, photos, videos, websites	Phone, email, websites, social media, internet booking engines, Global distribution Systems
On-site	Brochures, guidebooks, signs, maps, kiosks, TV channels in hotels, mobile apps	Phone, fax, email, websites, social media, mobile apps
Post-trip	Brochures, guidebooks, photos, videos	Blogs, social media, photo and video sharing, reviews

A large part of the literature in the field of travel information search behaviour has focused on information needs, and particularly functional ones, as the main drivers of information search behaviour (Choi, Lehto, Morrison & Jang, 2012; Chung & Buhalis, 2008; Gretzel, Fesenmaier & O'Leary, 2006; Gursoy & McCleary, 2004; Hyde, 2009; Kah & Lee, 2016; Kang, Kim & Park, 2021; Vogt and Fesenmaier, 1998; Vogt, Fesenmaier & MacKay, 2008; Wang et al., 2012; Wong and Liu, 2011; Xiang & Fesenmaier, 2020). In Vogt and Fesenmaier's (1998) expanded model, travel information is mainly collected and used for functional reasons; however, other needs exist. Vogt and Fesenmaier (1998) identify five types: functional needs (product knowledge, reducing uncertainty, maximising utility or value and efficiency), hedonic needs (phenomenology, experiential, sensory and emotional), innovation

needs (novelty seeking, variety seeking, creativity), aesthetic needs (imagery and fantasising), and sign needs (symbolic expression and social interaction). More recent research shows that information needs are also changing (Choe et al., 2017; Vogt et al., 2008; Lamsfus et al., 2015). In revising Vogt and Fesemaier's 1998 expanded model of information search, Choe et al., (2017) found that hedonic, innovation, experiential and sign needs are becoming increasingly important. Korneliussen (2014) advanced the idea that information search has experience value itself, particularly as a do-it-yourself (DIY) activity. Xiang and Fesenmaier (2020) also supported the view that information search can be an enjoyable process.

The emergence of new sources of information and media has had an impact on travel information search portfolios and strategies (Beritelli et al., 2007; Tan & Chen, 2012). Tourists employ strategies for finding travel-related information (Fodness & Murray, 1999; Snepenger et al., 1990). A landmark text in tourist information search research is Fodness and Murray's 1999 article, which constructed a model for tourist information search behaviour on the abovementioned assumption that tourists employ strategies for finding information. The authors built a model of tourist information strategies, which result from a dynamic process in which tourists combine several sources of information on the basis of internal and external contingencies (Fodness and Murray, 1998; 1999). Tourists, Fodness and Murray (1997) had claimed, could be segmented according to their information search strategies, isolating different segments on the basis of the time they spent planning and the number of sources they used. According to the authors, tourists' information search strategies could be categorised according to three dimensions: spatial (internal or external search), temporal (timing of the searching activity), and operational (which sources were used) (Fodness and Murray, 1998; 1999). The data for Fodness and Murray's model, however, was collected in the 1990s, and therefore it could not have captured the impact of digital information sources on tourism. Nevertheless, according to Zarezadeh et al. (2019), after the model was published, researchers have been citing it without trying to develop it further, at times superficially and uncritically or even incorrectly.

Regarding the process of information search, Jeng and Fesenmaier (2002) proposed a hierarchical structure of information search and decision making, where information and decisions could be distinguished as primary/core, secondary and tertiary/peripheral. Depending on their categorisation, decisions would be made before or during the trip in a continuous, hierarchical and adaptive process (Jeng & Fesenmaier, 2002). Information search online was also found to be hierarchical in nature: Pan and Fesenmaier (2006) presented

a model of internet search where the search for information is represented as a network of goals and sub-goals. Tourists would look for hubs of information where authoritative sites were collected. In Pan and Fesenmaier's (2006) model of internet search, vacation planning online happens in episodes that consist of tourists evaluating alternatives to make a decision and chapters, which are a collection of several episodes. Moreover, other studies focused on the different characteristics of the different decisions, especially regarding the information searches that lead to them: while pre-trip decisions are deliberate, purposeful and reasoned, on-site decisions are light-hearted, free-spirited, hedonistic, unreflective, immediate, spontaneous, and do not require intensive information processing (Kang et al., 2020; Choi et al., 2012; Hyde, 2004; Hwang & Fesenmaier, 2011).

Information strategies and hierarchies, however, are also changing. It is widely acknowledged that information search is conducted both before and during the trip (Xiang & Fesenmaier, 2020). Not only is it an ongoing process, but *en-route* searches have increased and decisions have been postponed to the on-site stage of the trip (Xiang & Fesenmaier, 2020). In Paper I, my co-author and I expand on this notion with the observation that not only are decisions postponed, the very need for information is postponed as well (Mieli & Zillinger, 2020). Kang et al. (2020) also claim that using smartphones during the trip can affect which decisions are taken at each stage. Liu et al. (2022) moreover recently highlighted how tourists' use of smartphones to relate to different contexts often results in unplanned behaviour and new plans.

The classification of decisions into a hierarchy of primary, secondary, and tertiary/peripheral decisions (Jeng & Fesenmaier, 2002; Hwang & Fesenmaier, 2011) has allowed scholars to account for unplanned changes in itinerary, since secondary and tertiary decisions are made on the basis of information that is not known before the trip, but encountered throughout (Hwang & Fesenmaier, 2011). Hwang and Fesenmaier (2011) challenged the idea that a trip is the result of a series of decisions that the tourist makes prior to the trip and included on-site decisions in their definition of a trip. The authors investigated tourists' unplanned behaviour and emphasised the dynamic nature of travel, where a trip evolves throughout its course (Hwang & Fesenmaier, 2011). According to the authors, a revision of the travel plan en-route is always initiated by a "plan failure", which likely occurs in the following three conditions: new information is found on the way; a discrepancy exists between expectations and reality during travel; or unanticipated constraints occur (Hwang & Fesenmaier, 2011; Stewart & Vogt 1999).

Additionally, loose planning and on-site information search and decision making can be a deliberate way to achieve flexibility in the trip (Hwang & Fesenmaier, 2011). Hwang and Fesenmaier (2011) claim that unplanned attraction visits are a substantial part of pleasure travel and should therefore be incorporated into models of traveller behaviour "whereby a trip plan plays the role of a tentative guideline for future behaviours and the morphology of a trip is influenced greatly by unplanned behaviours" (p. 398). This idea of a travel plan as a tentative guideline was previously suggested by Woodside and MacDonald (1994) who wrote of a "trip frame" within which tourists would conduct different information searches throughout the decision-making process.

However, these studies used data collected well before smartphones appeared on the scene. Nowadays, mobile technologies play a critical role in tourists' unplanned behaviour (Benckendorff et al., 2018): with smartphones and internet connection at all times, new information is encountered constantly. Stating that a revision of plans occurs when new information is encountered (Hwang & Fesenmaier, 2011; Stewart & Vogt 1999) is equivalent to stating that such revision of plans occurs all the time, throughout the trip. In fact, Kah and Lee (2014) adopted such an approach in their study of unplanned travel behaviour and technology use, finding that early plans are often changed en-route when tourists are provided with new information (in their study, specifically through GPS navigation technology). There is, however, a need for a less linear explanation of tourist information behaviour during the trip.

5.2 Challenging the linearity of information behaviour theories in light of smartphone mediation

The studies I conducted in this thesis focus on connecting theories of unplanned behaviour with literature on information search behaviour within the context of ubiquitous access to information allowed by smartphones. Through the concept of serendipity, and more specifically "planned serendipity", I aim to show how tourists' phygital information environment both enables and constrains a serendipitous behaviour during the trip. The term serendipity is particularly appropriate to illustrate this phenomenon because it refers to both a context and a behaviour, while terms like spontaneity and

flexibility mostly refer to a behaviour or a preference of the tourist. A definition of serendipity is given in the first paper of this thesis (Mieli & Zillinger, 2020 p.32):

> "The concept of serendipity, which was coined in 1754 by Horace Walpole, indicates an event in which someone ´is making discoveries, by accidents and sagacity, of things which they were not in quest of´, where these discoveries are con- sidered lucky or somehow advantageous (Lewis Walpole Library, 2011, p. 407). The concept has recently gained attention in the field of information studies, where its paradoxical meaning has proven useful to understand problem solving, knowledge acquisition and information retrieval (Foster & Ford, 2003)."

In Paper III, I further specify the role of serendipity in information behaviour as "a chance finding of pertinent information, either when not looking for anything in particular or when looking for information on something else" ... "often drawing a reaction of happiness, surprise or simply an ahah! moment (and, sometimes, disappointment as well)" (Agarwal 2015, p. 1). While terms like spontaneity and flexibility only refer to a behaviour or intention of the tourist, serendipity takes into account elements that are outside the decision sphere of the tourist. Serendipity is "a pheomenon arising from both conditions and strategies, it is both purposive and non purposive"; it is related to the chance of encountering new information and the impact of such information (Foster & Ford, 2003). In the tourist experience, information is not only sought but also encountered, and therefore a concept that includes information encounter is appropriate.

Research has become increasingly interested in how the smartphone influences travel information search and decision-making as well as the theoretical implications of such influence (Xiang & Fesenmaier, 2020). New issues with information behaviour have come under the spotlight, namely information overload, the fragmented nature of the search process, and the role and shape of spontaneous and unplanned behaviour during the trip (Xiang & Fesenmaier, 2020; Liu et al., 2020). In fact, the ability to access information online at any time and virtually anywhere has led to more flexibility but also more information search (Wang et al., 2016). In their study of smartphone use within the family vacation, for example, Yu et al. (2018 p. 587) found that travellers felt "spontaneous without a sense of serendipity" due to the use of smartphones during the vacation.

In the first paper in this thesis, *Tourist information channels*, my co-author and I try to expand on current understandings of tourist information behaviour,

showing how the choice of sources is not only functional and based on information needs, other human behaviours like consumer behaviour also come into play, and the choice of information channel can itself be a consumer choice. Moreover, this choice is also made on the basis of many different values. In retrospect, it is clear that at this stage of my research process I was still trying to make a complex behaviour fit into a simplifying theory, namely Holbrook's (1999) value typology, as I was using a framework and assuming that people have a certain number of values that they attribute to the guidebook. By the end of the paper, however, I had realised that the matter was more complicated than I had anticipated, and while the values are many, it is not easy to make them fit into a framework; they are not enough to explain everything, and they are interdependent.

Paper I departs from a question of a somewhat practical nature: I wondered, why is it that guidebooks are still used? Existing research on the motivations to use guidebooks mainly qualify them as sources of information. However, cheaper, more up-to-date, easily accessible information sources are now available for tourists during their trips online through their smartphones. The lowering or elimination of internet roaming fees (for example, within the EU) has made online sources available en-route as well (Zillinger et al*.,* 2018). Other streams of research have analysed guidebooks as cultural objects; however, this type of analysis does not touch upon the reasons why people use them and, in particular, why they would prefer them to other (digital) sources. Although research is quite clear on the fact that tourists – especially the young and educated "millennials" – are hybrid users of information channels, and generally combine different sources (Beritelli et al*.,* 2007; Tan & Chen, 2012; Zillinger, 2020), it still appeared peculiar to me that guidebooks would be an attractive option to collect travel information at all, considering that guidebooks need to be bought (or borrowed) and carried, while online information is accessible through smartphones, which tourists carry for other uses as well.

If information needs were really all there was to it, why would tourists still use guidebooks when their information needs could be satisfied more efficiently, quickly and cheaply with online information accessible through their smartphones?

To find the answer to this question, my co-author and I turned to a theoretical framework that would help us identify the specific reasons why tourists might still appreciate guidebooks, buy them and use them on their trips: consumer value theory, and more specifically, Holbrook's (1999) framework of consumer value. Using such a framework, we would be able to identify exactly

which types of value tourists associated to guidebooks, which could ultimately explain their choice to buy and use guidebooks as consumers. Holbrook (1999), moreover, defines value as a "relativistic preference experience", which allowed us not only to focus on the experiential nature of value in a phenomenological sense, but also to put it in relation to the other sources mentioned above and other objects such as the smartphone. With Holbrook's theory, we were aiming to explain exactly why tourists would *prefer* guidebooks *in relation* to digital channels (and in particular smartphones).

