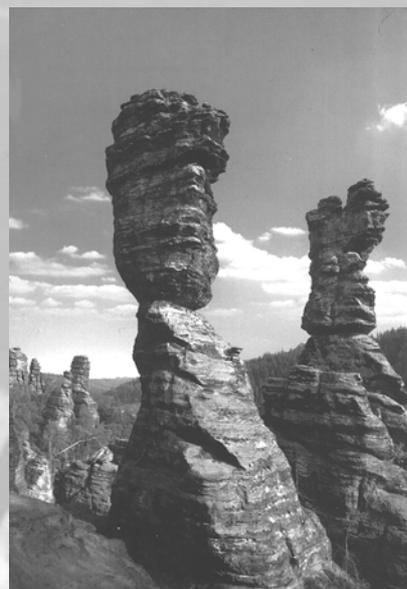




Basic Interpretive Skills

The Course Manual



I'll interpret the rocks,
learn the language of flood,
storm and the avalanche.
I'll acquaint myself
with the glaciers and wild gardens and
get as near to the heart of the world as I can.

JOHN MUIR, 1871



Project carried out with the support
of the European Community
within the framework of the
Leonardo da Vinci Programme

This document does not necessarily represent the Commission's official position.



Pilot Training Course No. 4

Basic Interpretive Skills

The Course Manual

Thorsten Ludwig

Bildungswerk interpretation
Werleshausen (Germany), 2003



Table of Contents

Acknowledgements

About the Author

Project TOPAS

Information Sheets

- 1 The Roots of Heritage Interpretation
- 2 Wilderness Interpretation
- 3 Living History – the Interpretation of Cultural Resources
- 4 Personal Perception
- 5 The Two Sides of the Brain
- 6 Hierarchy of Human Needs
- 7 Values and Value Rectangles
- 8 Basic Questions of Motivation
- 9 The Iceberg Model of Communication
- 10 The Communication Rectangle
- 11 Theme-centred Interaction
- 12 The Interpretive Triangle
- 13 About the Significance of the Phenomena
- 14 Responding to the Visitor
- 15 Our Role in Personal Interpretation
- 16 Remembering Facts by Mind Mapping
- 17 Incorporating Props and Auxiliary Techniques
- 18 Via the Theme to an Interpretive Talk
- 19 Via the Theme Line to an Interpretive Walk
- 20 Roving Interpretation within a Theme Circle
- 21 Roving Interpretation and Off-Site Interpretation
- 22 The Arrangement of Interpretive Walks
- 23 The Use of Wayside Exhibits
- 24 Writing Texts for Interpretive Panels
- 25 Design and Placement of Interpretive Panels
- 26 Interactive Elements in Different Trail Types
- 27 The Structure of an Interpretive Trail
- 28 Planning an Interpretive Trail
- 29 Interpretive Trail or Interpretive Area?
- 30 Planning Small Visitor Centres
- 31 Exhibit Design
- 32 Target Group Specific Programmes
- 33 Advantages and Disadvantages of Programming
- 34 Deployment of Counselors in Programmes
- 35 Training of Counselors in the Educational Sector
- 36 Heritage Interpretation as per Agenda 21



Work Sheets

- W1 We Develop an Interpretive Talk
- W2 We Develop an Interpretive Walk
- W3 We Accompany an Interpretive Walk
- W4 We Develop a Text Panel
- W5 We Develop an Interpretive Trail

Appendices

- L Links and Literature
- A1 „I'll interpret the rocks..." (John Muir, 1871)
- A2 Definitions and Principles of Heritage Interpretation
- A3 Personal Attributes of an Interpreter
- A4 PAUL RISK: Educating for Interpreter Excellence
- A5 Interpretive Services
- A6 Structuring an Interpretive Walk with the Help of Theme Cards
- A7 A Panel Text (Example)
- A8 Greenwood Gorge Interpretive Trail (Example)
- A9 Dipper's Tavern Information Centre (Example)
- A10 Programme Development
- A11 Idea Sheet with an Example for an Environmental Education Programme
- A12 A Playful Round Dance: The Song of Little Minimum
- A13 „Good Examples“ of Education for Sustainable Development
- A14 Quotations
- A15 Dictionary Heritage Interpretation (English-German)

Acknowledgements

For their suggestions and encouragement with the realisation of the course I thank CLELIA CAPRIOLI, the representative of the TOPAS development partner *Istituto Pangea* (Italy) and FRIEDHART KNOLLE, the representative of the TOPAS testing partner Harz National Park (Germany), whose engagement also led to the translation of this manual.

