

Types of Typologies - From Recreationists & Tourists to Artificial Agents

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Why do we actually group visitors? What for?

In order to successfully manage natural recreational sites, it is fundamental to have a comprehensive understanding of recreational use in the outdoors. Depending on the research question or a management problem to solve, scientists try to identify groups that respond to a certain situation in a similar way. Such knowledge seems to be useful while trying to satisfy visitors' needs and to assure the conservation goals. It is argued that focusing on the visitors themselves and their typological forms helps explain why people are attracted to specific destinations (Jafari 1989, 26–27 in Wickens 2002).

The concept of a type

Every typology is the result of a grouping process. Lazarsfeld (1937) and Barton (1955) (in Kluge 2000) developed the concept of every type that can be defined as the combination of its attributes. Given objects are divided into some groups or types with the help of one or more attributes. The elements within a type have to be as similar as possible and the differences between the types have to be as strong as possible. In case of artificial agents – individuals, which belong to a certain type share same beliefs, desires and intentions and interact with the surrounding environment according to the identical set of predefined rules.

What characteristics are usually included to describe visitor types?

There are in general three bases for developing typologies: demographic, socioeconomic and psychographic (Johns & Gyimothy 2002). Demographic and socioeconomic characteristics proved to be a poor predictor of tourist behaviour, and attention has turned to psychographic variables. Psychographic variables include attitude, motivation, beliefs, values, attitudes, motives, needs, desires, commitments and so on (Blamey & Braithwaite 1997). Which variables are included in a study, depends very much on the goal of the study. Often studies aim to compare measures of behavioural preferences and other attitudes with socio-demographic characteristics (Johns & Gyimothy 2002). Or, as Saarinen (1998, p 9) states that 'tourists can be conceptualised through the dimensions of experience and activity'. Recently, researchers have started to make visitor behaviour more explicit, such as Farías Torbidoni et al. (2005) who related visitor types to trail typology. O'Connor et al. (2005) state that factors such as a velocity of tourist travel, human way finding logic, crowd avoidance, and other spatially explicit behaviour are not yet well understood and need further exploration.

What are examples of typologies used in leisure research?

For purposes of this paper, following distinction between typologies is proposed: (1) theoretically driven (and might be empirically tested after-

Table: 1 Overview of typologies.

| Theoretical typologies | | |
|---|---|---|
| <i>Who</i> | <i>Tourist types</i> | <i>Based on</i> |
| Cohen (1979) | drifter, explorer, individual mass, organized mass | Degree of institutionalization of the tourist |
| Plog (1973) | Allocentric, near-allocentric, mid-centric, near psychocentric, psychocentric | Individuals; relative focus on their own culture and the one they are visiting |
| ETOUR (Ankre, 2005; Fredman & Hörnsten, 2004) | Purist, neutralist, urbanist | visitors' attitudes towards management, social factors and physical environment |
| Lengkeek (2000) | Amusement, change, interest, rapture, dedication | Degree of out-there-ness |
| Empirical typologies (selected examples) | | |
| <i>Who</i> | <i>Tourist types</i> | <i>Based on</i> |
| Arnberger & Brandenburg (2001) | Regular visitor, occasional visitor, National Park visitor | Demographic characteristics |
| Arnberger and Haider (2005) | Crowding-tolerant, crowding-indifferent, crowding-averse | Crowding perception of the urban forest visitors |
| Sterl <i>et al.</i> (2006) | Family & friends, sports, nature, recreation | Visiting motives |
| Taczanowska <i>et al.</i> (2006) | Classical visitor, speedy visitor, explorer, shortcut user | Spatial behaviour (route geometry, physical characteristics of path, signage, infrastructure) |
| Frochot (2005) | Actives, relaxers, gazers, rurals | Sought benefits |
| Galloway (2002) | Sensation seekers, escape stress, active enjoyment of nature | Degree of sensation sought |
| Palacio & McCool (1997) | Nature escapists, ecotourists, comfortable naturalists, passive players | Expected benefits |
| Farias Torbidoni <i>et al.</i> (2005) | Conservationists, casuals, contemplators, active-adventurers | Motivation, reasons for trail choice, environmental perception, demographic data, time spend, knowledge of the park, park access, visiting group, frequency and accommodation |
| Typologies in modelling studies | | |
| <i>Who</i> | <i>Tourist types</i> | <i>Based on</i> |
| Elands & Marwijk (2005) | Social & nature hiker | Goal of visit |
| Gimblett <i>et al.</i> (2000) | Landscape & social recreationist | Desired benefits (landscape appeal, social interaction, physical challenge) |
| O'Connor <i>et al.</i> (2003) | Visitor types with diverse spatial behaviour (type 1 to type 4) | Sequences of movement |

wards), (2) typologies that are derived from empirical studies, and (3) typologies that are used in modelling studies. Table 1 presents an overview of the three groups of typologies, without aiming to be exhaustive, rather to inspire further discussion.

What characteristics are relevant while designing artificial agents in modelling studies?

We claim that aspects of recreational activity, experience and the spatial dimension of both are of high relevance for agent-based models. Two approaches of building typologies considering the spatial context of recreational behaviour are possible:

- Finding generic visitor profiles¹ and linking them afterwards to e.g. trail preferences (e.g. Farias Torbidoni *et al.* 2005)
- Use spatial behaviour as additional feature for defining visitor profiles (e.g. Gimblett 1998, 2000, O'Connor *et al.* 2005, Taczanowska *et al.* 2006)

1 * visitor characteristics (age, sex, professional status, level of education)
 * characteristics of the area (accessibility, lodging facilities)
 * time spent in the park
 * visit frequency
 * type of visitor group (couple, family, or friends)
 * main motivation for visiting the area

In any case, following demographical, psychological and physiological elements would be desirable to consider when designing artificial agents:

- Socio-demographic variables (age, distance to area, mode of transport, etc.)
- Knowledge about the area (first time visitor vs repeater)
- Type of activity (speed, basic spatial requirements)
- Preferences related to activity (use value: type of paths/attractions...)
- Recreational experience (wilderness experience: type of nature / solitude, social conflicts: crowding /user-conflicts)
- Spatial distribution of visitor types (e.g. entrance choice: main entrance vs smaller one)
- ...

The list of attributes remains open. We aim to encourage further discussion.

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