

A CHANGING WORLD

Landscape Series

Volume 8

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As interested in identifying best practice as it is in progressing landscape theory, the Landscape Series particularly welcomes problem-solving approaches and contributions to landscape management and planning. The ultimate goal is to facilitate both the application of landscape research to practice, and the feed back from practice into research.

A CHANGING WORLD

CHALLENGES FOR LANDSCAPE RESEARCH

Edited by

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Foreword by the Series Editors

With the Springer Landscape Series we want to provide a much-needed forum for dealing with the complexity of landscape types that globally occur and are studied. It is crucial that the series highlights this profound diversity – both in the landscapes themselves and in the approaches used in their study. Moreover, while the multiplicity of relevant academic disciplines and approaches is characteristic of landscape research, we also aim to provide a place where different knowledge cultures can be synthesized and integrated.

A Changing World. Challenges for Landscape Research is the eighth volume of the series. The editors, Felix Kienast, Otto Wildi and Sucharita Ghosh, have compiled a fascinating collection of chapters dealing with the social, ecological and spatial processes of landscape dynamics. At the beginning of the 21st century society faces the joint consequences of improved access to resources, locations, and information. This change entered the political discussion with the buzzword “globalization”. Given the major contemporary technological achievements such as telecommunication and information technology, genetic engineering, traffic and satellite technology, it is likely that the mutual dependence of human activities and services on specific locations is losing importance. Places might become interchangeable and “placelessness” of capital and people may become the rule. At the same time, alienation from the local environment, along with the growing virtual environment that is created by information technology will continue to increase, thereby encouraging people to seek identification with unique, real places. Processes of this kind can be observed all over the world. They have decisive effects on landscape development, zoning regulations, the establishment of large conservation areas and land management schemes.

Landscape research addresses these challenges, where however, existing paradigms and methods have to be extended to adapt to the needs of land managers, politicians and the public for a sustainable land development. In this book, researchers from various disciplines discuss emerging fields within the framework of the “driving forces” of both landscape research and landscape development. Rather than offering a comprehensive overview of all issues relevant to landscape research, the book addresses various contemporary “hot topics”, emphasizing scientific, technological and societal trends in these fields.

Toulouse and Aberdeen, October 2006

Henri Décamps
Bärbel Tress
Gunther Tress

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Preface

This book is written by a team of scientists who jointly address conceptual and methodological challenges of landscape research. It stems from a peer review of the Landscape Department at the Swiss Federal Institute of Forest, Snow and Landscape Research (WSL). This peer review, however, did not follow the traditional pathways. Rather than asking the peers to value institutional merits and financial schemes, they were asked to review a predecessor of the present book and to identify future potentials of landscape research. This led to a fruitful future-oriented meeting of peers and reviewees about challenges for landscape research.

We wish to thank the following colleagues for their comments during the review process and their contribution to specific chapters of the present book: Thomas C. Edwards, Utah State University, U.S.A.; Wolfgang Haber, Technische Universität München, Germany; Terry Hartig, Uppsala University, Sweden; Siegfried Heiler, Universität Konstanz, Germany; László Orlóci, University of Western Ontario, Canada; Joachim Saborowski, Universität Göttingen, Germany; Monica Turner, University of Wisconsin-Madison, U.S.A.; Allan Watt, Centre for Ecology and Hydrology, Banchory, UK; Robert Weibel, University of Zürich, Switzerland. In addition more than 25 anonymous reviewers helped in the peer review of the individual articles.

We would also like to thank the WSL staff Jacqueline Annen Gilgien and Ruth Landolt for design and layout and the WSL for financial support to cover part of the production costs. The support of Springer Verlag and the Series Editors of the Landscape Series is gratefully acknowledged.

Change and Transformation: A Synthesis

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Global biophysical and socio-economic changes and technological advances manifest themselves in changing land-use and altering landscape properties and functions. The industrial revolution in the nineteenth century was such an example, followed by the age of almost unlimited mobility starting in the twentieth century. Meanwhile, the last decade of the twentieth century has seen an astonishing development in information technology affecting almost every facet of the society. Easy and nearly unlimited access to computers, satellites and communications systems has also affected the way landscape research is done today. Data are obtained in massive amounts and data mining is now an issue. Also in the biological sciences, modern methods such as molecular genetics have revolutionized our understanding of ecology and evolution and how these interact with the environment. Following modern trends in science, landscape research has become computationally intensive, with strong theoretical components. Now, information is quantified, hypotheses are tested and scientific inference is formal.

Landscape research is an interdisciplinary science. It deals with complex environmental processes at multiple spatial and temporal scales. While the interdisciplinary nature and the focus on space-time processes are shared with other fields as well (cf. spatial ecology or bio-geochemistry), the subject of interest – “landscape” – is unique to landscape research. Popularly, “landscape” is understood as a portion of land or territory that the eye can capture at a single glance. Translated into scientific terms landscape can be considered a fraction of the globe’s surface, that has been shaped by natural and human driving forces yielding specific qualities for the life of its inhabitants.

Some of the important events in the course of the history of landscape research include, the promotion of the terms landscape architecture in 1828 (Frederick Law Olmsted, designer of Central Park in the city of New York), landscape ecology in the 1930s, and the founding of the International Association for Landscape Ecology in the 1980s. Today, landscape research is the result of several evolutionary lines that are not contradictory but differ in emphasis. Two of these may be called “European” (which is also represented in the United States and elsewhere), and “American” (which is also common in Australia and Canada). They address different value systems and this is reflected in the diversity of coexisting definitions of landscape research and particularly of landscape ecology. Europeans, with their continent’s long history of dense human inhabitation, traditionally envision the landscape to include a strong human component. The term landscape has Latin roots reaching back to the term “regio” which eventually evolved into the old German term “lantscaf”. “Scaf” gave rise to the English term “shape” and the German term “schaben” or “schaffen”. Thus “Landschaft” means land that was shaped by similar human land-use, and so it is not generally thought to be a natural area *sensu stricto* that is void of human influence. A detailed linguistic analysis can be found in Haber (2002)¹. On the other hand, North Americans and Australians often view the landscape to be free of human influences, or else they consider such influences to be of less importance. Just

¹ Haber W. 2002. Kulturlandschaft zwischen Bild und Wirklichkeit. Schweiz. Akademie der Geistes- und Sozialwissenschaften, Bern.

as the British ecologist Arthur Tansley (1935)² spoke of “anthropogenic” plant climaxes, while American ecologist Frederic Clements (1936)³ focused on “natural” climaxes, so do Forman (American) and Naveh (Israeli) reflect these transatlantic differences in seeing human activities as either external or else integral to landscape research. Within Europe itself, the southern countries that refer to *paysage*, *paesaggio*, and *paisaje* – with etymological origins in *pagus* (village/town/ country) – seem to envisage an even stronger human presence in shaping land than the northern countries that refer to *landshap*, *landschaft*, *landscape*, and their derivatives. We also recognize that the worldwide spread of landscape-related research after 1980 challenges and complements the “European” and “American” paradigms of landscape research. We see emerging research centers in Asia, South America and Africa that voice their views about landscape values and will contribute to a wider understanding of space, place and changes in time.

This book has three sections that show new avenues for landscape research. These are (1) value systems and sociological aspects; (2) ecological observations, data management and ecological methods to identify processes such as migration and dispersal; and (3) concepts for landscape pattern recognition, statistical analysis of landscape and environmental time series data analysis and dynamic ecological modeling.

Value Systems – Major Drivers of Landscape Dynamics

Value systems determine which landscapes are worth preserving and which goods and services of landscapes shall be used or maintained. While values may form the core components of the most influential action theories, currently there is little empirical knowledge about the role of values in landscape research. This is the starting point of “Value systems: drivers of human-landscape interactions” by Buchecker *et al.* Based on two empirical studies, these authors discuss people-landscape interactions and highlight the potential of value-based landscape research.