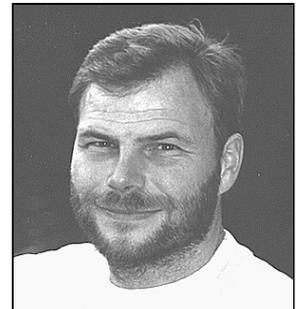
This translation from German into English was carried out by HOLLY PANKOW (Germany) in limited time, yet conscientiously. As an experienced tour guide she was also a valuable correspondent and able to bring many things to a succinct point.

My special thanks go, finally, to Prof. Sam Ham, Ph.D., of the University of Idaho (USA), who reviewed and proofread the final translation.

About the Author

Thorsten Ludwig, born in 1963 in Frankfurt/Main, studied archaeology at the Goethe University in Frankfurt and the Philipps University in Marburg. From this basis he organised and carried out a large number of living history programmes and wilderness-centred outdoor trainings.

After learning of the national park philosophy he became acquainted with the concept of heritage interpretation. During study trips in the USA he visited more than 100 facilities working under this concept. He took part in courses conducted by Sam Ham as well as by Steve Van Matre and Joseph Cornell and brought the knowledge gained into conjunction with his own experiences – as in the planning and realisation of interpretive dives in the Ras Mohamed National Park (Egypt). In 1999 he was certified as an interpretive trainer by the National Association for Interpretation (USA).



Following the German reunification in 1990 Thorsten Ludwig lived and worked for ten years in the eastern part of Germany. There he established the educational facilities of the Saxon Switzerland National Park. Many of the practical examples in this manual are based on the experience he acquired there.

In 1993 Thorsten Ludwig founded the *Bildungswerk interpretation* (Institute for Heritage Interpretation) which is active in the fields of interpretive training, planning and consulting. He is a member of the European Network for Heritage Interpretation and on the board of directors of the German Association for Environmental Education (ANU).



Project TOPAS

The five day course “Basic Interpretive Skills” took place in Germany in May 2003. It was funded by the European Union as part of the LEONARDO II project TOPAS.

The aim of the project

TOPAS (Training of Protected Area Staff) started in 2001. The aim of the twenty partners from nine countries was to set European standards for the training of staff in protected areas. The idea: one developing partner from one country develops a training course which is then tested by a testing partner from another country.

Seven five day courses were designed – “Basic Interpretive Skills” being one of them.



Course members are developing an interpretive walk

The course was realized by Bildungswerk interpretation (Germany). The developing partner was Istituto Pangea (Italy), and the testing partner Harz National Park (Germany). The training centre was the International House Sonnenberg (Germany), which also managed TOPAS, and which was specialised in the organisation of international projects.

The contents of the course

One week is only a short period of time. On the one hand, the imparting of at least some theory about creativity and communication should be part of the curriculum. On the other hand, the interpretive skills taught during the course need to end in whole projects, developed by working groups. All this takes time and to be able to manage all the various topics, it was decided that the focus of the course should be personal interpretation.

Nevertheless the testing group, consisting of rangers, seasonals and volunteers from different German national parks, a representative of the International Ranger Federation from the UK, and team members from Harz National Park and Istituto Pangea, had to work through a full programme, using all forms of media and modern methods of training. Each day, participants were asked to consider the day’s training and complete an evaluation form in favour of a modification of the curriculum structure.



The pilot group has successfully finished the course

The outcome

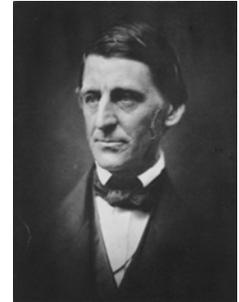
According to the statements of the participants, the course was very successful, although an extension of one or even two weeks would have been welcome. Following the evaluation, the partners worked on the final version of the curriculum, which was presented in autumn 2003.

The final certification of the course will be carried out by the Centre for European Protected Area Research CEPAR (University of London).

The Roots of Heritage Interpretation

Interpretation is an international concept of information and education originating in the national parks of the USA.