Holbrook's typology and definition turned out to be useful in gaining a better understanding of the many uses and values of guidebooks, especially in relation to their digital counterparts, the smartphone. However, we also found that the phenomenon at hand was hardly reducible to a list of eight value types, just as it was irreducible to a list of information needs. Tourists' information behaviour, it turned out, could not be defined with a juxtaposition of planning vs. serendipity, information search vs. spontaneity, or planned vs. unplanned. Moreover, the uses and values of guidebooks were not easy to assign to clear-cut categories such as aesthetics, play, efficiency, excellence, status, esteem, spirituality and ethics. Although these values did offer a broader view of guidebook use than previously suggested by the literature, it was still too limiting. Guidebook use and information search, it seemed, were much more complex behaviours than anticipated.

5.3 Introducing "planned serendipity"

New directions in tourist information behaviour literature show that it is more fruitful to embrace the complementarity of different aspects of tourist behaviour instead of defining it by dichotomies and oppositions. Researchers have called for a more holistic understanding of smartphone use and its role in tourists' information behaviour (Liu et al., 2022; Gretzel et al., 2019; Hopken et al., 2019; Wang et al*., 2014). Moreover, recent research has shown that while smartphones allow for more flexibility, their use does not necessarily result in more spontaneous behaviour during the trip (Kang et al., 2020; Yu et al., 2018; Kang & Lee, 2022; Vaez et al., 2020). In paper I, the first key sensitising concept of the thesis emerged: planned serendipity. Planned serendipity was not only a sensitising concept to build a new theory, it was an eye-opener as it clearly showed me how there was a fundamental issue in tourism literature. The issue, I realised, was that tourism theories, and

information behaviour theories in particular, were trying very hard to reduce the tourism phenomenon to a list of elementary parts, that is, key elements that could be combined into models to explain a linear, somewhat rational human behaviour. Such theories rejected the possibility that human behaviour contains some contradictions, and yet I did find that such a contradiction existed in people's way of traveling, and especially in their way of balancing knowing and not knowing about a destination, planning and not planning, looking information up in their ubiquitously connected devices or leaving things to chance and getting lost, "drifting" at a destination.

When reading about guidebooks, one of the most cited passages, from Edward Morgan Forster's 1908 (ed. 2000) novel "A room with a view" describes Lucy, the young and naïve protagonist of the novel, who travels to Italy in her early 20s to open her mind to Italian arts and culture, entering the Basilica of Santa Croce in Florence. The Baedeker guidebook, although absent, is a prominent character of the scene (and the whole chapter): Miss Lavish, a (more or less) friend of Lucy's and her chaperone for the day, had taken her Baedeker away in hope that she would learn to "simply drift" in Florence. Lucy, however, felt very lost without it and wondered how she should go about visiting the Basilica or deciding which artwork she should appreciate. Zuelow (2015) observes how Forster's writing of the Baedeker shows two important things: first, by the beginning of the 20th century, guidebooks were a vital piece of a tourist's packing list; and second, travellers were utterly dependent on being given information on "what ought to be seen" (cf. Koshar, 2000). A third thing that Forster's story tells us, though, is a critique of such dependence of information, the importance of "drifting" or getting lost. Jumping forward about a century, the smartphone is about to become the main marker that tourists rely on to know what ought to be seen. As Germann Molz (2012 p. 149) puts it: "in a world made utterly navigable and transparent by portable GPS devices and location-aware mobile applications, what does it mean to get lost anymore?"

In reviewing the literature on information search behaviour in Paper III, I identify four assumptions that are generally made about how tourists search for information (Mieli, forthcoming):

1. Tourists have information needs and make plans based on those. Their choice of sources is directly connected with discrete information search strategies.

2. Information search is carried out in stages, and different information is sought at different stages, with different levels of cognitive effort.

Specifically, on-site information searches are assumed to require less cognitive effort than pre-trip searches.

3. The object of information search is the destination. That is, tourists search for information to learn about the destination. The search is destination-centric.

4. The aim of information search is to improve the experience and reduce risk and uncertainty by gaining knowledge about the destination.

As I discuss in the third paper, *Planned serendipity,* research into unplanned behaviour has shown the importance of on-site decision-making, which can stem from a general preference for flexibility and the wish to base decisions on information encountered at the destination (Hwang & Fesenmaier, 2011; Kah & Lee, 2014; Kang et al., 2020; Wozniak et al., 2017). The idea of a plan made before the trip and followed to the letter has been challenged, because tourists now change and evaluate their plans continually (Kang et al., 2020; Liu et al., 2022). Therefore, in Paper III, I address this issue by proposing the concept of planned serendipity as a way of pinpointing what happens when tourists can continually change their plans based on the situations they encounter on-site, and such behaviour is supported by a mobile technology like the smartphone, which allows them to access up to date information at any time and anywhere.

As mentioned above, search is now seen as flexible, temporal and successive (Kah & Lee, 2014), a significant difference from the strategic, hierarchical search of previous research, which was clearly situated in different stages of the tourist experience (Jeng & Fesenmaier, 2002). In the first paper, *Tourist information channels*, my co-author and I discuss how information needs have also shifted across the different stages of travel. For example, activities, restaurants and directions can be found on-site, while going somewhere. In Paper III, however, I try to offer an alternative view, where such flexibility and successive information search is not necessarily nor exclusively a cause for greater spontaneity. I use the concept of serendipity to not only indicate spontaneous behaviour but more closely relate it to the unexpected but positive encounters that can happen during the tourist experience and that make such an experience memorable. However, I associate the word "planned" to serendipity to highlight the other face of the medal, that is, how smartphones also lead to more extensive and constant information searches.

In the paper, *Planned serendipity*, I explore the concept of planned serendipity by remotely "observing" research participants during their trip through an app where they can submit several self-reports throughout the travel experience.

These tourists rely greatly on the smartphone to conduct constant information searches and, in turn, this allows them to create the conditions for serendipity in their tourist experience. The analysis of the data yielded four themes that illustrate how tourists enact planned serendipity through their use of the smartphone: flexible plans; iterative and specific search process; tourist-centric orientation in time and space; and aiming for optimisation. Based on the data analysis and a critical review of the literature, I propose four counter-arguments to the assumptions identified in the paper and mentioned above (Mieli, forthcoming):

1. Plans are contingent, emergent, and never final (flexible).

2. Information search is iterative and specific, it requires processing a great amount of information (cognitive effort) also on-site.

3. The object of information search is the tourist, that is, tourists do not search for information to learn but to orient themselves.

4. The aim of information search is to optimise the experience by gaining knowledge about the tourists' optimal options at the destination.

Therefore, planned serendipity consists of an iterative and continuous search behaviour that has as a point of departure a rough and flexible plan and yields contingent and emergent plans. It is a search that is centred around the tourist and their position in space and time, and is aimed at optimising the trip rather than gaining knowledge. The concept of planned serendipity is useful, not because it adds a new concept to the field, but because it combines existing concepts and invites one to consider two apparent opposites as part of the same behaviour, highlighting the complexity of such behaviour and making such complexity more intelligible. In the paper, I explain that the concept of planned serendipity addresses an "apparent paradox within tourist behaviour, where tourists feel more flexible due to the possibility to use their smartphone for information search on-site, but at the same time act less spontaneously due to the reliance on their smartphones" (Mieli, forthcoming, p…). However, I also propose that this paradox is only apparent, as it only exists when certain assumptions are made. When those assumptions are challenged, a complementary view of planning and serendipity can be accepted.

Whether or not we juxtapose "planning" and "serendipity" in the way we describe tourist behaviour, the reality of such behaviour does not change, but our understanding of it does, and, in turn, so does how we behave and relate to others and our own experiences. Bringing these two terms together and challenging the notion that they should be opposites through the rhetorical

device of the oxymoron opens up a new perspective, a new understanding of the world. While the investigation in Paper I made it clear that needs, values, and patterns of behaviour are not enough to explain how people behave and how they experience their travels, it also showed that two apparent opposites do not need to exclude each other. Planning and serendipity could coexist in the same person, the same tourist experience, the same behaviour, and the very same decision.

6 Research design

Scientific discovery is not only about rigour, but also about chaos, fantasy and imagination. Not 'either/or' but 'both-and': order and chaos, rigour and imagination. There are fundamental discoveries that are made without really knowing what one is looking for, suddenly "seeing" unexplored and creative connections: it's serendipity

(Bianchi, 2019 p. 21, author's translation)

Denzin and Lincoln (2000 p.4) describe the qualitative researcher as a "*bricoleur* and quilt maker", that is, someone who takes many different pieces and assembles them into one complex representation. Qualitative research is multi-method in nature, as the researcher will employ whatever strategies and methods she deems appropriate to answer the questions she asks, even inventing new tools and techniques when necessary (Denzin & Lincoln, 2000). The aim of qualitative research is not to achieve some objective truth but to gain a deeper understanding of the situation being studied, and no method is privileged in principle to achieve this aim (Denzin & Lincoln, 2000). The questions asked by the researcher, in turn, are not given *a priori* but emerge from the context within which she conducts her research. In the research project presented in this thesis, I have been a *bricoleur* in many ways: I have pieced together different theories from different disciplines, different methods and different perspectives on the subject of tourism and technology. In line with Denzin and Lincoln's (2000) description of the *bricoleur*-researcher, I have also developed my own methodology for part of the data collection.

Denzin and Lincoln (2000) argue that all research is interpretive, meaning that all research relies on a human (the researcher) looking upon the world (the data) and deciding how it should be studied and understood, based on knowledge, assumptions, feelings and beliefs. However, such knowledge, assumptions, feelings and beliefs can be different among researchers and disciplines and have consequences on the practice of research. Doing and designing research, in fact, involves three principal activities, which can take various names: 1) theory or ontology, that is a framework or a set of ideas with

which the researcher approaches the field; 2) epistemology, that is the questions that the researcher asks and deems relevant within the framework; and 3) methodology or analysis, that is the set of tools and specific ways that the researcher chooses to examine their subject (Denzin & Lincoln, 2000).

The ontological, epistemological and methodological approaches of a researcher comprise what can be called a "paradigm", that is, a framework or basic set of beliefs that guides the researcher's actions and choices (Guba, 1990). The paradigm within which the present research project falls is a constructivist-interpretive paradigm. The ontology assumed by this paradigm is a relativist one, which means that not just one reality exists, but multiple ones. From this view ensues a subjectivist epistemology: an individual's reality cannot be observed and known by the researcher as an external, objective witness, but the knowledge of such reality is co-created by the researcher and the respondent (Denzin & Lincoln, 2000). Finally, a naturalistic set of methods is the toolkit with which the researcher will approach the study (Denzin & Lincoln, 2000). Within this paradigm, the positivistic criteria of validity and reliability in research are substituted by criteria of credibility, transferability, dependability and confirmability (Bryman, 2012; Lincoln & Guba, 1985). While the methods used in this thesis do not allow for generalisation and cannot be checked for strictly quantitative criteria such as validity and reliability, the trustworthiness of the results is ensured by the detailed descriptions of the methods in each of the empirical articles and in particular Paper II.

The ontological premise of the thesis has already been discussed in Chapter 2, where I presented postphenomenology and its relational ontology. This is the set of ideas with which I approached my research and the framework that determined the research questions I ask. When it comes to epistemology, then, the research paradigm with which I align the most is a constructivist one. I do not believe that an objective reality can be captured when it comes to the inner and social life of individuals, only its representation. As discussed in chapter 2, phenomenology clearly has a strong influence on my view of the world and how it should be studied, as I believe that the lived experience of the individual is the only site of access to that individual's reality. However, in line with postphenomenological thought, I do not believe the "essence" of things can be accessed through the methodology proposed by phenomenologists (eidetic reduction); instead, I am open to a more pragmatic approach to the choice of method. Methodologically, I used two different methods in the research: interviews and an experience sampling method.

In designing the research and analysing my data, I have mainly relied on principles of constructivist grounded theory (Bianchi, 2019; Charmaz, 2014). "Grounded theory" is a term that indicates a specific methodology of data collection and analysis, which has been defined and delineated in the literature within rather specific boundaries (Charmaz & Bryant, 2016). While the original formulations of grounded theory by Glaser and Strauss (1965, 1967) insisted on objectivity, rigour and strict procedures to collect and analyse data inductively, and later elaborations of grounded theory eased the rigour in favour of a more constructivist thought (Bianchi, 2019).

Throughout the grounded-theory research process, the researcher works with the data while collecting them, bringing ideas and concepts to the field and not separating neatly the two phases of data collection and analysis. In practice, grounded theory advocates for an iterative approach to data collection and analysis, where the researcher starts coding the data very early on and starts writing memos from the beginning (Charmaz, 2014). Memos and initial coding are the bones of further analysis, which is aimed at generating theory. In this sense, the theory is grounded in the empirical data.