A more practical perspective on how planning (e.g., biodiversity action plans) is driven by value systems is in “The role of value systems in biodiversity research” by Duelli *et al.* These authors suggest that a transparent discourse about value systems and corresponding indicators is needed. Rather than attempting to reconcile different value systems, their simultaneous relevance must be recognized while different indicator-sets are developed to account for the diverging objectives.

“The meaning of ‘landscape’ – an exegesis of Swiss government texts” by Longatti and Dalang presents a semantic analysis of the word “landscape” as it has occurred in a number of Swiss government documents over the last 40 years. The authors highlight how altering social value systems are mirrored in the altered use of the term landscape.

In “Space and place – two aspects of the human-landscape relationship”, Hunziker *et al.* identify three recently developed concepts dealing with the human dimension of landscapes. First they elaborate on the concept of perceiving the physical space. In a second phase they compile theories dealing with landscape perceived as place. Finally they discuss the effect of landscapes on psychological restoration.

² Tansley A.G. 1935. The Use and Abuse of Vegetational Concepts and Terms. *Ecology* 16: 286–289, 303–307.

³ Clements F.E. 1936. Nature and Structure of the Climax. *The Journal of Ecology* 24: 252–284.

Ecological Observations and Processes

Due to the rapid technological achievements in remote sensing, since the 1990s, a wealth of data on land cover characteristics over large geographical regions have become available. “Modern remote sensing for environmental monitoring of landscape states and trajectories” by Zimmermann *et al.* is an introduction to aspects of remote sensing that are relevant for landscape research. The emphasis of this article is on ecological applications rather than on data-processing. The authors demonstrate a wide range of possibilities for using such data, and show the benefits and the difficulties of combining remotely sensed data with field observations. In “A large-scale, long-term view on collecting and sharing landscape data”, Lanz *et al.* discuss accessing data from widely distributed repositories based on open standards and illustrate the important role of metadata for long-term monitoring and data reliability.

Careful interpretation of past land use and land cover helps to reconstruct patterns and processes within historic landscapes. Historical considerations also contribute to public discussions about the past and the future of landscapes. This is presented in the article by Bürgi *et al.* titled “Using the past to understand the present land use and land cover”.

Proxy data originating from tree rings provide information on longer term regional and large-scale climate history. In their paper, “On selected issues and challenges in dendroclimatology”, Esper *et al.* discuss quantification of climatic signals retained in certain tree ring parameters, and low frequency variations in long-term temperature reconstruction.

Paradigms and theories play important roles in understanding ecological processes. A prominent example is the theory of “island biogeography”, already well-known in landscape management, e.g., in reconnecting isolated habitat patches. However, most landscape theories still await confirmation with empirical data. Modern methods, e.g., molecular biology, or satellite imagery, have the potential to rigorously question these paradigms. Testing of paradigms with genetic methods is the concern of the two articles “Integrating population genetics with landscape ecology to infer spatio-temporal processes” by Holderegger *et al.* and “Landscape permeability: from individual dispersal to population persistence” by Suter *et al.* The article by Holderegger *et al.* sets the scene for an emerging field in landscape research: landscape genetics. These authors show how beneficial molecular techniques can be for analyzing migration pattern, dispersal and gene flow. Suter *et al.* use capercaillie (*Tetrao urogallus*; Aves; Tetraonidae) as an example, to illustrate how relating spatial population patterns to landscape structure is limited by the lack of empirical data, and how genetic analysis may help to understand dispersal patterns.

Spatial Pattern Recognition, Time Series Analysis and Dynamic Modeling

This section is about principles, models and methods for quantitative analysis of landscape data. It starts with the article “Identifying and quantifying landscape patterns in space and time” by Bolliger *et al.* This is an overview of various indicators to assess landscape patterns. “Essay on the study of the vegetation process” by Wildi and Orlóci is about governing principles in vegetation analysis. In this essay, the authors discuss nonlinearity, scales, randomness, and other notions such as chaos. To understand why such notions are relevant, consider a chaotic system. In some situations, even very simple deterministic dynamic systems may be chaotic, with a behavior so complex that it mimics randomness. Why is chaos an issue? It is important because it may hamper the prediction of the state of a system, an important concern of ecologists. An emerging conclusion from these two papers is that the analysis of complex landscape data requires highly specialized statistical methods.

A landscape may be viewed as the realization of a space-time stochastic process. In “Statistical analysis of landscape data: space-for-time, probability surfaces and discovering species”, Ghosh and Wildi present novel methods for analyzing landscape data in three different contexts. They explain the hypothesis of space for time substitution, nonparametric probability and quantile surface estimation, and the role of self-similarity in extrapolating hyperbolic species-area relations. A second article with rigorous statistical treatment is “Memory, non-stationarity and trend: analysis of environmental time series”. The authors Ghosh *et al.* discuss models for changing seasonality, long-memory or slowly decaying autocorrelations, deterministic trend versus stochastic trend-like behavior, non-stationary and non-Gaussian stochastic processes and introduce wavelets and nonparametric curve estimation. Long-term time series observations from a number of regions illustrate the methods.

Handling different scales simultaneously is a key skill for understanding and managing landscapes. This is the topic of “Model up-scaling in landscape research” by Lischke *et al.* It is an overview of up-scaling techniques and considers hierarchy theory as an ideal frame-work for successful up-scaling. Hierarchy theory leads to a general formulation of the up-scaling process, which consists of (a) aggregating source scale variables to target scale variables and (b) deriving the associated target scale model functions. Properly integrating space and time plays a crucial role in predictive modeling. This is shown in the second article by Lischke *et al.* titled “Dynamic spatio-temporal landscape models”. The authors claim that modeling at the landscape scale is most effective with the new generation of dynamic regionalized and spatially linked spatio-temporal (SLST) models taking into account both local dynamics and spatial interactions. The authors discuss various SLST models for landscape research.

In conclusion we note an acceleration of progress in landscape research as the methods, the availability of data resources and the awareness of public interests are concerned. It may be a coincidence that this goes parallel to the observed accelerated change of the landscape due to the ongoing globalization of interactions as well as climate- and land use change. The society is expecting solutions to newly emerging problems. We are convinced that our joint contributions from natural and social sciences will be well received by the readers of this book.

Value Systems – Major Drivers of Landscape Dynamics

Value Systems: Drivers of Human-landscape Interactions

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Abstract

Value systems are generally acknowledged to be a constitutive element of human life and certainly play a fundamental role in human-landscape interactions. Whereas, however, values form main factors within the most influential action theories, there is only little empirical knowledge about the role of values in landscape research. Based on existing knowledge on the role and nature of people's value systems presented in a first part, the findings of two empirical studies on people-landscape interactions are re-interpreted on the background of two recent value concepts. The insights and difficulties encountered illustrate the potential of value-based landscape research and highlight challenges for future research.

Keywords: values, landscape, value concept, qualitative interviews, survey



The Relevance of Values for Landscape Research

What is the importance of human value systems in the context of landscape research? In accordance with the understanding of landscapes as the result of natural and human driving forces, this paper claims that people's values are a fundamental component of the so-called "human dimension" of landscape. Valuation is a constitutive part of human life and behaviour, as humans' actions and reactions are not determined by instincts, but rather subject to (contingent) decisions (Bechmann 1978). A human being without a clear framework to select among existing options to act or judge could probably survive in the wilderness, but he or she would not be able to establish stable relations to others and integrate in groups or a society.