The roots of this concept go back to the middle of the 19th century. At that time RALPH WALDO EMERSON (⇒) founded the "Transcendental Club" (*transcendere*: lat. for 'reaching beyond') in Boston on the east coast of the USA, which dealt with one's immediate relationship to nature. One of the most well-known representatives of this club (which provided the basis for the film "Dead Poets Society") was HENRY DAVID THOREAU (⇐). To prove the effectiveness of living close to nature, THOREAU withdrew into a hut in the woods for two



1

years. This practice-oriented approach "learning by doing" is typical for the nature conservation movement in the USA. The immediate contact with largely untouched nature played an important role from the beginning.



In the North American west coast it was JOHN MUIR (⇐), one of the most important nature conservationists of the USA, who - through his own personal friendship with President THEODORE ROOSEVELT - propelled the national park concept. He inspired the founding of the Yosemite National Park and the Sierra Club, and used the term "interpretation" to describe the immediate experiencing of nature for the first time in 1871 (see: A1).

Another advocate of the practical approach was ENOS MILLS (⇒). Toward the end of the 19th century MILLS, as a young man, moved into the Rocky Mountains where he spent his life living in a hut. He contributed to the establishment of the Rocky Mountain National Park and guided visitors through the mountains from 1901 on. In his "Trail School" he trained men and women to be nature guides. MILLS used essential elements of modern interpretation. Due to his brash individualism, however, he was not able to achieve acceptance of his line of approach when the National Park Service (NPS) was founded in 1916.



The Service advocated his information and education methods from the beginning but took a different approach to the execution - looking to European models - at first. Within the NPS a "Park Naturalist Service" was established. Its success, however, depended singularly upon the interest and ability of the individual ranger. Since 1940 the information and education work in nature preservation areas of the USA has been officially entitled "park interpretation". But it was only in 1957, with the publication of FREEMAN TILDEN's (⇒) book "Interpreting Our Heritage", that some principles (see: A2) were suggested and a philosophical basis was established. In the 1960's interpretation became a separate division in the NPS.



Today in the USA about 5000 full time interpreters work for greatly varied institutions. Beyond that, interpretation is widespread in Central and South America, Canada, Australia, New Zealand, some parts of Asia, and Great Britain.

Wilderness Interpretation

According to which topics and phenomena are being focussed upon, heritage interpretation is divided into different spheres. The two major fields are natural and cultural interpretation. Many of the divisions overlap each other. Landscape interpretation, for example, belongs to both fields, whereby one of its subdivisions, wilderness interpretation, clearly belongs to the interpretation of natural resources.

Basically wilderness interpretation is the most original area of heritage interpretation (see: 1). The concept relates to natural landscapes as they are found in the national parks or in particular wilderness areas. The duty of these national parks and wilderness areas is the protection of natural processes; motto: "let nature be nature".

Just as in the basics of interpretation, the goal of the wilderness interpretation concept is for the visitor to perceive the importance of this commitment for him- or herself. Wilderness interpretation not only points out ecological processes, which we humans understand, but it reveals the importance of the misunderstood in its polarity to manmade patterns and so makes the necessity of a balance between wilderness and civilisation perceptible. Wilderness areas are creative spaces of nature. – But to what extent is this knowledge relevant for the visitor?

The tension between obvious order and seeming chaos is not only external, non-personal, but also internal, personal. It influences our human behaviour - and that ever so much more in proportion to the degree to which society frees itself from rules and traditions and to which more competence is thereby transferred to the individual.

Creativity, flexibility and dynamic in one's way of life are increasingly becoming key qualifications in western civilisation. Practising flexibility, however, means knowingly exposing oneself to chaos. Wild nature is two-sided. On one hand is our fear of the unknown, on the other curiosity. Wilderness interpretation makes this and other connections clear and inspires reflection.

The present currents in society are not, however, the only point which makes wilderness interpretation in the national parks a timely subject. Interpretation joins in the commitment to conserve our natural heritage for future generations - and here, too, wilderness interpretation makes its contribution. It is not the duty of interpreters to evaluate developments in society. But it must be the duty of interpreters to renounce thoughtless consume-oriented individualism.

The European Network for Heritage Interpretation has, for this reason, recently affirmed the principle of enduring sustainability. A future oriented development rests on two supporting pillars: a more effective use of raw materials (efficiency) and the reduction of individual demands on nature and the environment (sufficiency). The second support has been difficult to locate up to now. In order to rediscover a healthy balance, organisations are required which are free from the constraints of economic use, and which have inscribed exactly this freedom on their banners – organisations such as our national parks.