With grounded theory, the researcher can develop ideas about the field very early and bring those ideas with her in the following data collection, and can identify analytic leads, which she can then follow up on within the same research project (Charmaz & Bryant, 2016). Such early ideas take the name of "sensitising concepts", which are further used in the research process to guide further data collection and theory building in the analysis (Bryant & Charmaz, 2007). These concepts can become tentative conceptual categories, which allow the researcher to compare them with other data, codes and categories to see if they will hold up and, if they do, determine how they might form the basis of subsequent theory building (Charmaz & Bryant, 2016). The concepts of "planned serendipity" and "phygital" are the two main sensitising concepts that emerged from my research and guided it throughout.

6.1 Interdisciplinary approach

This thesis is interdisciplinary at heart. Tourism as an empirical field of complex human experiences is the perfect ground for interdisciplinary research. In fact, the debate about the disciplinarity of tourism is a lively and ongoing one: while some claim that tourism is a discipline, others claim that it is multi-, inter- or even post-disciplinary (Coles, Hall & Duval, 2006).

Kincheloe and McLaren (2000), however, denounce disciplines as a manifestation of discourses and power relations in the same context in which they have been created. Disciplines lead to sure misunderstanding of the world because they over-discipline knowledge (Tribe, 2007). This way, critical aspects become overlooked, because if a discipline establishes itself as a paradigm, it becomes unquestioned and embedded in the research that is produced within it. A similar point is made by Coles et al. (2006), who claim that tourism should be a post-disciplinary field of enquiry and that subjecting tourism studies to the rules of a discipline would lead to certain intellectual inhibitions that are typical of what the authors call intellectual parochialism. The aim of interdisciplinary research is to bridge the gaps between different pieces of research using different disciplinary approaches, making the field less fragmented but still richer in perspectives. For this reason, a qualitative approach was adopted throughout the whole thesis, with the aim of exploring the phenomena at hand in depth and with rich data.

With interdisciplinarity, however, comes also some ambiguity on the paradigms within which research is conducted. Lacking one disciplinary "home" also means lacking a preferred paradigm of knowledge for scientific inquiry to rely on. Therefore, in this thesis the reader will recognise a fundamentally constructivist-interpretivist paradigm that does not shy away from borrowing tools from disciplines that traditionally subscribe to different paradigms. For example, to conduct fieldwork, I have borrowed the ESM method from a traditionally post/positivistic discipline such as clinical psychology. I dedicate one paper (Paper II) entirely to describing how I adapted this method to a constructivist epistemology, where there is no truth to "capture" and mirror, but only a construction of reality to understand. I use the Experience sampling method merely to follow the tourist along their journey and allow them to record, quickly and easily, their behaviour and thoughts, so that they could later be explored more in depth through a qualitative interview.

In Paper I, I refer mainly to marketing theories of consumer value and combine them with theories of tourism information search. In Paper II, I borrow a method from the discipline of clinical psychology and adapt it to a constructivist paradigm, developing a qualitative application of an originally quantitative method. The reason for developing this methodology comes from the sociology of tourism, with its parallels between everyday life and the tourist experience. In Paper III, I more strictly refer to the existing literature on tourist information search and offer a critical review of it, bringing a complex epistemology into tourism theories and offering a non-dichotomous view of

tourist behaviour. Paper IV brings the discipline of human geography into the thesis by discussing Hägerstrand's (1970) theory of time geography. Moreover, the thesis also includes the humanities in this *bricolage*, discussing philosophy of technology to understand the ontology of the tourist experience. Given the multiplicity of perspectives offered in this thesis, I will refrain from trying to define tourism as either a discipline of its own, or a multi-, inter-, post-disciplinary field (Coles et al*., 2006) and simply position myself in "tourism studies", that is an interdisciplinary field of study that has tourism as its empirical focus.

6.2   A study about millennials

All the empirical work has been conducted on a specific demographic group, that is, tourists who were born between the years 1980 and 1990. This group represents the so-called "Generation Y" or "Millennials", and this is of particular interest for this research because it has proven to be the demographic group that uses the internet most extensively for their travel planning (Kim et al*., 2015) as well as being the most active component in the tourism industry (Kang et al., 2021).

Even though a definition of the concept of "generation" is not agreed upon in academia, within this research the following understanding of the concept is adopted: a generation is a group of people who were born in the same period and shared the same key historical or social life events, which in turn have an influence on these people's values and behaviour during their life (Gursoy, Mayer & Chi, 2008). Although various definitions do not agree on the time span that encompasses a generation nor on the groups' denominations, I found the distinction useful for the purpose of the research in consideration of the relevance attributed to the diffusion of information technologies. Reisenwitz and Fowler (2019) show that there are significant differences among generational cohorts regarding digital information sources and use of information sources in general. People born between the early 1980s and early 2000s in the Western World were born in a pre-internet and pre-mobile phone era but grew up alongside the development of these technologies, experiencing both analogue and digital travel. They are generally comfortable with and accustomed to the everyday use of digital technologies and the hyper connectivity enabled by smartphones, but were not born into an era where this was the norm (unlike Generation Z or digital natives) (Schulz et al., 2019).

Because of this, millennials could be considered somewhat more critically aware of their condition and practices within the digitalised world (Bakker, 2019).

Millennials, moreover, seem to have a peculiar attitude towards information, namely an "information will find me" mindset (Schultz et al., 2019), which is particularly relevant for the empirically-based articles of this thesis. While the first paper, *Tourist information channels,* shows that for some millennials there is still a choice and value in information channels, the third paper, *Planned serendipity*, focuses on such an attitude and adds a nuance to it: although in some cases information will find these tourists, in other cases they will still actively look for information and do so constantly, "double-checking" online every piece of information they encounter.

6.3 Methods

Each of the papers details the methodology that was used to collect the empirical data, and Paper II, *Experience Sampling Method*, is a chapter for an anthology on contemporary research methods in tourism, which deals with how I developed and used the experience sampling method in my research, in combination with the interviews. Of the four papers that comprise this thesis, three are based on empirical data (Papers I, III, IV) and one is a methodological paper (Paper II).

Two methods were used to collect empirical data in the studies I conducted for this thesis: qualitative semi-structured interviews and an adapted version of the Experience Sampling Method (ESM). Although Paper II has more of a conceptual nature, it still refers to empirical data as examples. Two sets of 15 interviews were conducted, for a total of 30 interviews. The ESM dataset includes 93 surveys from 14 of the same participants as the second set of interviews. The data collection was interrupted in March 2020 due to the COVID-19 pandemic, the response to which consisted in travel bans and restrictions around the world and therefore meant an almost complete halt to tourism for several months. Therefore, all the data for the present study was collected before COVID-19 spread across the world, and results should be read in light of the context. In fact, during the pandemic people have developed an even closer relationship with their personal technologies and are arguably more dependent on technology while at the same time seeking digital-free experiences (Gretzel & Stankov, 2021). Moreover, tourists currently rely

greatly on updated online information regarding safety, health and travel restrictions (Matiza & Slabbert, 2021). The COVID-19 pandemic has been called an "infodemic" and "(mis)infodemic", indicating the rapidly evolving and copious amount of information that tourists, and people in general, need to navigate on a daily basis, especially on their smartphones (Koban, Neureiter, Stevic & Matthes, 2022; William, Wassler & Ferdinand 2020). Such circumstance make research on the use of smartphones for tourist information, the complexity of information behaviour and its effects on tourists' sense of serendipity ever more relevant.

Table 2. Summary of methods used in papers

Paper title	Type of paper	Data
Paper I: *Tourist information channels as consumer choice: The value of tourist guidebooks in the digital age*	Empirical	15 interviews (set 1)
Paper II: *Experience Sampling Method in a Qualitative Study of Tourists' Smartphone Use*	Methodological	
Paper III: *Planned serendipity: exploring tourists' on-site information behaviour*	Empirical	15 interviews (set 2) ESM: 93 surveys (14 respondents)
Paper IV: *Phygital time geography: what about smartphones in tourists' time-space behaviour?*	Empirical	15 Interviews (set 2)

6.3.1 Qualitative semi-structured interviews

Qualitative interviews were used in the empirical work of Papers I, III, and IV. The qualitative approach suits the aim of the research because of the intent to explore the individuals' perceptions related to an experience as well as the meanings and values attached to it with great depth and richness (May, 2011; Silverman, 2013). Semi-structured interviews were conducted in person, over the phone or through video calling services. Interviews were conducted with 30 respondents in total, divided into two sets: 15 interviews were conducted between March 2017 and January 2019 and used in Paper I; a second set of 15 interviews were conducted between May 2019 and March 2020 and were used in Paper III and IV. The methodology that includes the second set of interviews in combination with ESM is the subject of Paper II.

6.3.2 Experience sampling method

While interviews are a great source of data about people's perceptions and construction of reality, they are not always as reliable when it comes to observing behaviour. Modern technologies have opened the path for new avenues of research (cf. Williams, Hall and Lew, 2014), and they can offer an invaluable aid to fill methodological gaps. For this purpose, I developed a qualitative research design for part of my thesis, which combines an experience sampling method (ESM) and qualitative interviews (cf. Larson, & Csikszentmihalyi, 1983; Hektner, Schmidt, & Csikszentmihalyi, 2007). ESM is a research method that consists of asking individuals to self-report at random occasions during a period of time in order to create 'an archival file of daily experience' (Larson, & Csikszentmihalyi, 1983 p.21). The advantage of this method is that it allows one to study experiences in their naturally occurring contexts (Hektner, Schmidt, & Csikszentmihalyi, 2007). Originally designed for the study of experiences in everyday life, this is a useful method to understand the use of smartphones in the tourist experience. In fact, the smartphone is a tool that people use both in everyday life and during a tourist experience, and the research challenges that arise from their use are the same in either context (Wang et al., 2016).

Employing this method presented several practical obstacles, in particular finding a sample of people who were willing to follow instructions, download an app on their phone and complete multiple questionnaires during their travels. During the analysis, it was challenging to integrate both types of data in a qualitative analysis and reliable way. However, I believe there is a need for experimenting with new methods in qualitative research and, considering the context of my study – the so-called digital age – it was appropriate to try to employ a methodology that can capture the reality of this time. The application, advantages and challenges of the method are discussed at length in Paper II, *Experience Sampling Method.*

6.4 Ethical considerations

When conducting research involving people, ethical considerations are necessary. Four ethical principles guide social research: participants should not be harmed, they should provide informed consent, their privacy should be respected, and they must not be deceived (Diener & Crandall, 1978). Overall, it is the researcher's duty to protect the interests of those who participate in the

study (Flick, 2018). While the present research did not require the collection of sensitive data, and did not involve vulnerable participants, it did employ a method that can be considered intrusive or burdensome for participants (cf. Conner & Lehman, 2012; Hektner et al., 2007; Quinlan Cutler et al., 2018). Moreover, if the researcher's communication lacks transparency and data is not handled properly, it poses a risk of breaching participants' privacy (Raento *et al.*, 2009; van Berkel *et al*., 2018).

In line with general principles for participating in social research, participation in the project was entirely voluntary and research participants were asked for their consent to record and use the interviews (Flick, 2018). In the initial form that participants filled in to show interest, they could express their consent to be contacted to participate in the ESM and further research stages. before the interview, all participants were informed of their right to withdraw from the study, or to not answer questions they did not want to answer. As for the ESM data, it was not automatically uploaded or sent to the researcher. Participants manually sent the data via email at the end of the research period. This way, the data did not go through third parties (such as the software developer), and were not uploaded anywhere else but in the participant's and researcher's respective email servers.

One risk with ESM studies is that participants may be unaware of the data that is being collected, or forget that the data collection is ongoing. This is the case with passive data, which the participant does not need to actively provide: for example, GPS tracking, motion and light sensors, screen usage, phone call tracking, and so on) (Conner & Lehman, 2012; van Berkel *et al*., 2017). In order to avoid confusion or lack of consent, no other data was collected except for surveys, which ensured that participants were always aware of what data they were providing.