In the context of human-landscape interactions, values are constitutive in two ways. They do not only shape humans' use of their land resources, which is a main driving force for landscape development. They are also a main formative source that humans perceive landscape not just as nature. Values and meanings assigned to landscape structures allow them to combine landscape elements to a consistent landscape picture (Simmel 1993). In return, the examination of the ways people perceive and interpret landscapes can reveal a great deal about their value systems (regarding the environment). Although the fundamental importance of values for landscapes has been recognised in both the scientific and practical context, there is still a lack of empirical knowledge about their role for landscape interactions (Bäuerle 1984; Joas 1997). The scientific analysis of values in landscape contexts bears great potential to deepen the understanding of human-landscape relationships and thus widen the perspective on many fundamental topics of landscape research and land-use, i.e.:

- Socio-economic developments, which represent a central driving force for landscape transformations, go along with alterations of values. Therefore, knowledge of values can contribute to a better understanding of the (human) conditions of such transformations.
- Conflicts with regard to landscape development and management often originate in the circumstance, that the landscape has distinct meanings for different stakeholders. Thus, the assessment and consideration of stakeholders' values can help to prevent conflicts and enhance consensus-finding processes.
- People's perception and valuation of landscapes is a main element of their regional attachment and commitment. Understanding the values assigned by people to their landscape would help to determine visions of landscape developments that are conducive to social well-being.

This paper approaches the interrelation between values and landscapes in several steps: First, a detailed introduction to existing value concepts and theories is given. A short insight into the existing definitions and the values' role within the most influential action theories is followed by the presentation of the most recent value concepts. Here, the focus is laid on the approaches of two authors: Schwartz and Taylor. A next section gives an overview over existing empirical studies on values regarding nature and environment. In the third section findings of two empirical studies on landscape perception and landscape management are analysed and discussed against the background of the value concepts of Schwartz and Taylor. Thereby, the usefulness of the value concepts is critically evaluated, and additionally the assumed situation-specific nature of values is examined in an illustrative sense. Finally, the conclusion summons up the central findings of the paper, addresses the advantages as well as deficiencies of the approaches used for the data analysis and highlights potentials for future research.

The Role and Nature of Values in Theory

The primary difficulty in value research is that although we can understand what the effect of values is, we cannot explain what they are in a psychological sense (Luhmann 1977). Furthermore, there are multiple and varied definitions that have been applied to the term value (Manfredo *et al.* 2004).

The term value has been defined in very different ways between, but also within, the different scientific disciplines. According to the classical economic theory, values were considered as characteristics inherent in goods, e.g. determined by the production costs. Later, they were understood as subjective judgements by economic agents of goods (Friedrichs 1968). Brown (1984) distinguished between values that are *assigned* through the process of evaluation and values that are *held* values as ideals of life.

In social psychology values are widely defined as cognitive controls of behaviour in the sense of “desired values” (Oerter 1970). A definition of values often used in sociology and anthropology was formulated by Kluckhohn (1962: pg. 395): “values are the desirable which influences the selection from available modes and means”. Especially anthropologists emphasise that value systems are specific for each culture (Kohl 1993) and form key mechanisms of collective identity. In the last decades a certain consensus seems to have emerged within the social sciences to view values as the criteria people use to choose between conflicting preferences and by which they justify actions and evaluate people and events (Bäuerle 1984; Schwartz 1992; Taylor 1989). Accordingly, the functions assigned to values by social scientists are mainly the reduction of complexity in human interactions and the facilitation of individual and collective orientation, but also the support of social integration and the promotion of human motivation.

The question of the role of values was raised and discussed at the beginning of the twentieth century by leading theorists such as Weber, Pareto, Durkheim or Simmel. They postulated the key function of values for human interactions – as a reaction to the utilitarian-oriented economical theories (based on Hobbes’s idea of individuals rationally pursuing their purposes).

The recognition of this “convergence” formed the fundament of Parsons’ action theory (*The structure of social action*) which had a formative influence on science and practice for decades despite all criticism (Joas 1997). According to this theory values represent the central element of a cultural system which in turn essentially influences social interaction as a mediating instance. Parsons sees values as cultural defaults which are on the one hand internalised through the individual’s socialisation and on the other hand become efficient in the form of social norms through institutionalisation. From his normative point of view he expects the culturally given values thus to become a moral authority as a prerequisite for a functioning (socially integrated) society. In order to maintain the humans’ contingency of decision, Parson introduced in his theory a second key element. In each situation of action, the individual has to choose between the binary alternatives of five (transcendental) pattern variables of value orientation: self vs. collective orientation, affective vs. affective neutrality, universalism vs. particularism, achievement vs. ascription and specificity vs. diffuseness (Habermas 1981). So the humans’ actions are based on the same value systems, but the actors (and the context) determine the situational limitations of their value systems (Fig. 1). Criticisms refer to the fact that Parsons sees the values as uniformly pre-determined for the whole society, so that in the ideal case societal conflicts are inexistent and a change of values is hardly possible (Joas 1992). Another shortcoming of his theory is the overestimated role of the driver “value” for human action. Thus, he ignored Freud’s insights that decisions are the result of a mediation between two conflicting instances: the drives (“Es”: needs and unconscious motivations) and the values (“Überich”: norms and ideals). Besides that, Freud’s concepts had nevertheless had a strong influence on Parsons.

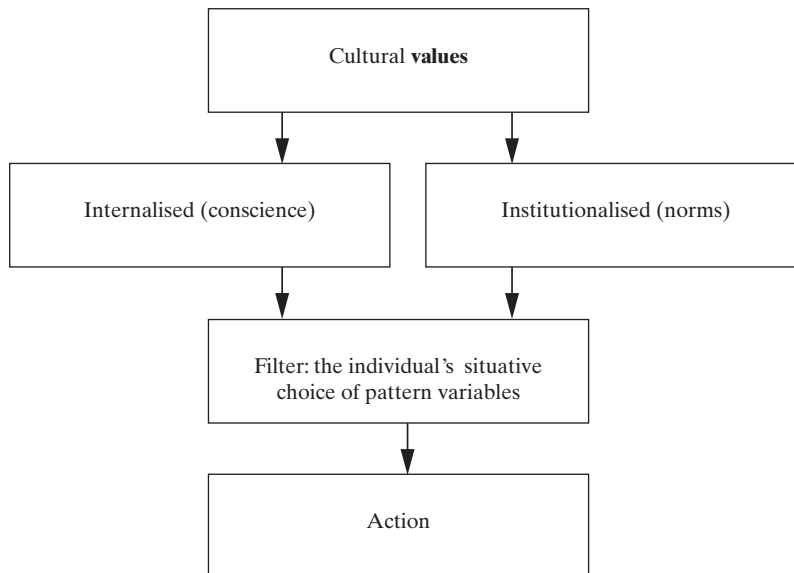


Fig. 1. The role of the values in Parsons' action theory (1953).

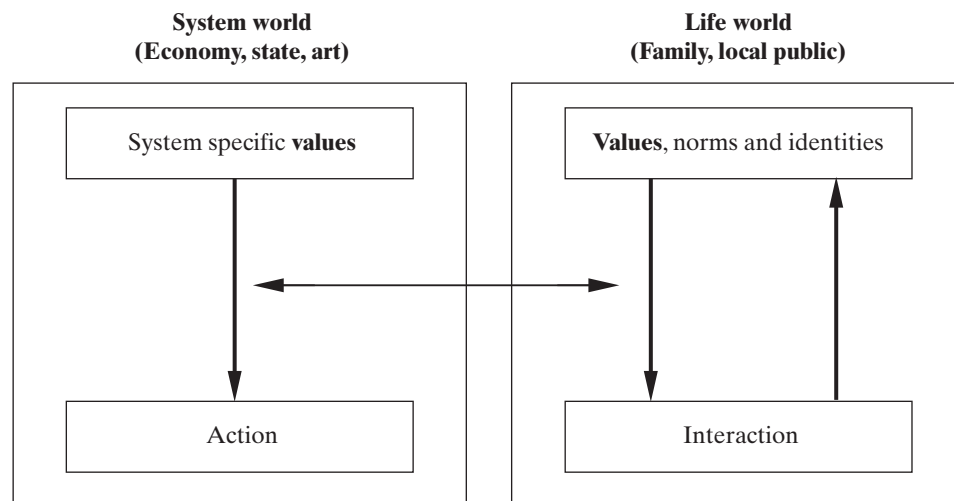


Fig. 2. The role of values according to Habermas' theory of communicative action (1981).