Wilderness interpretation cannot now let this opportunity be destroyed by consumer demands. The healing nature of idleness must be experienced by the visitors on their own - and it must be brought into a future-responsible relationship in their only daily lives.



Living History – Interpretation of Cultural Resources

Next to nature interpretation, to which for example wilderness interpretation (see: 2) belongs, another main area of interpretation is the interpretation of cultural resources. That means the interpretation of man-made or man-influenced phenomena. The objects can be cities (urban interpretation) and cultural landscapes as well as archaeological sites and open air museums. All of these places offer possibilities to let history come alive. But strictly speaking every single individual man-made cultural object is a cultural phenomenon.

Cultural interpretation is often not easy to separate from the interpretation of natural resources. In most cases in Central Europe landscape interpretation and coastal interpretation include both areas. Both deal with closed landscape spaces which the visitor - according to the German Professors of Biology WILFRIED JANSSEN (Bildungswissenschaftliche Hochschule Flensburg) and GERHARD TROMMER (Goethe University Frankfurt/Main) - can approach through differing fields of interpretation. School farms, too, in which experiencing the life on a farm through participation plays an essential role, are cultural places which lie on this dividing line.

A major area of the interpretation of cultural resources is called “living history”. In it a connection between the visitor and an historic epoch is constructed via a cultural phenomenon. The epoch or a particular event comes to life for the visitor without losing its relationship to the facts. The “discoverer” of this approach is considered to be the Dane ARTUR HAZELIUS who, at the end of the 19th century, initiated, among other things, the Stockholm Open Air Museum at Skansen. In 1898 he wrote, “We want to show the life of the everyday person in a living manner” and brought craftsmen and artists into the museum. This point of departure was widely copied, especially in the USA. Soon afterwards the open air museum Colonial Williamsburg employed an entire corps of actors and actresses to simulate the life and work in the many houses and shops in the town. FREEMAN TILDEN wrote that architecture and furnishings were plentiful, could be admired and conclusions drawn from them, but they needed to be freed so that they appeared as though they were frozen in the moment in which no one was at home.

In personal interpretation the interpreter wears the clothing of the epoch and plays the role of a everyday person who uses the objects of day to day living. If s/he describes his or her apparel from today’s viewpoint to the visitors, it is done in the form of a third-person interpretation.

More difficult is the first-person interpretation in which the interpreter re-enacts the role of a person. Authentic presentation of speech, manners and perception demands a good deal of research and theatrical skill. The advantage of this role-playing is: a real picture of life in an epoch is produced without the visitor being aware of absorbing information. Through the re-enactment of historic battles in the entertainment industry - as in old Rome - this form has become a bit tainted.

In Europe the living history approach is widespread in some countries like Great Britain, Danmark and the Netherlands. Other countries refused to adopt this approach for a long time. In Germany e.g. the scientific aspect is always taken very seriously; for fear of inaccuracy re-enactments do not, as a matter of principle, take place. Today “medieval markets” fill this gap - often with questionable authenticity.



Personal Perception

In order to better understand the interpretive communication process it is advantageous to know some things about personal perception.

It is a combination of the perception of things going on **externally** (through the senses), of things going on **internally** (through feelings) and the perception of things going on **mentally** (through thought processes). Generally in perceptive concepts it is assumed that a mental analysis has taken place.

Perception is always connected to the individual person who, in a concrete situation and under the aspect of his or her actual needs, becomes cognisant of something. There is no such thing as objective perception.

Perception is therefore a selective process (selection principle) and/or a productive process (projection principle).

- ⇒ **Selective** means: the individual's readiness to take something in depends upon his being adequately motivated - because of being sensitised to it or having previous knowledge of it.
- ⇒ **Productive** means: the individual expands his impressions through his experience or according to his prejudices.

Both principles (or "perceptivity traps") lead to human perception being manipulatable.

The process of taking something in is determined in general by three attitudes: the **perception** attitude, the **information** attitude and the **verification** attitude.

The people with whom we converse meet us with a particular perception attitude, during the information attitude they gather what is offered to them and in the verification attitude they check whether that which has been offered meets their expectations. In order to initiate a communication process between the visitors of our sites and us we must first begin at their perception attitude. While doing so their perception horizon – through their senses, feelings and thoughts - must also be extended to enable them to have easier access to the site.

The atmosphere in which the exchange takes place is decisive in determining the willingness to perceive.