Participant burden and intrusion into the tourist experience are a concern in the application of ESM in tourism studies (Quinlan Cutler et al., 2018). However, compared to observation studies, ESM can be considered a less intrusive method because the researcher is not present, and tourists need only to interact with the device. In order to minimize participants' burden, the ESM questionnaire was made as short and as clear as possible. Considering the qualitative and grounded theory approach, the questionnaire could be modified on the basis of respondents' feedback and initial analysis in order to make it shorter and simpler. As observed previously, although the ESM method may seem intrusive and burdensome, participants are often not as bothered as one would expect (Conner & Lehman, 2012; Hektner et al., 2007). During the

interview, in fact, participants were asked about the ESM questionnaire and in particular whether they found it burdensome or disruptive of their experience and nobody reported it to be so. The present research, moreover, was conducted using tourists' own smartphone, making it easier for them to carry and use the device (cf. Quinlan Cutler et al., 2018). However, participants may report that they found the surveys repetitive or the questions superfluous when their situation did not change from one notification to the next (cf. Quinlan Cutler et al., 2018).

The signal-contingent design is not recommended for situations in which interruptions may be disruptive for the participant, for example in high stress occupations (Bolger & Laurenceau, 2013). While the tourist experience is not a high-stress situation, it is often seen as an escape from everyday life obligations, to have a liminal nature and be an immersive experience (Conti & Heldt-Cassel, 2020; Pearce, 2011; Urry, 2002). Although, as discussed in Chapter 3.3, this is a contested notion, in particular in relation to digital and mobile technologies, disruption of the experience was nevertheless a major concern in designing and conducting the study. The three-step research design, therefore, allowed participants to drop out of the study at any time. In fact, many participants did drop out, mainly before the start of the trip. Detailed instructions were given via email in the attempt to not misrepresent the burden imposed by the research. However, those who did complete all surveys and the interview, reported that the initial email made the study look more complicated than it actually was, and once they started it, it was not burdensome at all. While the detailed email may have discouraged some prospective participants, it did ensure complete transparency, and those who did participate were doing so with full consent. As observed by Hektner et al. (2007), this aspect presents two major drawbacks, that is self-selection bias and selective nonresponse. Since the present study adopted a qualitative, inductive approach and did not aim to generalize results, self-selection and selective nonresponse did not represent a major obstacle to conducting the research. However, these factors must be kept in mind when analyzing the data. The analysis, both in papers III and IV, in fact, focuses on the exploration of emerging themes from the data and challenging existing assumptions. A representative sample is not needed for this purpose.

Lastly, the questionnaire was short enough that participants enjoyed filling it in and reported so during the follow-up interview. In fact, ESM may prompt self-reflection, which participants can often appreciate (Conner & Lehman, 2012). In the original application of the method in psychological research,

there is a risk that the survey touches on sensitive concerns, and therefore a de-briefing with a professional is necessary (Conner & Lehman, 2012). Such risk is not present when the self-reports only focus on behaviour and momentary feelings related to a leisure experience like the tourist experience. The questions were formulated carefully to avoid prying into the participants' personal and psychological sphere. In my research, participants showed to appreciate the self-reflection, and did not report it having any significant effect on their experience.

7 Summary of papers

7.1 Paper I: Tourist information channels as consumer choice: The value of tourist guidebooks in the digital age

The first article deals with the question of why guidebooks are still used by tourists even though information is more easily accessible through their smartphones. The paper offers a review of the literature on tourist guidebooks, focusing on their role as information channels. Guidebooks have been studied as cultural and historical objects, as artefacts of tourism that can mediate the tourist experience, and as information channels. However, the paper proposes a new perspective, that is to view guidebooks as objects of consumption as well. In order to do this, my co-author and I applied the theory of consumer value and in particular Holbrook's (1999) consumer value typology. Holbrook's (1999) definition of consumer value characterises it as *an interactive, preferential, relativistic experience* and identifies eight types of consumer value: efficiency, excellence, play, aesthetics, status, esteem, ethics and spirituality. The study was conducted with a qualitative methodology that consisted of fifteen semi-structured interviews.

The results of the analysis show that the use and value of guidebooks are strongly connected to the use of smartphones. The temporal dimension of information needs has changed: not only do tourists postpone decisions until the moment of consumption, their need to find information is also postponed because they know they will be able to access the information when already at the destination. The choice of information sources and channels is not always strategic, and some serendipity goes into travel planning. We suggest the term "planned serendipity" to indicate that planning and serendipity do not need to

be juxtaposed, because modern information technologies allow elements of serendipity in tourists' plans.

Holbrook's relational and phenomenological definition of value is useful to understand tourists' perceptions on guidebooks in relation to smartphones. Values of efficiency and excellence are present, but they are relative to the digital alternative, especially in relation to information overload and online confusion. In fact, tourists value the guidebook for giving them an overview of the destination, the curation of the content, as well as their credibility, tangibility and reliability as a physical object. Hedonic values, like play and aesthetic, are also recognised in the guidebook: they can be a source of inspiration for travellers or a souvenir to keep in their bookshelves after the trip. The book itself can be appreciated for its aesthetics and tangible qualities. Guidebooks also have esteem and status values through their symbolic function. In fact, they can signal to others and oneself that one is indeed a tourist, and particularly a certain type of tourist who is knowledgeable and experienced. Even spirituality and ethics can be recognised, in a sense, in the use of guidebooks: tourists may associate the guidebook with a "better", more "spiritual" or conscious way of travelling, which is considered superior to travel without a guidebook.

7.2 Paper II: Experience Sampling Method in a Qualitative Study of Tourists' Smartphone Use

Mieli, M. (2022). Experience Sampling Method in a Qualitative Study of Tourists' Smartphone Use. In Okumus, F., & Rasoolimanesh, S. M. (Eds.). *Contemporary Research Methods in Hospitality and Tourism*. Emerald Publishing Limited.

Paper II is a chapter for an anthology on contemporary methods for tourism research. The paper illustrates the methodology that I developed for the data collection in Paper III of my thesis. While the format of the paper is a guide to applying the methodology, it also includes a discussion of the epistemological underpinnings of the method. The paper starts with a question: how can we know how tourists use technologies and how these uses are interwoven with the perception, performance and construction of the tourist experience? To answer this question, I propose a qualitative methodology that combines the Experience Sampling Method (ESM) with interviews. ESM is a method

developed in the 1970s in clinical psychology by Mihaly Csikszentmihalyi and colleagues with the purpose of recording "what people do, feel and think during their daily lives" (Larson & Csikszentmihalyi, 2014 p.21).

The method consists of several mini-questionnaires which the participant should answer several times per day, on random occasions. The questions in the survey should refer to the momentary experiences, feelings and thoughts that the person is experiencing when they are notified. Nowadays, the method can be conducted using dedicated software applications on participants' own smartphones. In my research, I used ESM to collect data while participants were travelling. The method, I argue, is particularly suited to explore the lived experience of tourists and capture both the ordinary and the extraordinary moments of the experience. In fact, I also discuss here how ordinary moments and everyday life are intertwined with the tourist experience, and how the smartphone is an object from everyday life that crosses over into the tourist experience, bringing the practices and habits of everyday life into travel.

The paper details how the methodology was applied in my study of tourists' relationship with their smartphones. I divide the research process into three phases: ESM preparation, recruiting, collecting data. The first phase, ESM preparation, includes deciding what type of data should be gathered (which can be limited to self-reports or include sensor data from the phone, or other usage metrics recorded by the device), what device to use (providing a device or using the participants' own smartphone), finding a software application that allows to collect the desired information and designing the ESM questionnaire. In the second phase, recruiting, I include: formulating a research invitation, establishing rapport, and giving instructions to participants. This stage is particularly delicate considering that the method requires participants to sacrifice some of their travel time to complete the surveys. The last phase consists of actually collecting the data through ESM and follow-up interviews. I also collected demographic data before the trip through a short questionnaire.

At the end of the paper I reflect on the importance of finding new methodologies for tourism research and making use of the technologies that are already present in our everyday life. The use of smartphones for research has great potential to access a site of inquiry that has traditionally been hard to access: the on-site stage of the trip. Moreover, I reflect on how questioning the ontology of tourism as a purely extraordinary experience, and acknowledging its everyday qualities, can lead researchers to ask new and different questions, and look at the tourist experience from different perspectives.

7.3 Paper III: Planned serendipity: exploring tourists' on-site information behaviour

Mieli, M. (Forthcoming) Planned serendipity: exploring tourists' on-site information behaviour

(Submitted to: Current Issues in Tourism)

The third paper applies the methodology illustrated in Paper II to investigate a concept that emerged in Paper I: planned serendipity. The focus of the paper is information behaviour on-site and how smartphones can mediate such behaviour. After a critical review of the existing literature on information search behaviour, I identify four assumptions that lie at the basis of the most important theories and models in the field. I refer to models like Fodness & Murray, 1997; 1998; 1999; Vogt & Fesenmaier, 1998; Jeng & Fesenmaier, 2002 and answer to the call by Zarezadeh et al. (2019) for a more critical approach to these seminal texts. The assumptions relate to tourists' information needs and strategies, the distinction between hierarchical and qualitatively different stages of information search, and the object and aim of information search. To challenge the assumptions identified, I discuss theories of unplanned behaviour and the role of serendipity in tourism. While spontaneity and serendipity have always been part of tourists' behaviour, the phygital information environment afforded by mobile technologies create the conditions for more flexibility, but also for more information search on-site.

In the results, I identify four themes that directly challenge the four assumptions mentioned earlier. These four themes support the statement that planning and serendipity coexist in tourists' information behaviour, and illustrate how this happens during the trip. The first theme, *Emergent and contingent plans*, explains how plans made before the trip are mainly about the "what" and not the "when": tourists leave decisions about the specific itinerary of each day to the last minute and their detailed plans depend in great part on the information and situations encountered during the trip. The second theme, *Cognitive effort on-site*, shows how the process of finding and using information on-site is iterative and specific, requiring high cognitive effort from the tourist. The third theme, *Tourist-centric orientation in time and space*, shows how the object of the information search is the tourist, that is, tourists do not search for information to learn but orient themselves. The fourth theme, *Aiming for optimisation,* discusses how the aim of information search is to optimise the experience by gaining knowledge about the tourists' optimal options at the destination.

7.4 Paper IV: Phygital time geography: what about smartphones in tourists' time-space behaviour?

The paper proposes an adaptation of Torsten Hägerstrand's (1970) time geography to the context of the technologically-mediated tourist experience. Hägerstrand theorised that people's movements in daily life are limited by three types of constraints, which he names: capability, coupling and authority constraints. Tourism is a spatial phenomenon and therefore Hägerstrand's theory can be a useful lens to understand tourist spatio-temporal behaviour (Hall, 2005; Shoval, 2012; Zillinger, 2007). In this paper, however, my co-authors and I argue that the use of smartphones during the trip causes new and different time-space constraints for the tourist. We use the concept of phygitality to shed light on how physical and digital spaces are interlaced and enmeshed in the tourist experience and how this affects constraints.

By analysing fifteen qualitative semi-structured interviews, we identify the new types of constraints that affect tourists' behaviour at the destination and discuss how the original constraints have changed. Capability constraints have changed in three main ways: new constraints exist because of the technical limits of the smartphone (especially battery and internet connection); tourists' ability to locate themselves in space and navigate at the destination has been reduced because of the possibility to consult online maps at all times and use location-based services; the ability to move along certain distances does not depend only on the means of transportation, as in Hägerstrand's original theory, but also on the computational capabilities of the smartphone together with location-based services, which are able to ensure efficiency in tourists' navigation.

Coupling constraints have also changed. Bundles of people can happen outside of the destination through telecommunications, since tourists can meet people who are back home or in other places and even at work. Moreover, looser bundles can be formed with travel partners, who have more independence from each other thanks to the ability to micro-coordinate at the destination through the smartphone. Even a sort of "unbundling" can take place, where the phone is used to isolate one's attention and distance oneself from travel partners.

Authority constraints are also affected, since access to certain spaces can be restricted in different ways. First, tourists need an internet connection that is restricted through roaming fees or other costs and regulations. Legal or organisational constraints can exist to conducting specific activities in specific places, for example conducting work abroad. Economic and political influences are also at play here, as they can determine what should be shown on the interactive online maps, and therefore what places tourists will know of and visit. Social norms of acceptable behaviours also change with the use of smartphones, for example dedicating one's attention to the phone while at the dinner table instead of conversing with travel partners.

The changes in these constraints cause bundles and prisms to be reconfigured and tourists' spatial movement to be influenced by the use of smartphones. People still cannot do two things at once, still cannot be in two places at once, still cannot have more than 24h in a day: however, online and offline activities, people and places overlap; they become layers of a single reality that the tourist experiences. In other words, tourists exist and move in a hybrid, layered time-space: a phygital time-space.