In an effort to overcome the weaknesses of Parsons' action theory, Habermas (1981) elaborated the *Theory of communicative action*. In order to reach his goal he introduced the (new) sphere of *social integration* (the *life world*) in his theory, in which values, norms and identities are reproduced by communicative actions. He contrasted it with the spheres of *functional integration* (system worlds: economy, policy, culture) in which system specific rationalities determine the instrumental actions (Fig. 2). Thereafter a differentiation is needed between people's actions as members of their social group or community (life world) and as agencies of functional roles (system world). In life-world situations, individuals' and groups' value systems influence their actions, whereas in system-world situations, the systems' value systems and thus mainly purpose oriented values determine people's decisions.

As an alternative to these functionalist theories the last decades have seen the emergence of action theories based on "constitutional theories" understanding societal processes as results of the society members' interactions (Joas 1992, pg. 336f). Thereby values are seen as temporarily valid societal defaults that offer the actors an orientation for their actions and, at the same time, are permanently being transformed by the actors through their interactions (e.g. Bourdieu 1979; Giddens 1984) (Fig. 3). According to these theories a value-pluralism does not necessarily threaten the societal order as social integration can also be reached through societal consensus building (Habermas 1981). Conversely, consensus building and (peaceful) societal exchange in general have the effect that the value systems of different groups co-evolve and become more universal – in terms of shared values and the scope of their validity (Mead 1934). This might not only apply to different social groups, but also to interest groups, i.e. members of interest groups might take non purpose-oriented values expressed by affected social groups into account in decision making processes if communication has taken place between these two groups.

A theorist who has dealt with the function and the emergence of values from a constitutional perspective is Charles Taylor (Joas 1997). According to Taylor (1989) values primarily serve as reference points for orientation in life. The *moral topography* offers the individuals a clear framework for action and movement and at the same time criteria to measure the success of their life. He suggests that we understand the values of a society as a (hierarchically and relationally arranged) moral space in which the individuals choose their specific

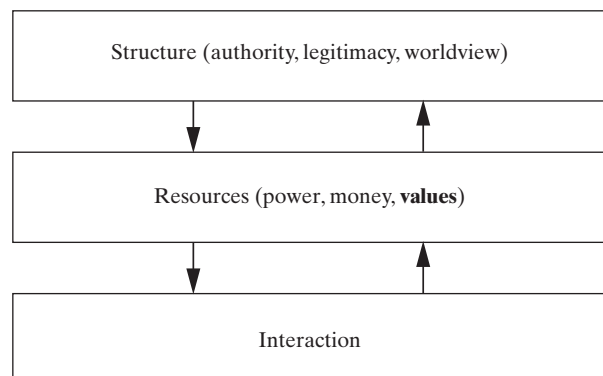


Fig. 3. The role of the values according to the action concepts of constitutional theorists, e.g. the theory of structuring by Giddens (1984): values are produced and reproduced by societal interactions.

Table 1. The ideas of a good life of the Western culture according to Taylor (1989). These ideals are assumed to be the shared basis of the western value systems.

Ideals	Historical origin	Attributes
Naturalism	Scientism	rational, logical
Utilitarianism	Enlightenment	independent, successful
Expressionism	Romanticism	authentic, expressive
Ideal of common life	Luther	responsible, dutiful
Asceticism	Augustin	altruistic, modest
Disengaged rationality	Platon	prudent, equanimous
Heroism	Early manhood	courageous, strong

position and thus establish an individual identity and a framework for action. The most prominent orientation points (*constitutive goods*) form the societies' ideas of "a good life", i.e. ideals of highly respected lifestyles. Such ideals and their attributes are seen as having evolved in the course of the cultural history of each society and sedimented in the society's shared pool of – partly unconscious – moral feelings. Because these feelings are articulated in art and everyday life, these values are constantly being modified – through adaptations to the society's innovations – and further differentiated. For the European culture Taylor mentions the following main ideals of a good life: the ethos of hero (warrior, statesman), detached rationality (wise man), asceticism (holy man), common life (family) and expression (artist) (Tab. 1). According to Taylor, all members of Western societies are oriented to all these ideals, but with varying distance and intensity which together constitute person-specific hierarchies of their value systems. Besides those genuine ideals of a good life, he considers newer ideals of naturalism (determination) and utilitarianism (or value-relativism) as pseudo values behind which value crises might be concealed.

Social psychologists have also developed sophisticated value concepts (e.g. Kellert 1996; Rokeach 1973; Schwartz 1992) that have reached widespread recognition (Manfredo *et al.* 2004). In the most recent of these concepts, Schwartz emphasises – like Taylor – the central role of values for human interactions, in particular for selecting and justifying actions. However, in contrast to Taylor, he deduces the values in a deterministic sense from three universal human requirements: needs of individuals as biological organisms, requisites of coordinated social interaction and welfare-needs of social groups. The value categories he has developed on that basis, however, build on findings of normatively oriented authors such as Parsons and Kluckhohn. Schwartz's concept differentiates between 10 main value categories, called motivational value types, which are arranged around the two bipolar value dimensions "conservation vs. openness to change" and "self-enhancement vs. self-transcendence" (Fig. 4). On the basis of empirical investigations in 20 countries he could corroborate that these value dimensions and categories are universally relevant, while their weights proved to be culturally and individually specific. According to Schwartz, value structures develop along with societal changes, but they are nevertheless expected to remain anchored within the two universal value dimensions.

There are yet only few data-based studies that reveal trends in value shifts (Manfredo *et al.* 2004). Longitudinal studies in Germany have confirmed that in the last decades a value shift towards more openness and more self-enhancement has taken place (Klages 1999). Polling data from North America show a rapid increase in pro-environmental attitudes from the mid-1960s to the early 1970s, a decline in the 1980s, and renewed growth in the 1990s (Dunlap 2002).

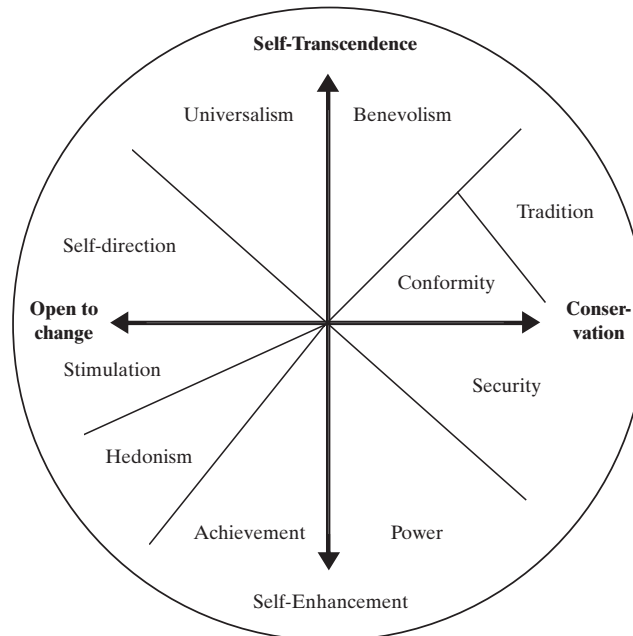


Fig. 4. Theoretical model of relations among motivational types of values, and bipolar value dimensions (Schwartz 1992).