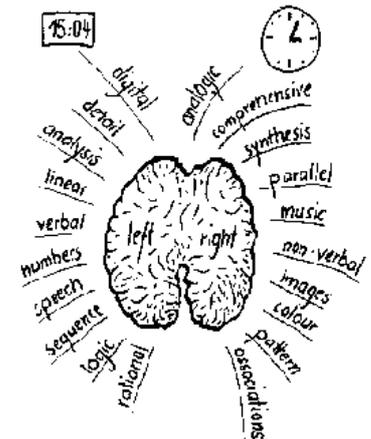
"As important as it is that the learning process be independent of unpleasant accompanying experiences, it is also equally important that learning be coupled with good and pleasant experiences. This further reduces the flow of stress hormones by the adrenal gland and in the brain and only in this way can the individually existing associative possibilities be used to the fullest extent for thinking and learning. It is actually even a double effect: later when the information stored in this way is recalled the pleasure, the fun, the enthusiasm will also be brought to mind again... Pleasant things can be more easily processed mentally and more completely recalled than those which are connected with frustration and stress", explains Professor FEDERIC VESTER of the University of Munich, who did extensive studies on thinking, learning, and forgetting (see: VESTER, 1991; p.125).

In contrast, unpleasant perceptions are often anchored in warn reflexes which frighten one away from nearing the object involved.

The Two Sides of the Brain

When dealing with human perception we often discover that there are people who perceive their environment more from “feeling” and act accordingly. Other people, in contrast, reserve the right to deal with it “with understanding” and justify their behaviour accordingly. In fact there is no one who can make his decisions using only his “head” or his “heart” - because the human brain has two halves and each of these halves is especially suitable for a specific manner of approach.

The right side of the brain is particularly good at storing images and colours, rhythms, melodies, and stories. It seeks forms which it already knows or which are similar and manages - seemingly “without thinking” - to immediately instigate a reaction upon recognition of a symbol (for example a warning signal). While doing this many processes run subconsciously and simultaneously in our heads. If we compare the right side of our brain to the face of a clock, then it is an analogue clock face. Because the brain halves are cross-connected with the rest of the body, the right side of the brain steers the left side of the body and the left-hand field of vision.



The left side of the brain is aligned entirely differently. It enables us to speak, to read and write, to deal with numbers, and to analyse and order things from the standpoint of logic. It follows - slowly but surely - one single line of thought. We are fully aware of what occurs and therefore can uncover mistakes in our reasoning relatively easily. If we compare the left half of the brain to the face of a clock, then it is certainly a digital clock face.

That the left side of the brain steers the right half of the body and the right-hand field of vision is easy enough to see.

The graphic above is taken from the book “Mind Mapping” by MARGIT HERTLEIN. If we look at the two segments which represent the digital and the analogue halves of the brain and ask ourselves which viewpoint has the predominate influence on society at present, the answer is not difficult: it is the digital one. Beginning at the school level the subjects which enable us to think logically are the more highly valued ones. It has not always been that way in all cultures. And it must not necessarily mean that this heavier emphasis on the left side of the brain is more apt to contribute to solving the present problems of humanity.

It has been proven that it does not mean - and this is important in relationship to the understanding of human communication - that people will accept and actively implement things better when they are, from a purely rational standpoint, “actually logical”.

One interesting thesis is that rational action is more masculine and intuitive action is more feminine. Is our society therefore more highly influenced by the masculine? What could be done to achieve more harmony?

We cannot follow this line of thought here. But the fact to be kept in mind is that the awareness of the differences in the two halves of the brain is bound to have far-reaching effects on how we communicate.



Hierarchy of Human Needs

In dealing with people who are not forced to communicate with us our only chance of instigating action is to take their human needs into consideration. These needs were first defined and grouped in hierarchical order in 1954 by one of the pioneers of humanistic psychology, ABRAHAM MASLOW. The results, which MASLOW published in his book "Toward a Psychology of Being" in 1973, led to controversial discussions in nature and environmental education in the 1990's.

V. seeking self-actualisation	applying one's possibilities	V
IV. seeking esteem/individuality	a) dignity, status b) self-esteem	IV
III. seeking nurturing and love	belonging, giving and taking	III
II. seeking security	structure, stability, order	II
I. physiological needs	sleep, thirst, hunger, sex	I

These five categories of need can be - highly simplified - graphically illustrated as a pyramid. A sixth group, with no hierarchic order, MASLOW named aesthetic needs.