8 Conclusions

The aim of the thesis was to explore the role of smartphones in mediating the tourist experience. Through the four papers, I focused on different aspects of this mediation. The postphenomenological approach of the thesis allowed me to focus on the relations between reality, humans and technologies, showing how the experience is co-constituted through these technologies.

Through the research presented in this thesis I set out to understand the role of technology in the tourist experience in a broad sense: not only what smartphones can do and how tourists use them, but how they influence tourists' perception of the experience and their behaviour therein. I became interested in the smartphone because it is a peculiar technology with a unique pervasiveness in everyday life and every other aspect of the modern human's life, including the tourist experience. Tourists have become used to the constant presence of the smartphone by their side; they carry the device from their everyday life into the tourist experience, corroding the boundaries between the two. The same activities can be conducted at home, and while travelling, the same social relations can be entertained and the same information can reach the tourist in both contexts, at all times. While tourism literature offers excellent discussions on the relationship between everyday life and tourism (McCabe, 2002; Edensor, 2001; Larsen, 2008, 2019, among others), in this thesis I add to the discussion by exploring the role of technology in this relationship.

The question, then, was how to study the pervasiveness of these technologies and its effects on the tourist experience. I found that the philosophical perspective of postphenomenology, and in particular the macro theory of mediation, was a useful tool to do that. Postphenomenology offered a key to understanding what the overall role of these technologies is in the tourist experience by placing the role of technologies on an ontological level. Technologies are, in fact, not just something we use; they are not just an object of our perceptions but things through which we perceive and experience the world, things through which we behave (Ihde, 1990, 2009, 2015; Rosenberger & Verbeek, 2015; Verbeek, 2001, 2005, 2016; Wellner, 2016). Through the

theory of technological mediation, I could not only show how tourists use the smartphone, but also how their reality of the tourist experience is co-constituted through the interaction with the technology. The first theoretical contribution of this thesis, therefore, was to introduce postphenomenology in tourism studies.

With this mindset, I ask two questions, which correspond to the two foci of the thesis: first, I ask how smartphones mediate tourists' information behaviour; and second, I ask how they mediate tourists' experience of phygital worlds. The two questions are related and aim to offer a broad view of the smartphone-mediated tourist experience by focusing on the individual tourists' behaviour and perceptions. One of the largest areas of study in relation to information technologies, if not the largest is, in fact, information search behaviour, and that is where I started my research journey. However, I soon realised that information behaviour is very closely connected to spatial behaviour. Going back to MacCannell's (2013) semiological theory of tourist attractions, people are only tourists when they know what to see, that is, when a marker has signalled to them that a certain place is a site and tourists go there when they know that there is something to see. Tourists' movement in space, therefore, is intrinsically connected to their information behaviour.

These two research questions are intentionally broad and can be answered in many ways. In fact, I do so through four different papers. As I mentioned in Chapter 6, throughout this project I have considered myself a *bricoleur*, as I have combined different topics, perspectives, disciplines and methods, all connected by the red thread of smartphone mediation of the tourist experience. Through this *bricolage*, I answer the research questions as follows.

First, I explore how smartphones mediate tourist information behaviour. In Paper I, my co-author and I analyse tourists' choice of information channels against their background relationship with smartphones. We focus not on the smartphone but on the guidebook, the predecessor of the smartphone, when it came to information channels. The guidebook was the object that people brought with them and through which they accessed information on-site, together with information centres, brochures and word-of-mouth. The guidebook in particular used to be that object that people carried from home, had with them at all times and used as a go-to for information on-site. We proposed to study the guidebook not only as an information channel but also as an object of consumption. What we found was that the possibility to use internet-enabled smartphones at the destination mediates tourists' evaluations of the guidebook. Holbrook's (1999) definition of value as an interactive relativistic preference experience turned out to be very fitting. Value, in fact,

is interactive because it resides in an interaction between the subject and the object. This interaction, however, is mediated by the smartphone. The value of the guidebook clearly appears to be relativistic and preferential because the evaluation of the object is not absolute; it involves a preference judgement between the guidebook and the smartphone. A first answer to the first research question, then, is that channels of information can be objects of consumption; their choice is a consumer choice and their value is mediated by a background relationship with the smartphone.

The second aspect of information behaviour that emerged from Paper I, and which was taken up again in Paper III, relates to spontaneous behaviour. In Paper I, my co-author and I found that planning and serendipity coexist in tourists' information behaviour. We call this *planned serendipity*. This is not new: unplanned behaviour has always existed in tourism and so have studies on it. However, Papers I and III align with recent research in showing that the ability to access information during the trip on the smartphone influences the way people find and use information when it comes to making spontaneous decisions (Kang et al., 2020; Yu et al., 2018; Kang & Lee, 2022; Vaez et al., 2020). Planned serendipity does not only mean that tourists use the smartphone to be more flexible and spontaneous, but also that tourists conduct more information searches during the trip, reducing the spontaneity that the smartphone enables. This paradoxical effect is further investigated in Paper III where I use the concept of planned serendipity to analyse tourist information behaviour on-site. A second answer to the first research question, therefore, is that smartphones mediate tourists' behaviour by causing an amplification and a reduction of both planning and serendipity creating a paradoxical effect that can be termed *planned serendipity*.

In Paper III I also I find that tourists do not necessarily behave according to the principles assumed in previous research. Through smartphone mediation certain aspects come to light that contradict previous research. I answer a call for a more critical approach to the study and application of tourism information theories and models that were developed in the pre-smartphone (or even pre-internet) era (Zarezadeh et al., 2019). A qualitative methodology is particularly suited for this purpose of challenging existing assumptions. While quantitative methodologies tend to be more constrained by existing theory, as they are based on hypotheses that are formulated on the basis of existing theory, qualitative research is inherently more inductive. Therefore, it is more prone to finding things that are not already known or finding things that do not correspond to existing theories. Paper III, therefore, represents a contribution to tourism studies, and in particular tourism information search behaviour

literature, by challenging deep-seated assumptions about the way that tourists behave when searching for information and planning their trips. I show that the study of such behaviour can be strengthened by a complex epistemology that overcomes paralysing Cartesian dichotomies and instead embraces complementarity, both methodologically and theoretically (cf. Bianchi, 2019). In fact, in Paper III I applied an innovative method, named the Experience sampling method, that allowed me to collect data on tourist behaviour on-site, which I explain in Paper II.

The second research question I ask relates to tourists' experience of phygital worlds. I adopt the phygital concept to stress the importance of both physical and digital dimensions: the technologically-mediated reality in which tourists exist is layered, hybrid, but it is a single reality that each individual experiences. It is, in this sense, a phygital reality. In Paper II I start discussing the ontology of the tourist experience focusing on the relationship between everyday life and tourism. I reflect on how everyday life and tourism have not always been that different, but the boundaries between the two have become ever more eroded by the constant use of smartphones.

I take up this question again in Paper IV and answered it in terms of spatiotemporal experience and behaviour. In this paper, my co-authors and I use the concept of phygitality to understand how tourists move in space and time while they travel, and in particular how smartphones mediate the constraints that exist on tourists' movements. We used Torsten Hägerstrand's (1970) theory of time geography as adapted to tourism by Shoval (2012) and Hall (2005) and analysed tourists' capability, coupling and authority constraints within the phygital tourist experience, finding that new constraints emerge and old constraints are reconfigured.

The answer to the second research question, therefore, is twofold: first, the boundaries between everyday life and tourism have been eroded by the possibility to conduct everyday activities and communication on-site. Second, space, time and tourists' movements therein are mediated by smartphones in a way that reconfigures existing time-space constraints and creates new ones. The space itself is layered and hybrid; it is phygital, and tourists' experiences of it are influenced and affected by the mediating role of the smartphone.

With this thesis, I also contribute to the methodological discussion on how to access the on-site stage of the tourist experience and how to harness everyday technologies for tourism research. Paper II introduces and explains a qualitative application of the Experience sampling method, which allows researchers to collect tourists' self-reports about their experience while they

are travelling. The method is scarcely used in tourism but offers great possibilities for studying the on-site experience unobtrusively and easily, especially by using participants' their own smartphones to administer the questionnaires.

8.1 Limitations and future research

One consideration that needs to be made is that the empirical and conceptual work of this thesis is entirely contextualised in a Western, albeit globalised, developed world, where virtually everybody has access to mobile technologies and internet connectivity on a daily basis. In particular, data is collected in Europe, where roaming fees were abolished in 2017.

The choice of limiting the empirical data to a specific generation obviously carries some limitations. The previous and following generation would most likely have different behaviours, perceptions, experiences and different relationships with technology. Moreover, generation X still represents a large group of consumers in the tourism industry and perhaps the one with the largest expenditures, while generation Z, the first generation of the twenty-first century, is the next generation that has recently started travelling independently from their families (pandemics notwithstanding) and therefore represent the future of the tourism industry. This generation also probably has an interesting relationship with technology.

The COVID-19 pandemic has deeply altered the tourism industry. Not only has the volume of travel been reduced drastically in the past two years, behaviour has changed and priorities have shifted in the tourist experience. Safety is now the main concern for tourists and industry alike (Matiza & Slabbert, 2021), and information behaviour has most likely been influenced by these events as well. It is unknown, however, if such changes will persist in the future, or if these changes are only temporary.

Ultimately, the postphenomenological approach is very human centric, and although I believe that as humans we can only experience the world from the human perspective, in a more pragmatist vein I also believe that science can benefit from exploring different points of view and trying to understand the roles and experiences of non-human entities as well as more critical perspectives on tourism. The tourism field is surely not devoid of issues of equality, ecological sustainability, social justice.

Finally, a consideration on the near future of technological development: The ubiquity of internet-enabled mobile devices has deeply influenced tourism. The pervasiveness of digital technologies and the normalisation of mobility, as described by the mobility turn in the social sciences, have complicated the epistemic position of the tourist as someone who travels to unfamiliar or unknown territory (Hannam et al., 2006; van Nuenen & Scarles, 2021). Physical movement in space is only a part of the tourist experience, distant and exotic places can become "folded into our everyday, collapsing temporal and spatial boundaries" (van Nuenen & Scarles, 2021 p.121). If we consider current research on extended reality (AR, VR, mixed reality), such changes may challenge the notion of the tourist as someone who travels at all. In this thesis, I have touched upon how this digital familiarisation with mobile, smart technology has complicated the epistemic position of the tourist as someone who discovers or experiences something new, exotic, liminal. However, future research should take this further and reflect on what it means to be a tourist in a phygital world, not only when the digital world is brought into the tourist experience through mobile technologies, but when the tourist experience can be brought into everyday life through augmented and virtual reality.

9 References

Achterhuis, H. J. (2001). *American philosophy of technology: The empirical turn*. Indiana University Press.

Adey, P. (2017). *Mobility*. Routledge.

Agarwal, N. K. (2015). Towards a definition of serendipity in information behaviour. *Information research: an international electronic journal,* 20(3).

Ahuja, A. (2011). The case for wrongful life: Children who sue for being born. *New Scientist*, 212(2836), 6–7

Andrade, J. G., & Dias, P. (2020). A phygital approach to cultural heritage: augmented reality at Regaleira. *Virtual Archaeology Review*, 11(22), 15-25

Andrades, L., & Dimanche, F. (2014). Co-creation of experience value: A tourist behaviour approach. In Prebensen, N., Chen, J. S. & Uysal, M. (Eds) *Creating experience value in tourism*. Cabi, 95-112

Arthur, P. L. and T. van Nuenen (2019) Travel in the Digital Age. In Das, N. and Youngs, T. (Eds.) *The Cambridge History of Travel Writing*. Cambridge University Press, 504–518

Ayeh, J. K. (2018). Distracted gaze: Problematic use of mobile technologies in vacation contexts. *Tourism management perspectives,* 26(2018), 31-38.

Bakker S. (2019, June, 10) Don Ihde and generational responses to digital technology. FreedomLab. https://www.freedomlab.com/posts/don-ihde-and-generational-responses-to-digital-technology

Ballina, F. J., Valdes, L., & Del Valle, E. (2019). The Phygital experience in the smart tourism destination. *International Journal of Tourism Cities*. 5(4), 656-671

Belghiti, S., Ochs, A., Lemoine, J.F. and Badot, O. (2017). The Phygital shopping experience: an attempt at conceptualization and empirical investigation. In Rossi P. & Krey, N. (Eds.) *Academy of Marketing Science World Marketing Congress*, Springer International Publishing, 61-74.