To sum up, there seems to be a consensus among theorists that value structures are universally pre-disposed by the human nature, shaped by the cultural history and open to further development. However, the question is contended whether values have a situation-specific relevance. Whereas Habermas (1981) differentiates in his theory of communicative action between steadily reproduced values valid in life world situations and system-specific values in system world situations, Giddens (1984) and other “constitution” theorists (Joas 1996) see value exchanges through all situations as part of a societal process.

As landscape development takes place in an area of overlap between life world (social meaning) and system world (land-use), it is crucial to understand both the affected people’s value systems and their situation specific relevance. In order to illustrate and explore this, we will focus in the empirical part of this chapter on two questions considered in two case studies:

1. How do the values of insiders (own life world) and outsiders (other life world) of an area differ?
2. Which differences in value orientation can be found between representatives of local interest groups (system world) and local residents (life world)?

These questions will be approached by confronting empirical material with the value concepts by Schwartz and Taylor. Before that, we will give a short overview of research findings on values in the context of landscape perception and land management.

Value Systems in Empirical Landscape Research

Although values can be expected to be highly relevant in landscape perception and land management, only few empirical studies focussing on their role exist (Bäuerle 1984; Meyer and Buchecker 2005). This is probably due to the fact that research on people's values in connection with objects is far more complex than investigating people's personal value-orientations in their lives. It is assumed that people's value-orientations also guide the formation of their values regarding parts of the environment (Schultz and Zelezny 1999), but people ascribe values to concrete objects in a creative way during interactions (Touraine 1985). This has methodical consequences: Values held by individuals or groups can be (quantitatively) assessed and weighted on the basis of existing concepts or frameworks of (hypothetical) value categories. Values ascribed to landscape elements and landscape developments, however, can only be (indirectly) interpreted by the qualitative analysis of legal text documents (laws, communal guidelines) or data gained from in-depth interviews because these values are in general not conscious to people.

Systematic qualitative studies that focus on people's values oriented toward landscape developments have not yet been done. A larger number of articles can be found that combine the terms "value" and "landscape" in their titles; without exception however, they do not explicitly address people's deeper values, but rather more superficial attitudes. Some of these studies implicitly give us information about the underlying motives of people's attitudes regarding landscapes (Buchecker 2005; Willis and Campbell 2004; Pursell 1992; Sell and Zube 1986). One of the most substantial contributions in this sense of focusing on people's values expressed in combination with the perception of landscape change was made by Hunziker (1995). He interviewed local residents, tourists and experts on their perception of reafforested areas in an Alpine valley. Thereby he found that the interviewees of all origins judged the different reafforestation scenarios by referring to the same four (value) categories labelled as "tradition", "nature conservation", "profit" and "emotions". This corresponds with the assumption adopted by the value concepts of Schwartz and Taylor that members of the same culture principally share and use the same values. The interviewees, however, differed in the weighing of these value categories and thus judged the development differently. Although general group differences between locals and non-locals could be determined, all interviewees showed ambivalent attitudes towards reafforestation. A subsequent quantitative study on the same topic (Hunziker and Kienast 1999) confirmed that the non-locals put stronger emphasis on the value categories profit and emotion and exhibited higher preference for spontaneously reafforested areas, whereas the locals' value hierarchy with tradition being at the top brought about their preference for open areas.

Bäuerle (1984) used another approach to identify the values relevant for people to judge their local environment. He investigated the residents' leisure-oriented requirements concerning their outdoor area (which he considered as indicators of individually held values) by means of a standardised questionnaire and put the results in relation with requirements for outdoor areas represented in laws and public regulations (formalised value consensus). He found a considerable gap between actually held values and the formerly found value consensus and interpreted this as an expression of a change of values. However, he did not consider the relations of power and influence in the community, which could have contributed to the explanation of this gap. He concluded that therefore spatial planning should be accompanied by the research of spatially oriented values.

Another (indirect) way to assess the role of values for people's landscape interactions could be the measurement of correlations between people's value orientations and their behaviour, attitudes or perceptions. Astonishingly, systematic studies on the (inter-)relations between people's value orientations and their landscape perception do not seem to exist yet.

Some research has been done to measure the interaction between people's value orientations and their (pro-environmental) behaviour, whereby Schwartz's value concept was often used. Karp (1996) for example found that "self-transcendent" and "openness to change" values are strong predictors for pro-environmental behaviour. Other authors using a similar approach have found a limited significance of values as direct predictors of behaviour (Thøgersen and Grunert-Beckmann, 1997). According to an empirical study by Corraliza and Berenguer (2000), the predictive power of values for environmental behaviour is only strong in cases of consistency with situational variables (facilitation of behaviour). Norton and Hannon (1997) propose a place-based approach to environmental values hypothesising that the values' behavioural relevance depends on people's relation to a place. Finally, Papadakis (2000) found a strong link between idealistic values ("ökozentriert", i.e. focussing on ecological issues or pro-development) and political predispositions relating to the environment and a weak link with utilitarian values. In the most recognized psychological theory of behaviour, the theory of planned behaviour by Fischbein and Ajzen (1975), values are explicitly included only in the form of the factor "perceived social norms" and do not appear as a specific factor. So it is not astonishing that research findings on the role of values for human behaviour in a more encompassing sense, e.g. landscape relevant behaviour, are not yet available.

To sum up, there seems to be a shared basis of cultural values at least within Western societies, even though the individuals differ in the weighing of the value categories respectively the hierarchy of their value system. These value systems seem to have a (driving or regulating) influence on landscape perception and ecological behaviour. There is, however, a lack of empirical research examining if, in what form and to what extent the context of actions has an influence on the individuals' value-systems (value hierarchies) and their effect on people's actions – as proposed by theorists such as Weber, Parsons, Habermas and Joas.

This issue will be considered below by discussing the results of two empirical studies on people's perceptions of river revitalisation (Study 1) and changes of alpine landscapes (Study 2). There the focus will be on the differences between life-world and system-world situations (the clash that is seen as particularly relevant for landscape conflicts) by investigating these differences on the one hand by comparing people's value-references in different role situations (local residents vs. members of regional interest groups) and on the other hand people's value-references in different place-relations (insiders vs. outsiders).

Study 1: Value System Differences between Interest Groups and the Wider Public

Identifying the residents' attitudes towards river revitalisation

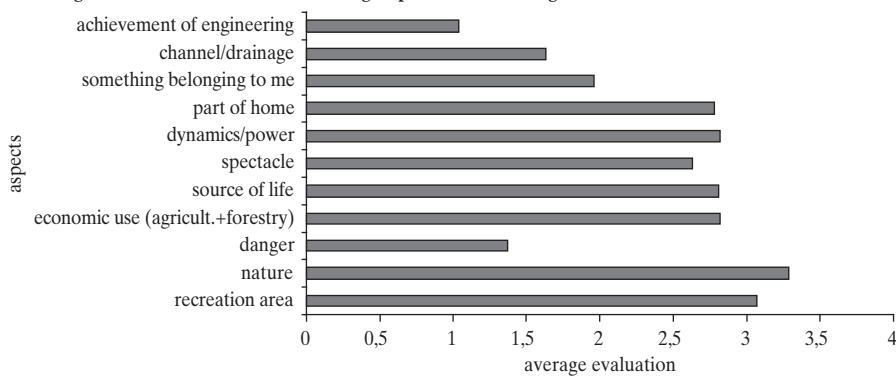
The objective of this project was to identify the local residents' expectations and attitudes towards a planned river revitalisation project of the Thur in Northern Switzerland. For this purpose, data were gathered by conducting qualitative interviews and distributing standardised questionnaires in two neighbouring communities, the urban community of Weinfelden and the (rural) village of Bürglen. Thereby, samples of two target groups were addressed: the representatives of regional interest groups directly involved into the decision making process (N = 24) and the wider public of the two communities (N = 240). Here, we will focus on the two questions of the standardised questionnaire which address a) the meanings people associate with the river Thur and b) the aspects people wish to be improved by the river revitalisation. To answer these questions, respondents were offered a set of answer options each of which they had to rate on a five-point scale. By comparing the two groups'

mean ratings of the answer options, the differences of these groups in terms of their perception of the river and their preferences for the river management could be revealed. In order to explore in which sense the “life world” and the “system world” group differed in the values they referred to concerning river perception and river management decisions, the answer options were related to the value categories of the value concepts by Schwartz and Taylor.