According to MASLOW the needs of the higher level are only awakened when the needs of the immediately preceding lower order have been met. A need which has been satisfied no longer motivates. "One has to consider it practically non-existent, as vanished" (MASLOW in "Motivation and Personality"). Growing up in affluent society leads, for example, to clearly different prioritisation than growing up in the post-war era. The taken-for-granted satisfaction of the lower levels of psychological need and social security drive people in affluent society to higher levels, so to speak, whereby an attempt is made, after the fact - at least in level V -, to even out discovered deficits from the upper to the lower level.

So concern for "the environment" often spurs action only after the individual discovers (after the fact) that his assessed misery has been caused in part by his or her own relatively inconsiderate satisfaction of his or her status, security and social needs.

MASLOW assumes that every person must develop his own intrinsic abilities, by "trial and error", in order to live a fulfilling life. In MASLOW's opinion abilities are needs and therefore also genuine inner values. On the other hand errors are costly. Because of possibilities for fatal action and a colossal individual destruction potential, usually at the expense of nature, this approach should be questionable, at least, in industrial society.

Even when we admit that during his development man has been given a healthy and predominately species-preserving judgement facility, we must say that the present man-made threat is unique and that the existence of a natural-born sensitivity can hardly be assumed in this case.

For us it remains to remark, at this point:

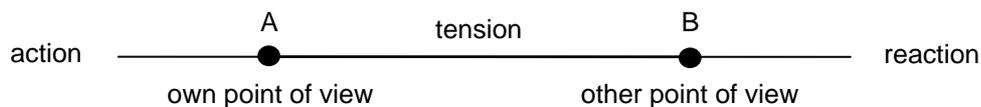
1. Human needs belong to differing categories of needs.
2. The basic need categories in particular should not be endangered.

If people are dismissive of our viewpoint it is important to recognise which of their needs have been put in question by our opinion.

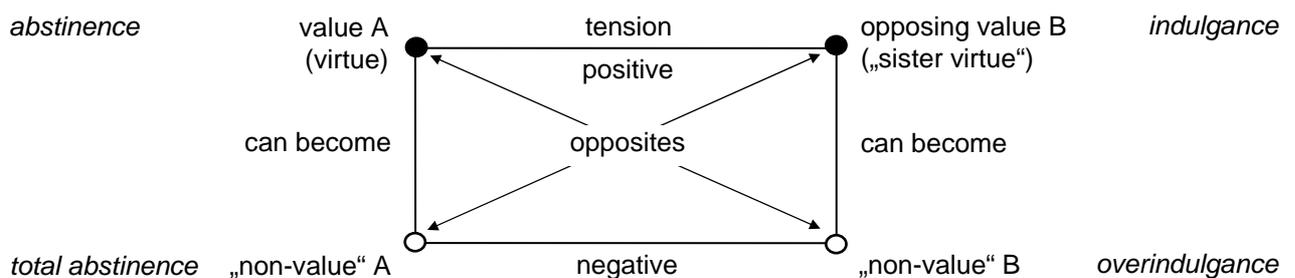
Values and Value Rectangles

Attempting in a conflict situation to counter a certain opinion by stating own opinion with the greatest possible engagement is based on the assumption that the other person can only be tugged away from his “bogged down” position by our increased engagement in our own point of view.

Frequently, however, the opposite is what happens: the more active engagement entrenches the front, resulting in the opponent not only assuming the role we have given him, but also - in order to re-establish a balance of opinion - taking an even more extreme position in the opposing direction.



When two understandable values (like abstinence and indulgence) get out of hand and become two hardly acceptable “non-values” (like total abstinence and overindulgence) a negative tension builds up.



“Every value is only a true value when it is held in an endured tension to its positive opposite value” (HELWIG, 1965, p.66). That is difficult to accept. We often feel that value relationships are misshapen and notice that for ethical reasons we really should not give up our point of view. But as soon as values - in a relative sense as well - get out of control and become “non-values”, we have won nothing and an agreement is hardly going to be possible. In a democratic system new positions can only be dialectically (thesis ⇔ antithesis ⇒ synthesis) developed.

Holding our own in a positive tension relationship is in the long run good for the situation of the individuals as well. When in the alteration of opinions it is attempted to go directly from “non-value” B to value A a crash into “non-value” A often occurs: a “fall from one extreme into the other”.