Benckendorff, P., Sheldon, P. J., & Fesenmaier, D. R. (2019). *Tourism information technology* (2nd ed.). CABI.

Beritelli, P., Bieger, T., & Laesser, C. (2007). The impact of the Internet on information sources portfolios: Insight from a mature market. *Journal of Travel & Tourism Marketing*, 22(1), 63-80

Besmer, K. (2014). Dis-placed travel: On the use of GPS in automobiles. *Techné: Research in Philosophy and Technology*, 18(1–2), 133–146

Bianchi, L. (2019). *Un piano d'azione per la ricerca qualitativa. Epistemologia della complessità e Grounded Theory costruttivista*. Franco Angeli.

Bolger, N., & Laurenceau, J. P. (2013). *Intensive longitudinal methods: An introduction to diary and experience sampling research*. Guilford press.

Boorstin, D. J. (1992). *The image: A guide to pseudo-events in America*. Vintage.

Bryant, A., & Charmaz, K. (Eds.). (2007). *The Sage handbook of grounded theory*. Sage.

Bryman, A. (2012). *Social research methods.* Oxford University Press.

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism management*, 29(4), 609-623.

Bull, M. (2000). *Sounding Out the City: Personal Stereos and the Management of Everyday Life*. Berg.

Cary, S. H. (2004). The tourist moment. *Annals of Tourism Research*, 31(1), 61–77.

Charmaz, K. (2014). *Constructing grounded theory*. Sage.

Charmaz, C. & Bryant, A. (2016) Constructing grounded theory analyses. In Silverman, D. (Ed.). *Qualitative Research*. 4 ed. SAGE.

Chen, C. C., Huang, W. J., Gao, J., & Petrick, J. F. (2018). Antecedents and consequences of work-related smartphone use on vacation: An exploratory study of Taiwanese tourists. *Journal of Travel Research*, 57(6), 743-756.

Chhetri, P., Arrowsmith, C., & Jackson, M. (2004). Determining hiking experiences in nature-based tourist destinations. *Tourism management*, 25(1), 31-43.

Choe, Y., Fesenmaier, D. R., & Vogt, C. (2017). Twenty-Five Years Past Vogt: Assessing the Changing Information Needs of American Travellers. In Schegg, R., & Stangl, B. (Eds.) *Information and Communication Technologies in Tourism 2017*. Springer, 489-502

Choi, S., Lehto, X. Y., Morrison, A. M., & Jang, S. (2012). Structure of travel planning processes and information use patterns. *Journal of Travel Research*, 51(1), 26–40

Chung, J. Y., & Buhalis, D. (2008). Information needs in online social networks. *Information Technology & Tourism*, 10(4), 267-281.

Chung, N., & Koo, C. (2015). The use of social media in travel information search. *Telematics and Informatics*, 32(2), 215-229.

Cohen, E. (1979). A phenomenology of tourist experiences. *Sociology*, 13(2), 179-201.

Cohen, E. (1998). Tourism and religion: A comparative perspective. *Pacific Tourism Review*, 2(1), 1-10.

Cohen, S. A., Prayag, G. and Moital M. (2014). Consumer behaviour in tourism: concepts, influences and opportunities, *Current Issues in Tourism*, 17(10), 872-909

Coles, T., Hall, C.M. and Duval, D.T. (2006). Tourism and post-disciplinary enquiry. *Current Issues in Tourism*, 9(4-5), 293-319.

Conner, T. S., & Lehman, B. J. (2012). Getting started: Launching a study in daily life. In M. R. Mehl & T. S. Conner (Eds.) *Handbook of research methods for studying daily life.* The Guilford Press, 89–107.

Conti, E., & Heldt Cassel, S. (2020). Liminality in nature-based tourism experiences as mediated through social media. *Tourism Geographies*, 22(2), 413-432.

Crang, M. (2009). Cyberspace. In Gregory, D. (Ed). *The dictionary of human geography* (5th ed.). Blackwell.

Crowell S. (2006) Husserlian Phenomenology. In Dreyfus, H. L., & Wrathall, M. A. (Eds.). *A companion to phenomenology and existentialism*. Blackwell Publishing, 9-30.

Dann, G. (Ed.). (2002). *The tourist as a metaphor of the social world*. Cabi.

de Certeau, M. (1984). *The practice of everyday life.* University of California Press.

De Souza e Silva, A. (2006). From cyber to hybrid: Mobile technologies as interfaces of hybrid spaces. *Space and culture*, 9(3), 261-278.

Denzin, N. K., & Lincoln, Y. S. (2000). Introduction: The discipline and practice of qualitative research. In Denzin, N. & Lincoln S. (Eds.) *The handbook of qualitative research*. Sage, 1-28

Dickinson, J. E., Ghali, K., Cherrett, T., Speed, C., Davies, N., & Norgate, S. (2014). Tourism and the smartphone app: Capabilities, emerging practice and scope in the travel domain. *Current issues in tourism,* 17(1), 84-101.

Diener, E., & Crandall, R. (1978). *Ethics in social and behavioral research.* U Chicago Press.

Dinhopl, A., & Gretzel, U. (2016). Selfie-taking as touristic looking. *Annals of Tourism Research*, 57, 126–139.

Eaton, L. (2002). France outlaws the right to sue for being born. *BMJ (Clinical Research Ed.)*, 324(7330), 129.

Edensor, T. (2001). Performing tourism, staging tourism: (Re) producing tourist space and practice. *Tourist Studies*, 1(1), 59-81

Feenberg A. (2006). What is philosophy of technology? In Dakers, J. (Ed.). (2006). *Defining technological literacy: Towards an epistemological framework.* Springer, 5-16

Feenberg, A. (2009). Peter-Paul Verbeek: review of what things do. *Human studies*, 32(2), 225-228.

Fernández-Cavia, José; Vinyals-Mirabent, Sara; Fernández-Planells, Ariadna; Weber, Wiebke; Pedraza-Jiménez, Rafael (2020). Tourist information sources at different stages of the travel experience. *El profesional de la información*, 29(2), e290219

Ferraris, M. (2005). *Ontologia del telefonino.* Bompiani, Milano.

Flick, U. (2018). *An introduction to qualitative research*. Sage.

Fodness, D., & Murray, B. (1997). Tourist information search. *Annals of tourism research*, 24(3), 503-523.

Fodness, D., & Murray, B. (1998). A typology of tourist information search strategies. *Journal of Travel Research*, 37(2), 108–119.

Fodness, D., & Murray, B. (1999). A model of tourist information search behavior. *Journal of travel research*, 37(3), 220-230.

Føllesdal, D. (2006). Husserl's reductions and the role they play in his phenomenology. Dreyfus, H. L., & Wrathall, M. A. (Eds.). *A companion to phenomenology and existentialism*. Blackwell Publishing, 105-14.

Forster E. M. (2000) *A Room with a view*. Penguin classics.

Foster, A., & Ford, N. (2003). Serendipity and information seeking: an empirical study. *Journal of documentation*, 59(3), 321-340.

Franklin, A. (2003). The tourist syndrome: An interview with Zygmunt Bauman. *Tourist studies*, 3(2), 205-217.

Franssen, M., Lokhorst, G. J., & van de Poel, I. (2009). Philosophy of technology. In Edward N. Zalta (ed.) *The Stanford Encyclopedia of Philosophy* (Fall 2018 Edition) URL = <https://plato.stanford.edu/archives/fall2018/entries/technology/>.

Frith, J. (2012). Splintered space: Hybrid spaces and differential mobility. *Mobilities*, 7(1), 131-149.

Gaggioli, A. (2017). Phygital spaces: When atoms meet bits. *Cyberpsychology, Behavior, and Social Networking*, 20(12), 774-774

Germann Molz, J. (2012). *Travel connections: Tourism, technology and togetherness in a mobile world*. Routledge.

Germann Molz, J., & Paris, C. M. (2015). The social affordances of flashpacking: Exploring the mobility nexus of travel and communication. *Mobilities*, 10(2), 173-192.

Glaser, B. G., & Strauss, A. L. (1965). *Awareness of dying*. Aldine.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory.* Aldine Publishing Company.

Gnoth, J. and Matteucci X. (2014). A phenomenological view of the behavioural tourism research literature. *International Journal of Culture, Tourism and Hospitality Research*, 8(1), 3-21.

Gössling, S. (2017). Tourism, information technologies and sustainability: an exploratory review. *Journal of Sustainable Tourism,* 25(7), 1024-1041.

Gössling, S. (2021). Tourism, technology and ICT: a critical review of affordances and concessions. *Journal of Sustainable Tourism*, 29(5), 733-750.

Gössling, S., Cohen, S. A., & Hibbert, J. F. (2018). Tourism as connectedness. *Current Issues in Tourism*, 21(14), 1586-1600.

Graham, S. (2009). Virtual Geographies. In Gregory, D. (Ed) *The dictionary of human geography* (5th ed.). Blackwell.

Gretzel, U. (2010). Travel in the Network: Redirected Gazes, Ubiquitous Connections and New Frontiers. In Levina, M., Kien, G. (Eds.) *Post-Global Network and Everyday Life*; Peter Lang, 41–58.

Gretzel, U. (2018). Tourism and Social Media. In Cooper, C., Gartner, W., Scott, N. & Volo, S. (Eds.). *The Sage Handbook of Tourism Management*. Sage, 415-432.

Gretzel, U., & Stankov, U. (2021). ICTs and well-being: challenges and opportunities for tourism. *Information Technology & Tourism*, 23(1), 1-4.

Gretzel, U., D. R. Fesenmaier, and J. T. O'Leary. (2006). The Transformation of Consumer Behavior. In Buhalis D. and Costa C. (Eds.) *Tourism Business Frontiers.* Butterworth-Heinemann, 9-18

Gretzel, U., Koo, C., Sigala, M., & Xiang, Z. (2015). Special issue on smart tourism: convergence of information technologies, experiences, and theories. *Electronic Markets*, 25(3), 175-177.

Gretzel, U., Zarezadeh, Z., Li, Y., & Xiang, Z. (2019). The evolution of travel information search research: a perspective article. *Tourism Review*, 75(1), 319-323

Guba, E. G. (1990). The alternative paradigm dialog. In E. G. Guba (Ed.) *The paradigm dialog.* Sage, 17-30

Gursoy, D., & McCleary, K. (2004). An integrative model of tourists' information search behavior. *Annals of Tourism Research*, 31(2), 353–373.

Gursoy, D., Maier, T. A., & Chi, C. G. (2008). Generational differences: An examination of work values and generational gaps in the hospitality workforce. *International Journal of Hospitality Management,* 27(3), 448–458.

Hägerstrand, T. 1970. What about people in regional science? *Ninth European Congress of the regional science association. Regional Science Association Papers*, 24(1), 6–21.

Hall, C. M. (2005) Reconsidering the geography of tourism and contemporary mobility. *Geographical Research*, 43 (3), 125–39.

Hall, C. M. (2012). Spatial analysis: A critical tool for tourism geographies. In Wilson J. (Ed.) *The Routledge handbook of tourism geographies*. Routledge, 178-188

Hannam, K., Sheller, M., & Urry, J. (2006). Mobilities, immobilities and moorings. *Mobilities*, 1(1), 1-22.

Hanson, S. (2009). Mobility. In Gregory, D. (Ed). *The dictionary of human geography* (5th ed.). Blackwell.

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). *Experience sampling method: Measuring the quality of everyday life*. Sage.

Holbrook, M. B. (1999). *Consumer value: a framework for analysis and research*. Psychology Press.

Höpken, W., Tobias Eberle, Fuchs, M., & Lexhagen, M. (2019). Google Trends data for analysing tourists' online search behaviour and improving demand forecasting: the case of Åre, Sweden. *Information Technology & Tourism*, 21, 45–62.

Huang, W. J., Norman, W. C., Hallo, J. C., McGehee, N. G., McGee, J., & Goetcheus, C. L. (2014). Serendipity and independent travel. *Tourism Recreation Research*, 39(2), 169–183.

Hwang, Y. H., and D. R. Fesenmaier. (2011). Unplanned Tourist Attraction Visits by Travellers. *Tourism Geographies*, 13(3), 398-416.

Hyde, K. (2009). Tourist information search. In Kozak, M. & Decrop, A. (Eds.) *Handbook of tourist behaviour: Theory and practice*. Routledge, 69-83

Hyde, K. F. (2003). A duality in vacation decision making. *Tourism Analysis*, 8(2), 183–186

Hyde, K. F. (2004). A duality in vacation decision making. *Consumer psychology of tourism, hospitality and leisure*, 3, 161-180.