The meaning associated with the river Thur

The representatives of the regional interest groups rated the meaning “economic use” clearly higher than the wider public. This was to a less extent also true for the meanings “danger”, “achievement”, “dynamic”, “spectacle” and “source of life” (Fig. 5). Very similar, however, were the ratings both groups attributed to the meanings “part of myself” and “my (collective) home”. The meanings “nature” and “recreation area” which received the highest ratings by both groups were much more favoured by the wider public than by the members

Meaning of river Thur for involved interest groups Weinfelden/Bürglen



Meaning of river Thur for population of Weinfelden/Bürglen

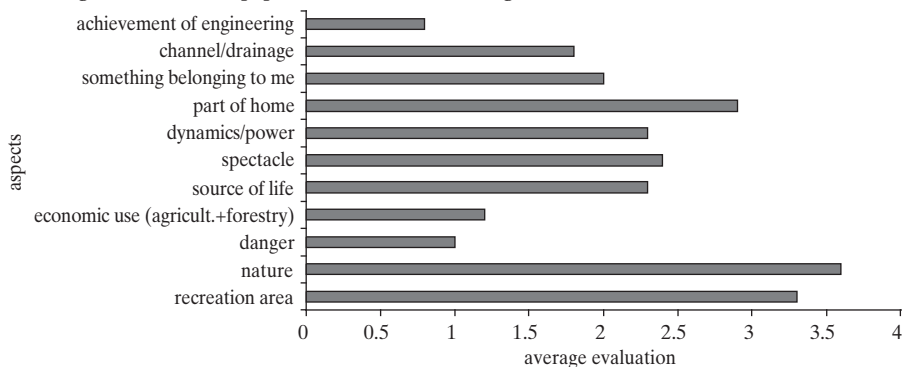


Fig. 5. The meaning of the river Thur as expressed by representants of the regional interest groups directly involved in the decision making process (upper graph) and by the local public (lower graph) (Junker and Buchecker in press).

of interest groups. These results can be interpreted as follows: For the latter the river appears to be at the same time a utility good and a place of private retreat which however has to be achieved by subjugating nature (“danger”, “achievement”). For the wider public the river is almost exclusively a place of private retreat and security which should be conserved. Interestingly, however, for both groups the collective reference to the river is stronger than the individual one (“my (collective) home” > “part of myself”).

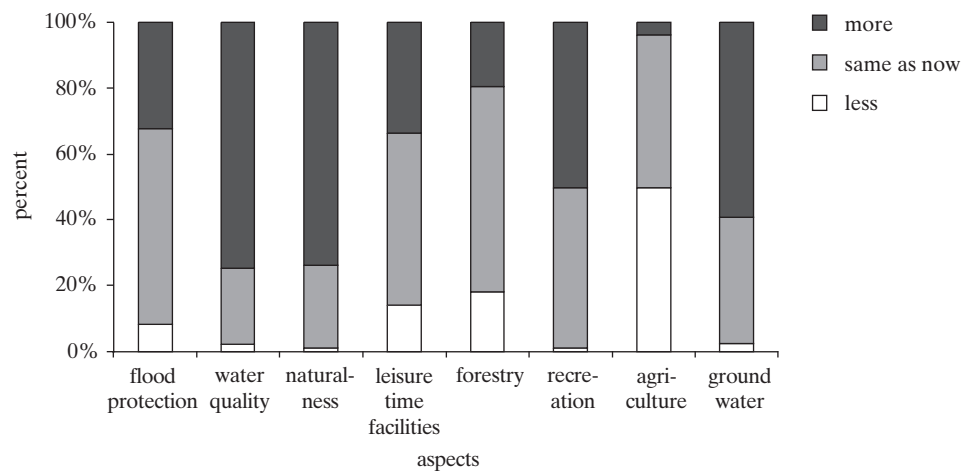
When we consider the ratings of the two groups by drawing on the value concepts by Schwartz and Taylor, we come to the following interpretations: The high rating of the river meanings “naturalness” and “recreation” are strong indicators that the value categories **universalism** (“naturalness”) and **self-direction** (“recreation”, also “part of mine”) of Schwartz’s value concept seem to be important for both groups’ judgements. The meaning “economic use” highly rated by the interest group can best be assigned to the value categories **security** and **power**, which are to some degree also relevant for the wider public (“part of home”, “danger”). In any case, the value-orientation **self-enhancement** proved to be least relevant for both groups. According to Taylor’s terminology, expressive (“naturalness”, “part of me”), common life (“my home”) and utilitarian values (“economic use”, “recreation”, “achievement”) stand in the foreground for both groups, whereas older value orientations (hero ethics, disengaged rationality, asceticism) seem to be irrelevant. So according to both value concepts, both groups seem to refer to more or less the same value categories. The two groups differ in the weighing of these values, but we see no principal differences in the role of their value systems, for also the interest group referred to non-purpose-oriented values. Here we have to point to the methodical limitations of these interpretations: As the members of both groups could only choose from a given set of answers – a general feature in standardised surveys – we do not know about any group differences of values that were not presented in the answer options.

Aspects to be improved by river revitalisation

To answer this question, the respondents had to rate the importance of a given set of aspects relevant to revitalisation (Fig. 6). Here the two groups agreed only in the rating of one answer option, the importance of “flood protection” which they both rated astonishingly low. The options “water quality” and “groundwater” were ranked slightly higher by the members of the interest groups. Large differences were found for the options “recreation” and especially “naturalness”, much more preferred by the wider public, and the aspect “agriculture”, which according to the wider public should be regarded as less important than according to the interest groups’ view. Interestingly, the opposite tendency could be observed with the aspect forestry, which is probably seen by both groups as close to nature conservation and thus less profit-oriented. In contrast to the perception of the river’s meaning, here the members of the interest groups seem to react predominantly in their role as purpose-oriented users.

When we consider the results again by combining them with the value concepts of Schwartz and Taylor, we can interpret them in a more differentiated way. According to Schwartz’s value concept the members of interest groups mainly referred to the value category security (“water quality”, “groundwater”, “agriculture”), whereas the wider public favoured the categories **self-direction** (“recreation”, “leisure”) and **universalism** (“naturalness”, “forestry”). This seems to confirm the principal differences of the two groups in valuing landscape measures: they mainly relate to values of different value-orientations (self-transcendence vs. conservation). Interestingly, however, from this perspective the members of the interest groups appear to be mainly oriented towards the collective interests,

Perceived need of action: population of Weinfelden/Bürglen



Perceived need of action: involved stakeholders project Weinfelden/Bürglen

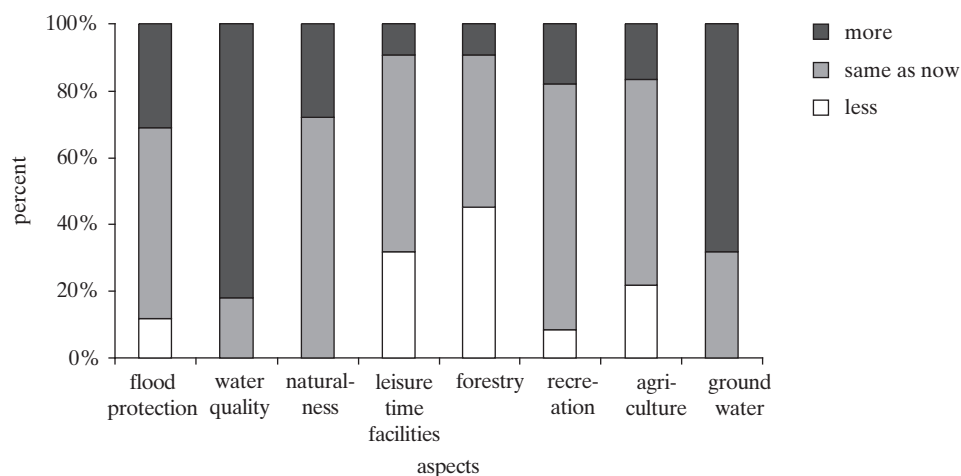


Fig. 6. The importance of aspects to be improved by the river revitalisation of the river Thur ranked by the representants of the regional interest groups directly involved in the decision making process and by the local public (Junker and Buchecker in press).