Iaquinto, B. L. (2012). Backpacking in the Internet age: Contextualizing the use of lonely planet guidebooks. *Tourism Recreation Research*, 37(2), 145–155.

Ihde, D. (1990). *Technology and the lifeworld: From garden to earth*. Indiana University Press

Ihde, D. (2009*). Postphenomenology and technoscience: the Peking University lectures*. Suny Press.

Ihde, D. (2012). *Experimental phenomenology: multistabilities.* Suny Press.

Ihde, D. (2015). Positioning postphenomenology. In Rosenberger, R., & Verbeek, P. P. (Eds.) *Postphenomenological investigations: essays on human-technology relations*. Lexington Books., vii-xvi.

James, D., Drennan, J. (2005). Exploring addictive consumption of mobile phone technology. In: *Proceeding of the Australian and New Zealand marketing academy conference*, Perth, Australia.

Jansson, A. (2018). Rethinking post-tourism in the age of social media. *Annals of Tourism Research*, 69, 101-110.

Jeng, J., & Fesenmaier, D. R. (2002). Conceptualizing the travel decision-making hierarchy: A review of recent developments. *Tourism analysis*, 7(1), 15-32.

Kah, J. A., & Lee, S.-H. (2014). Beyond Adoption of Travel Technology: Its Application to Unplanned Travel Behaviors. *Journal of Travel & Tourism Marketing*, 31(6), 667–680.

Kang, S., Jodice, L. W., & Norman, W. C. (2020). How do tourists search for tourism information via smartphone before and during their trip?. *Tourism recreation research*, 45(1), 57-68.

Kang, S., Kim, W. G., & Park, D. (2021). Understanding tourist information search behaviour: the power and insight of social network analysis. *Current Issues in Tourism*, 24(3), 403-423.

Kang, S., & Lee, A. (2022). Information search by smartphone and tourists' spatial behavior. *International Journal of Tourism and Hospitality Research*, 36(4), 71-81.

Kaplan, D. M. (Ed.). (2009). *Readings in the Philosophy of Technology*. Rowman & Littlefield Publishers.

Kim, H. H., & Law, R. (2015). Smartphones in tourism and hospitality marketing: A literature review. *Journal of Travel & Tourism Marketing,* 32(6), 692-711.

Kim, H., Xiang, Z., & Fesenmaier, D. R. (2015). Use of the internet for trip planning: A generational analysis. *Journal of Travel & Tourism Marketing*, 32(3), 276–289.

Kim, M. J., Lee, C. K., & Jung, T. (2020). Exploring consumer behavior in virtual reality tourism using an extended stimulus-organism-response model. *Journal of Travel Research*, 59(1), 69-89.

Kincheloe, J., & McLaren, P. (2000). Rethinking critical theory and qualitative Research. In Denzin, N. & Lincoln S. (Eds) *The handbook of qualitative research*. Sage, 279–313

Kirillova, K., & Wang, D. (2016). Smartphone (dis) connectedness and vacation recovery. *Annals of Tourism Research*, 61, 157-169.

Klaus, P. P. (2021). Phygital–the emperor's new clothes? *Journal of Strategic Marketing,* 1-8.

Klein, J. T. (2004). Interdisciplinarity and complexity: An evolving relationship. *Structure*, 6(1-2), 2-10.

Koban, K., Neureiter, A., Stevic, A., & Matthes, J. (2022). The COVID-19 infodemic at your fingertips. Reciprocal relationships between COVID-19 information FOMO, bedtime smartphone news engagement, and daytime tiredness over time. *Computers in Human Behavior*, 130(2022), 107175.

Korneliussen, T. (2014). Tourist Information Search: A DIY Approach to Creating Experience Value. In Prebensen, N., Chen, J. S. & Uysal, M. (Eds.) *Creating experience value in tourism*. Cabi, 169-181

Koshar, R. (1998). 'What ought to be seen': Tourists' guidebooks and national identities in modern Germany and Europe. *Journal of Contemporary History*, 33(3), 323–340.

Lalicic, L., & Weismayer, C. (2016). The passionate use of mobiles phones among tourists. *Information Technology & Tourism*, 16(2), 153-173.

Lamsfus, C., Wang, D., Alzua-Sorzabal, A., & Xiang, Z. (2015). Going mobile: Defining context for on-the-go travelers. *Journal of Travel Research*, 54(6), 691-701.

Larsen, J. (2008). De-exoticizing tourist travel: Everyday life and sociality on the move. *Leisure Studies*, 27(1), 21-34.

Larsen, J. (2019). Ordinary tourism and extraordinary everyday life: Rethinking tourism and cities. In Frisch, T., Sommer, C., Stoltenberg, L., & Stors, N. (Eds.). *Tourism and everyday life in the contemporary city*. Routledge, 24-41.

Larson, R., & Csikszentmihalyi, M. (1983). The Experience Sampling Method. *New Directions for Methodology of Social & Behavioral Science,* 15, 41-56.

Larson, R., & Csikszentmihalyi, M. (2014). The experience sampling method. In Csikszentmihalyi, M., & Larson, R. (Eds.) *Flow and the foundations of positive psychology.* Springer, 21-34.

Latour, B. (1994). On technical mediation. *Common knowledge*, 3(2), 29-64.

Law, R., Chan, I. C. C., & Wang, L. (2018). A comprehensive review of mobile technology use in hospitality and tourism. *Journal of Hospitality Marketing & Management*, 27(6), 626-648.

Leiper, N. (1990). *Tourism systems: An interdisciplinary perspective.* Department of Management Systems, Business Studies Faculty, Massey University.

Lemos, A. (2010). Post—mass media functions, locative media, and informational territories: New ways of thinking about territory, place, and mobility in contemporary society. *Space and Culture,* 13(4), 403-420.

Lemos, A. (2010). Post—mass media functions, locative media, and informational territories: New ways of thinking about territory, place, and mobility in contemporary society. *Space and Culture*, 13(4), 403-420.

Lewis Walpole Library. (2011). ed. Walpole, H. Letter to Sir Horace Mann 28 January, 1754. Retrieved from http://images.library.yale.edu/hwcorrespondence/page.asp?vol=20&page=407

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Liu, X., Wang, D., & Gretzel, U. (2022). On-site decision-making in smartphone-mediated contexts. *Tourism Management*, 88, 104424.

Lo Turco, M., & Giovannini, E. C. (2020). Towards a phygital heritage approach for museum collection. *Journal of Archaeological Science: Reports,* 34(2020), 102639.

Lyons, G., & Urry, J. (2005). Travel time use in the information age. *Transportation Research Part A: Policy and Practice*, 39(2-3), 257-276.

Lyu, S. O., & Hwang, J. (2015). Are the days of tourist information centers gone? Effects of the ubiquitous information environment. *Tourism Management*, 48(2015), 54-63.

MacCannell, D. (1973). Staged authenticity: Arrangements of social space in tourist settings. *American journal of Sociology,* 79(3), 589-603.

MacCannell, D. (2013). *The Tourist: a new theory of the leisure class.* University of California Press.

Magasic, M., & Gretzel, U. (2020). Travel connectivity. *Tourist Studies*, 20(1), 3-26.

Mascheroni, G. (2007). Global nomads' network and mobile sociality: Exploring new media uses on the move. *Information, Community and Society*, 10(4), 527-546.

Matiza, T., & Slabbert, E. (2021). Tourism is too dangerous! Perceived risk and the subjective safety of tourism activity in the era of COVID-19. *Geo Journal of Tourism and Geosites*, 36, 580-588.

Mazanec, J. (2009). Unravelling myths in tourism research. *Tourism Recreation Research*, 34(3), 319 – 323.

McCabe, S. (2002). The tourist experience and everyday life. In Dann G. (Ed.) *The tourist as a metaphor of the social world*. Cabi, 61-75.

Merleau-Ponty, M. (2012). *Phenomenology of perception*. Routledge.

Mieli, M. (2022a). Phygital. In Buhalis, D. (Ed.) *Encyclopedia of Tourism Management and Marketing*. Edward Elgar Publishing.

Mieli, M. (2022b). Experience Sampling Method in a Qualitative Study of Tourists' Smartphone Use. In Okumus, F., Rasoolimanesh, S. M., Jahani, S. (Eds.) *Contemporary Research Methods in Hospitality and Tourism*. Emerald Publishing Limited.

Mieli, M. (Forthcoming) Planned serendipity: exploring tourists' on-site information behaviour.

Mieli, M., & Zillinger, M. (2020). Tourist information channels as consumer choice: The value of tourist guidebooks in the digital age. *Scandinavian Journal of Hospitality and Tourism*, 20(1), 28-48.

Mieli, M., Zillinger, M. & Nilsson, J.H. (Forthcoming). Phygital time geography: what about smartphones in tourists' time-space behaviour?

Mkono, M. (2016). The reflexive tourist. *Annals of Tourism Research*, 57(2016), 206–219.

Moran, D. (2002). *Introduction to phenomenology.* Routledge.

Morin, E. (2017). *La sfida della complessità.* GaiaMente LeLettere.

Moutinho, L. (1987). Consumer behaviour in tourism. *European journal of marketing,* 21(10), 3-44

Munar, A. M., & Jacobsen, J. K. S. (2014). Motivations for sharing tourism experiences through social media. *Tourism management*, 43(2014), 46-54.

Munar, A. M., Gyimóthy, S., & Cai, L. (Eds.). (2013). *Tourism social media: Transformations in identity, community and culture.* Emerald Group Publishing.

Nakazawa, J., & Tokuda, H. (2007). Phygital map: Accessing digital multimedia from physical map. In *21st International Conference on Advanced Information Networking and Applications Workshops (AINAW'07)* (Vol. 2). IEEE, 368-373

Neuburger, L., Beck, J., & Egger, R. (2018). The 'Phygital' tourist experience: The use of augmented and virtual reality in destination marketing. In Camilleri, M. A. (Ed.) *Tourism planning and destination marketing*. Emerald Publishing Limited, 183-202.

Neuhofer, B., Buhalis, D., & Ladkin, A. (2014). A typology of technology-enhanced tourism experiences. *International Journal of Tourism Research,* 16(4), 340–350.

Nofal, E., Reffat, M., & Vande Moere, A. (2017). Phygital heritage: an approach for heritage communication. *Immersive Learning Research Network Conference.* Verlag der Technischen Universität Graz, 220-229.

Ølgaard, D. M. (2022). *The Technopolitics of Compassion: A Postphenomenological Analysis of the Digital Mediation of Global Humanitarianism*. Lund University.

Pan, B., & Fesenmaier, D. R. (2006). Online information search. *Annals of Tourism Research*, 33(3), 809–832.

Parsons, N. (2007). *Worth the detour: a history of the guidebook.* The History Press.

Pearce, P. L. (2011). *Tourist behaviour and the contemporary world*. Channel view publications.

Pearce, P. L. (2019). *Tourist Behavior – the Essential Companion*. Edward Elgar Publishing.

Pettersson, R., Zillinger, M. (2011). Event visitors and their experiences in time and space – tracking visitors by means of GPS devices. *Tourism Geographies*, 13(1), pp. 1-20.

Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy. *Harvard business review*, 76, 97-105.

Pourfakhimi, S., Duncan, T., & Coetzee, W. J. (2020). Electronic word of mouth in tourism and hospitality consumer behaviour: state of the art. *Tourism Review,* 75(4), 637-661

Prebensen, N. K., Chen, J. S., & Uysal, M. (Eds.). (2018). *Creating experience value in tourism*. Cabi.

Quan, S., & Wang, N. (2004). Towards a structural model of the tourist experience: An illustration from food experiences in tourism. *Tourism management*, 25(3), 297-305.

Quinlan Cutler, S., Doherty, S., & Carmichael, B. (2018). The experience sampling method: Examining its use and potential in tourist experience research. *Current Issues in Tourism*, *21*(9), 1052-1074.

Raento, M., Oulasvirta, A., & Eagle, N. (2009). Smartphones: An emerging tool for social scientists. *Sociological methods & research*, 37(3), 426-454.

Reisenwitz, T. H., & Fowler, J. G. (2019). Information sources and the tourism decision-making process: an examination of generation X and Generation Y consumers. *Global Business Review*, 20(6), 1372-1392.