whereas the wider public is more concerned about their personal needs. Interpretations point to a similar direction when we apply Taylor's value concept: Most of the aspects favoured by the interest groups can be attributed to the ideal "common life" in Taylor's terminology, whereas the ones most preferred by the wider public rather belong to the ideal of "expression" and "utilitarianism". So the members of the interest group do not relate to purely purpose-oriented values typical for system-world situations, but rather to traditional (collective) lifeworld-oriented values.

Local landscape projects and values

The members of the interest groups directly involved in the decision making process of the river revitalisation project and the wider public showed much more similar ratings when asked about the river's meanings than when their favoured objectives of the project were addressed. These results suggested that the members of interest groups seem to perceive existing landscape elements more in their role as life-world-oriented residents, whereas they react to imminent landscape changes more as economy-oriented users. These vague interpretations could be sharpened considerably by re-analysing the groups' ratings on the background of the value concepts by Schwartz and Taylor. The use of both value concepts confirmed that both groups refer to the same value categories when they perceive the river whereas they show distinctly different value-orientations when they have to judge the importance of project objectives. Interestingly, however, the interest group do not shut out their life-world values and only admit their purpose-oriented values, but rather (over-) activate more existential values. The wider public, in return, focus more than expected on their individual needs, neglecting to a certain degree the needs of the whole community such as water quality or flood protection. So the observed differences between the two groups concerning the valuation of project objectives cannot be explained with the antagonism between a typical life-world and system-world behaviour, but has rather to be ascribed to a differentiation between a modern life-world view (individual well-being) adopted by the wider public and a traditional life-world view (collective well-being) by the interest groups. As the study took place in a rather rural context (although a small city was included) these interpretations certainly have to be limited to rural contexts.

Study 2: Value Differences between Locals and Tourists

Perceived qualities of Alpine places

The objective of this study was to examine how locals and tourists in Alvaneu, an Alpine community in Eastern Switzerland, perceive the landscape and its development. The inquiry took the form of a qualitative interview study within which two groups of "theoretically" sampled (Glaser and Strauss 1967) persons were consulted: representatives of the main residential groups and representatives of the region's diverse tourist segments.

The content analysis (Mayring 2000) of the interviews revealed that locals and tourists seem to ascribe quasi the same qualities to the place. Fundamental for both groups were: *quietness, secluded and simultaneously central location, intact landscape, typical architecture, cultural heritage, clear village structure, intact village community, special geographical features, diverse nature, and the mountains*. Furthermore, the analysis of the significance of these fundamental place qualities for each group showed, that for the locals the village community comes on top, whereas for the tourists the physical landscape and village features are of much higher importance.

However, an in-depth analysis of the values standing behind the interviewees' statements revealed basic differences between the ideals of the locals and tourists. For the identification of their different value systems and hierarchies the motivational types suggested by Schwartz and Taylor's pool of (culture specific) "ideas of a good" life prove to be a very useful – if not indispensable – tool. Below, value differences will be illustrated by focussing on two qualities of the place, i.e. (1) *intact landscape and diverse nature* and (2) *view of the place and cultural heritage*.

Intact landscape and diverse nature

The majority of representatives of both groups characterised Alvaneu as a “unique” place. They justified this with the place’s intact landscape and richness of natural features. However, the attribute “intact” turned out to be used ambiguously, on the one hand referring to the well-kept landscape and on the other hand to wild and untouched parts. Still, the values found behind the perception of landscape and nature of locals and tourists were incongruous:

The locals seem to be very proud of their “pristine place”, as they call it. With the emphasis on the intact and diverse qualities of the place the locals primarily tried to distinguish their place – and thus themselves – from rather urban places and those cultures. Their positive view of the place’s uniqueness was not even overshadowed by its deficiencies in infrastructure and comparably difficult economic situation. Thus, the unspoilt character of their place in comparison to other (urban) places was valued higher than qualities related to the means of existence: To have “more green space” and an “undamaged nature” is more important, than to have all the infrastructure that is available in cities. Also, they are convinced that their place is attractive for recreation seekers (outsiders). According to this, these qualities are closely linked to the local’s feelings of social belonging and their view of the character of their own group and thus their group identity. According to Schwartz’s motivational types these qualities address **security** (intact environment) and **achievement** (pristine place), however not on an individual level, but in a collective sense as a social group. From Taylor’s culture-historical perspective the assessed need for distinction can be related to the centuries of resistance against urban expansion in rural areas. It can also be seen as resulting from the locals’ adoption of the widespread nostalgic (urban) ideal of unspoilt Alpine nature and culture, which the locals needed in a self-reflexive sense to positively distinguish their social identity from the economically superior urbanized parts of the country.

In the case of the tourists, the attribution of the characteristics intactness and diversity also served as a means of distinction. But their fascination of the place primarily emanates from the numerous possibilities for individual recreation and adventure there, in contrast to the situation in their everyday world. They particularly like the fact that they can “just step out into nature” and “feel close to nature”. Also important to them is the fact that the landscape appears to be partly “untouched by humans” and thus “still wild”. They appreciate the high (ecological) variety and possibilities of unrestricted exploration and discovery that the local landscape offers. Thus, they named these characteristics to distinguish their stay in the place on the one hand from the hustle and bustle and on the other hand from the monotony of their everyday lives. Therefore, their statements reveal particular individual needs related to deficits in their everyday life world. Referring to Schwartz’ concept (see Fig. 4), the value types **self-direction** (unrestricted exploration of the environment), **universalism** (closeness to nature) and **stimulation** (ecological variety, possibilities of discovery) stand here in the foreground. Viewed from Taylor’s culture-historical perspective (Tab. 1), these needs can be attributed to the outsiders’ utilitarian ideals (landscape as object of utility for outdoor activities) but also to romantic-expressive ideals (outdoor activities as a way to achieve a unity with nature). Furthermore, naturalistic ideals (ecological variety) are contained.

Thus, the locals address markers of their group identity with these characteristics, while the tourists primarily refer to their personal compensation needs.

View of the place (local scenery) and cultural heritage

Both, the local people as well as the tourists for the most part really enjoyed “the village as such”. Decisive for this liking was the fact that the village still has a traditional structure, with an old centre and a couple of “typical” elements of cultural heritage (e.g. old farmhouses, stables, wells, baking and washing houses [*pastregls*] and a church as well as chapel). But again, an in-depth analysis revealed value differences between the two groups:

For the locals it is important that built landscape elements “suit the place” in the sense that they fulfil a particular purpose. Thereby, the function of an element mostly seems to outweigh its appearance. The purpose of a building is judged on the basis of how well it serves the place and the local community as a whole. The appearance in turn, is determined by the local building regulations, which in Alvaneu demand a steep roof, particular size, orientation, and material (timber and stone). Furthermore essential for the locals is that appearance and function of built landscape elements correspond with each other. Alterations of old buildings and the construction of new buildings are, however, not considered as a threat, but as absolutely adequate and necessary innovations. Such changes demonstrate that the place undergoes a developmental process and does not stagnate. Still, elements of (built) local cultural heritage are generally appreciated, but only if they are well kept and still used. If not, they represent decay, which is completely undesirable for the two locals. However, generally most important is, that the beautiful view of the place is not being ruined through any kind of developments of the built landscape. The locals’ emphasis on the settlement structure and cultural heritage can be brought in connection with Schwartz’s value-types **security** (not ruined view of the place), **conformity** (correspondence of appearance and function) and **tradition** (continuity of the local architectural style, preservation of cultural heritage). However, Schwartz’s value concept does not adequately explain the purpose-orientation of the locals; value categories such as functional (between hedonistic and achievement) and autonomy (between security and power) seem to be lacking in this concept. From Taylor’s point of view these characteristics relate to the ideal of everyday life, particularly in a collective sense, i.e. a village successfully struggling for its existence. Built elements are viewed as positive, if they express a strong social cohesion (observed rules, uniform style, shared past) crucial for survival and indicate a prosperous (self-determined) development (conservation of cultural heritage, local innovations).

In contrast, the tourists are mostly very strict in their judgement on whether built elements suit a place or not. In their descriptions of the place, tourists predominantly spoke about nostalgic motives and thereby expressed demands like “a traditional village structure” with “a clear centre” and “a church in the centre”. Thus, for them it is predominantly the appearance of an element that matters. For example, many of them consider new large chalets to be disturbing, and some of them even generally dislike new buildings. The tourists particularly appreciate those built elements, which correspond with their image of an authentic mountain village. As far as the function is concerned, they generally approve of buildings if they are directly of personal use to them – or, if they at least do not get in the way of their needs. Therefore, the statements of the tourists about the “building structure” and “cultural heritage” also reveal Schwartz’s value types **security** (clear village structure) and **tradition** (elements of authentic Alpine culture) however, in a much more abstract sense, i.e. closer to the value type **universalism**. The widespread desire among tourists for nostalgic features is also expressed in a nearly religious desire for a clear order and thus more sense of life. According to Taylor’s approach, the tourist’s view can be ascribed to the romantic ideal which is characterised on the one hand by being against progress (nostalgia) and on the other hand by its reverence to self-expression (authenticity).

To sum up, the locals address life-world ideals in a very basic sense, whereas the tourists reveal idealistic and ideological values and are looking for a good life far beyond their everyday life.

Tourist places and values

For the most part the residents and tourists of Alvaneu share their view about the most important qualities of the place. Consequently, their conflict potential regarding the development of the place seems rather marginal at first sight. But even though most of the named qualities are connected, the analysis revealed considerable differences in the values between these judgements of insiders and outsiders. According to Schwartz's value concept, for the local residents the value types **tradition**, **benevolence** and **security** stand in the foreground. For the tourists the value types **self-direction** and **universalism** are the most significant ones for their valuation of their tourist place. The value types **stimulation** and **hedonism** (individual recreation and pleasure) are only addressed by tourists – even if they are only of marginal importance. To summarize, the large basis of shared values originating from the same cultural sources indicates a good potential for a mutual understanding. The strong position of values, which could be labelled as “conservative” in the locals' value systems apparently stands in opposition to the values signifying self-transcendence (self-direction, universalism) prevailing with tourists. From this perspective, the potential of conflicts between locals and tourists appears to be considerable.

From the point of view of Taylor's value concept the values shaping the tourists' appreciation of the place can mainly be assigned to romantic ideals and to a lesser degree to utilitarian and rational ideals. For the locals' valuations of their place, Taylor's value categories do not match very well. Certainly his most appropriate category for the locals' judgements is the ideal of the common life. But the locals' ideals of a good life seem to incorporate characteristics not necessarily associated with that ideal such as conformity and social coherence which originate from historical experiences of rural culture. It seems that Taylor's value hierarchy is specific to an urban society and not appropriate for an examination of a rural community, a well known problem which goes back to the distinction between society (*Gesellschaft*) and community (*Gemeinschaft*) made by Tönnies in 1887 (1988). From a rural cultural-historical perspective the locals' values could be related to the feudal system in which the village community was collectively responsible for delivering the taxes, so that mutual control (conformity) as well as mutual help (coherence) was existential. Pfister (1997), however, argues that conservative circles artificially generated the ideal of rural harmony in early modernity in order to promote their anti-socialist ideology. This raises the question whether the rural ideals have developed as a counter-culture to the urban culture, or whether they are part of an urban (anti-progressive) culture integrated into the rural culture.

But also this culture-historical perspective based on Taylor's value concept reveals, that the criteria seemingly shared by locals and tourists can be traced back to ideals of completely different origin. These ascertained differences between the two groups' value systems are likely to raise to the surface in discussions about the future landscape development and contain quite a potential for conflicts of interests.

Insights into the Role of Value Systems for Human-landscape Interactions

Within the theories of value research there is a consensus that:

- the values serve people as criteria in order to choose between alternatives/opportunities of action as well as to judge persons and events;

- the value systems of people of the same cultural background include the same value categories;
- the weighing of the values respectively their hierarchical order in the value systems is group-specific as well as individually different and – thus (values are) a constitutive element of individual and group identities;
- the societal priorities of values and the group of shared values (also new values) can alter in the course of societal changes and developments;
- the value systems of persons can turn out to be distinct in different (role) situations.

The analysis of the empirical data illustrated in more detail in which way different (role) situations (of people) influence the values underlying the perception of landscapes as well as the attitudes towards landscape changes. It became apparent that local residents in situations of personal economic interest (system-world situation) and local residents in situations of pure residential interests (life-world situation) in fact share most of the values in their value systems. In the rating of the meanings attributed to the river landscape by these two groups, both groups related to the same value categories. And among the aspects to be improved by the river revitalisation, the members of the interest groups proved to be even more concerned about collective needs and security than the other residents. So, the content of people's value systems does not alter in different situations; the only thing that changes is the hierarchical positions of particular values. Members of interest groups do not base their land-use decisions purely on purpose-oriented values; though at least in rural contexts they might prefer traditional (collective-oriented) values to modern (individual-oriented) values.

The picture that emerged from the comparison between people in residential situations (life world) and people in tourist situations (system world) is slightly different: Both groups seem to value the landscape on the basis of nearly the same criteria, often even using the same wording in their judgements. But a closer examination revealed that locals and tourists associated the same criteria with different meanings and with values that partly even belong to opposite value orientations (Fig. 5). These differences are certainly related to the fact that for the tourists the landscape has primarily a recreational function. In contrast, the function of social integration, which the landscape typically has for people in life-world situations is supposed to be only marginally important to them. From this point of view the broad congruence of the criteria underlying the two groups' perceptions of the landscape is really surprising. Strikingly, social integration seems to be to some extent an issue for the tourists whose actual socio-cultural groups exist far from the places where they seek recreation, i.e. they also seem to be partly in a life-world situation, although an imagined one (nostalgia, no real integration intended). The differences in the value orientations and value systems relevant for locals' and tourists' perceptions of Alpine landscapes are partly due to the different character of their need for integration, but partly also due to the different socio-cultural background, i.e. the differences are caused by a mixture of situational and cultural factors.

According to the societal theories by Weber, Parsons and Habermas, the value systems of individuals are not necessarily in all situations drivers or rather regulators of their interaction with the environment. For example in affective or existential situations, people's reactions often contradict their value systems. Most of the landscape-relevant interactions, however, take place in contexts where the value systems are supposed to be highly relevant and thus represent so-called purpose or value oriented actions. As our case studies illustrated, value systems are in fact powerful drivers for landscape perception. Purpose-oriented values (related to the economic use of the landscape) not belonging to the value system in Taylor's sense also play an important role, although not a dominant one. In situations, however, where decisions for landscape management are made, these "non-genuine" utilitarian values become more dominant, at least among the interest groups. The wider public does not modify