Rosenberger, R., & Verbeek, P. P. (2015). *Postphenomenological investigations: essays on human-technology relations*. Lexington Books.

Schulz, J., Robinson, L., Khilnani, A., Baldwin, J., Pait, H., Williams, A. A., ... & Ignatow, G. (Eds.). (2019). *Mediated Millennials*. Emerald Group Publishing.

Selinger, E. (Ed.). (2006). *Postphenomenology: A critical companion to Ihde.* Suny Press.

Sheller, M. & Urry , J. (2006). The New Mobilities Paradigm. *Environment and Planning A*, 38(2), 207-26.

Shoval, N. (2012). Time geography and tourism. In Wilson J. (Ed.) *The Routledge handbook of tourism geographies*. Routledge, 189-195

Silverman, D. (2013). *Doing qualitative research*. Sage Publications.

Snepenger, D., Meged, K., Snelling, M., & Worrall, K. (1990). Information search strategies by destination-naive tourists. *Journal of Travel Research,* 29(1), 13-16

Stewart, S. I., & Vogt, C. A. (1999). A case-based approach to understanding vacation planning. *Leisure Sciences*, 21(2), 79-95.

Strauss, A., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage Publications.

Talwar, S., Dhir, A., Kaur, P., & Mäntymäki, M. (2020). Why do people purchase from online travel agencies (OTAs)? A consumption values perspective. *International Journal of Hospitality Management*, 88(2020), 102534.

Tan, W. K., & Chen, T. H. (2012). The usage of online tourist information sources in tourist information search: an exploratory study. *The Service Industries Journal*, 32(3), 451-476.

Tan, W. K., & Chen, Y. C. (2021). Tourists' work-related smartphone use at the tourist destination: making an otherwise impossible trip possible. *Current Issues in Tourism*, 24(11), 1526-1541.

Thrift, N. (1996) Inhuman geographies: landscapes of speed, light and power. In Thrift, N. (ed.) *Spatial Formations*. Sage, 191-241.

Thulin, E., & Vilhelmson, B. (2018). Bringing the background to the fore: time-geography and the study of mobile ICTs in everyday life. In Ellegård K. (Ed.) *Time Geography in the Global Context.* Routledge, 96-112

Tribe, J. (2007). Critical tourism: Rules and resistance. In Ateljevic, I., Morgan, N., & Pritchard, A. (Eds.) *The critical turn in tourism studies*. Routledge, 51-62

Turkle, S. (2017). *Alone together: Why we expect more from technology and less from each other.* Hachette UK.

Tussyadiah, I. P. (2013). When cell phones become travel buddies: social attribution to mobile phones in travel. In Cantoni, L. & Xiang, Z. (Eds.) *Information and communication technologies in tourism 2013.* Springer, 82–93

Tussyadiah, I. P. (2014). Social actor attribution to mobile phones: The case of tourists. *Information Technology & Tourism*, 14(1), 21-47.

Tussyadiah, I. P. (2016). The influence of innovativeness on on-site smartphone use among American travelers: Implications for context-based push marketing. *Journal of Travel & Tourism Marketing*, 33(6), 806-823.

Tussyadiah, I. P., & Wang, D. (2016). Tourists' attitudes toward proactive smartphone systems. *Journal of Travel Research*, 55(4), 493-508.

Uriely, N. (1997). Theories of modern and postmodern tourism. *Annals of tourism research*, 24(4), 982-985.

Uriely, N. (2005). The tourist experience: Conceptual developments. *Annals of Tourism research*, 32(1), 199-216.

Urry, J. (1990) *The Tourist Gaze.* Sage.

Urry, J. (2002). Mobility and Proximity. *Sociology,* 36, 255–274.

Urry, J., & Larsen, J. (2011). The Tourist Gaze 3.0. Sage.

Vaez, S., Burke, M., & Yu, R. (2020). Visitors' wayfinding strategies and navigational aids in unfamiliar urban environment. *Tourism Geographies*, 22(4-5), 832-847.

Vallespín, M., Molinillo, S., & Muñoz-Leiva, F. (2017). Segmentation and explanation of smartphone use for travel planning based on socio-demographic and behavioral variables. *Industrial Management & Data Systems*, 117(3), 605-619.

Van Berkel, N., Ferreira, D., & Kostakos, V. (2017). The experience sampling method on mobile devices. *ACM Computing Surveys (CSUR)*, 50(6), 93.

van Nuenen, T. & Scarles, C. (2021). Advancements in technology and digital media in tourism. *Tourist Studies*, 21(1), 119-132.

Vel, K., Brobbey, C., Salih, A., & Jaheer, H.(2015). Data, Technology & Social Media: Their Invasive Role in Contemporary Marketing. *Revista Brasileira De Marketing E-ISSN*, 2177-5184.

Verbeek, P. P. (2001). Don Ihde: the technological lifeworld. In Achterhuis, H. J. (Ed.) (2001). *American philosophy of technology: The empirical turn*. Indiana University Press., 119-146.

Verbeek, P. P. (2005). *What things do: Philosophical reflections on technology, agency, and design*. Penn State Press.

Verbeek, P.P. (2016). Toward a Theory of Technological Mediation: A Program for Postphenomenological Research. In: J.K. Berg O. Friis and Robert C. Crease (Eds.) *Technoscience and Postphenomenology: The Manhattan Papers.* Lexington Books, 189-204

Vogt, C. A., & Fesenmaier, D. R. (1998). Expanding the functional information search model. *Annals of Tourism Research*, 25(3), 551-578.

Vogt, C. A., Fesenmaier, D. R., & MacKay, K. (1994). Functional and aesthetic information needs underlying the pleasure travel experience. *Journal of Travel & Tourism Marketing*, 2(2-3), 133-146.

Volo S. (2009) Conceptualizing Experience: A Tourist Based Approach, *Journal of Hospitality Marketing & Management,* 18(2-3), 111-126

Voordijk, J. T. (2019). Technological mediation in construction: Postphenomenological inquiry into digital technologies. *Journal of construction engineering and management*, 145(12), 04019084.

Walsh, M. J., Johns, R., & Dale, N. F. (2019). The social media tourist gaze: social media photography and its disruption at the zoo. Information *Technology & Tourism,* 21(3), 391-412.

Wang, D., Park, S., & Fesenmaier, D. (2016). Mobile Technology, Everyday Experience and Travel. *Travel & Tourism Research Association*, 2–11.

Wang, D., Park, S., & Fesenmaier, D. R. (2012). The Role of Smartphones in Mediating the Touristic Experience. *Journal of Travel Research*, 51(4), 371-387.

Wang, D., Xiang, Z., & Fesenmaier, D. R. (2014). Adapting to the mobile world: A model of smartphone use. *Annals of Tourism Research*, 48, 11-26.

Wang, D., Xiang, Z., & Fesenmaier, D. R. (2016). Smartphone Use in Everyday Life and Travel. *Journal Of Travel Research*, 55(1), 52-63.

Wellner, G. (2011). Wall-window-screen: How the cell phone mediates a worldview for us. *Humanities and technology Review*, 30, 87-103.

Wellner, G. (2016). *A postphenomenological inquiry of cell phones: Genealogies, meanings, and becoming.* Lexington Books.

Williams, A. M., Hall, C. M. and Lew, A. A. (2014). Theoretical and Methodological Challenges for Tourism. In Lew, A. A., Hall, C. M. & Williams A. M. (Eds.) *The Wiley Blackwell Companion to Tourism.* Blackwell, 625-634.

Williams, N. L., Wassler, P., & Ferdinand, N. (2022). Tourism and the COVID-(Mis) infodemic. *Journal of Travel Research,* 61(1), 214-218.

Wilson, T. D. (2000). Human information behavior. *Informing science*, 3(2), 49-56.

Wong, C. K. S., & Liu, F. C. G. (2011). A study of pre-trip use of travel guidebooks by leisure travelers. *Tourism Management*, 32(3), 616–628.

Wood, E. (2020). I remember how we all felt: perceived emotional synchrony through memory sharing, *Journal of Travel Research*, 59(8), 13390-1352.

Woodside, A. G., & MacDonald, R. (1994). General system framework of customer choice processes of tourism services. In Gasser, R. & Weiermaier, K. (Eds.) *Spoilt for choice*. Thaur: Kultur Verlag, 31-59.

Wozniak, T., Schaffner, D., Stanoevska-Slabeva, K., & Lenz-Kesekamp, V. (2017). Psychological antecedents of smartphone users' behaviour along the mobile customer journey. In Schegg, R., & Stangl, B. (Eds.) *Information and Communication Technologies in Tourism 2017.* Springer, 317-330.

Xiang, Z. (2018). From digitization to the age of acceleration: On information technology and tourism. *Tourism management perspectives*, 25, 147-150.

Xiang, Z., & Fesenmaier, D. R. (2020). Travel information search. In Xiang, Z., Fuchs, M., Gretzel, U. & Höpken, W. (Eds.). *Handbook of e-Tourism*. Springer International Publishing, 1-20.

Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. *Tourism management*, 31(2), 179-188.

Xiang, Z., Fuchs, M., Gretzel, U., & Höpken, W. (Eds.). (2019). *Handbook of e-Tourism*. Springer International Publishing.

Xiang, Z., Magnini, V. P., & Fesenmaier, D. R. (2015). Information technology and consumer behavior in travel and tourism: In Insights from travel planning using the internet. *Journal of Retailing and Consumer Services*, 22, 244-249.

Yu, X., Anaya, G. J., Miao, L., Lehto, X., & Wong, I. A. (2018). The impact of smartphones on the family vacation experience. *Journal of Travel Research*, 57(5), 579-596.

Zarezadeh, Z., Benckendorff, P., & Gretzel, U. (2019). Lack of progress in tourist information search research: A critique of citation behaviour and knowledge development. *Current issues in tourism*, 22(19), 2415-2429.

Zhang, M., & Zhang, X. (2022). Between escape and return: Rethinking daily life and travel in selective unplugging. *Tourism Management*, 91, 104521.

Zillinger, M. (2007). Guided tourism: The role of guidebooks in German tourist behaviour in Sweden (Doctoral dissertation, Kulturgeografi).

Zillinger, M. (2020). Hybrid tourist information search German tourists' combination of digital and analogue information channels. *Tourism and Hospitality Research*, 20(4), 510-515.

Zillinger, M. (2021). Tourism revisited: The influence of digitalisation on tourism concepts. *Report series ETOUR Working Paper. Mid Sweden University.* Available at: https://www.miun.se/Forskning/forskningscentra/etour/nyheter/nyhetsarkiv/2021-9/malin-zillinger/

Zillinger, M., Eskilsson, L., Månsson, M., & Nilsson, J. H. (2018). What's new in tourist information behaviour? *Lund: Institutionen för Service Management och Tjänstevetenskap.*

Zuelow, E. (2015). *A history of modern tourism*. Bloomsbury Publishing.

Zurlo, F., Arquilla, V., Carella, G., & Tamburello, M. C. (2018). Designing acculturated phygital experiences. In Linghao, Z., Yanyan, L., Dongjuan, X., Miaosen, G., Di, S. (Eds.) *Cumulus Conference Proceedings Wuxi 2018 Diffused Transition & Design Opportunities. Wuxi Huguang Elengant Print Co. Ltd,* 153-164.

Smartphoned Tourists in the Phygital Tourist Experience

This thesis explores how the tourist experience is re-articulated through the mediation of smartphones. Through the postphenomenological approach, a technologically mediated tourist is conceptualised and placed in a technologically mediated tourist experience at the intersection between physical and digital worlds. The new tourist that emerges from smartphone mediation is the *smartphoned* tourist, that is a tourist whose experience is shaped by the availability and use of this technology.

The thesis focuses on two aspects: first, how smartphones mediate tourist information behaviour. The concept of planned serendipity is proposed to indicate how smartphone-mediated information behaviour is complex and cannot be reduced to a dichotomy of serendipity and planning. Second, the thesis explores how smartphones mediate tourists' experiences of *phygital* worlds. The term *phygital* is adopted to indicate how the technologically mediated tourist experience is neither physical nor digital, but both. These questions are answered through four papers, which address empirically, conceptually, and methodologically the issues of planned serendipity, the *phygital* experience and tourists' spatiotemporal behaviour.

Micol Mieli is an interdisciplinary researcher with a background in law, service studies and tourism. After taking an undergraduate degree in law in Italy, she moved to Sweden to continue her studies with an MSc and then a PhD in service management at Lund University. Her research interests focus on exploring the role of technology in human behaviour and experience.