Some of these processes were already described by ARISTOTLE in his “Nicomachean Ethics”. He called the middle between two extremes μεσοτης (mesotes) – that means reasonable virtue. Bravery was for him, to illustrate, the middle between being reckless and being cowardly. In this way rectangles can be constructed for all values. In every value the rectangle of values lies enclosed.” (HELWIG, 1965).

In controversial discussions we should always look for the “sister virtue” to our own virtue in our partner’s point of view - and regard it as such.



Basic Questions of Motivation

In nature and environmental protection in the past an attempt was often made to instigate changes in action through the use of horror scenes. Essentially it was an appeal to reason. It turned out however that this combination was not especially successful.

Discrepancies between the personal conviction and the actual action (**cognitive dissonances**) were often solved by simply re-valuing the personal convictions. With the multitude of opinions in our society that is easy. Then: with increasing individualism and the loss of general conventions the consequences of correct action are hardly rewarded beyond “social strokes” - but the “false” actions leave their mark on us. The honest man is the loser. This point of departure puts new challenges before us, too.

Motivating means endowing an action - consciously or unconsciously – with a motive which makes the individual’s change in behaviour worth striving for.

The most widespread form of motivation is punishment. Punishment is a negative form of motivation. It puts an unpleasantness in view by frustrating certain needs. In practice these are for the most part status needs (fines) which in the affluent society are more apt to seem rather superficial.

More effective would be a frustration of social needs. On the one hand, however, social consensus - see above - is diminishing and the willingness of outsiders to step in without self-interest continues to dwindle. On the other hand social isolation loses its effectiveness as punishment as the modern media society gives us ever more means with which to compensate for this isolation. The result is an even more nature-foreign life, which only at first glance contributes to protecting our natural resources.

In addition negative motivation requires pressure and controls - which in the end is financial means, which are chronically meagre in nature protection. As soon as they can no longer be applied the motivation diminishes wherever new and lasting habits have not been established. And that is not easy in a socially dynamic environment.

A positive motivation through rewards seems more promising. Here, too, very differing needs can be rewarded. The deciding factor is how the reward takes place. Individually presented rewards coming from the outside to people who have learned that it is important that they make their own personal decisions can often lead to their taking exactly the opposite action. Simple stimulus-reaction mechanisms rarely bring long-lasting success.

These **extrinsic forms** of motivation can be compared to the **intrinsic** forms.

Every small desire is given a hefty incentive when the possibility of fulfilling the desire is perceived. It is increased further by hindrances which leave the possibility in view but delay its achievement, sharpening the distance-tension (craving). Based on this so-called Tantalus-principle, psychologists assume that images can be formed inside a person which can show the tantalising possibilities as well as the hurdles. (“Don’t sell the steak - sell the sizzle” - ELMER WHEELER).

The advertising industry works essentially on this principle. The important factor is that the individual is left to satisfy his/her needs by overcoming the obstacles by him/herself and so in this way challenging him/her to prove him/herself.

The Iceberg Model of Communication

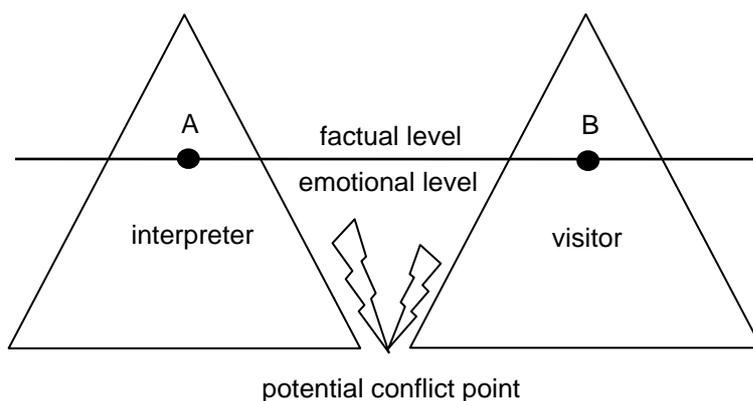
In order to really be able to enter into conversation with someone, two levels of communication are necessary.

**On the factual level factual information (what do I want to say?),
on the emotional level information about those involved and their position
in relationship to each other (how shall I say it?) are exchanged.**

Factors in the factual level are intellect, factual knowledge, ability to analyse and memory powers. Factors on the emotional level are like-mindedness and antipathy, treatment of one another, and the willingness to listen to each other.

The reception on the emotional level can be expressed non-verbally, e.g. through the manner of speech (loud/quiet, harsh/soft,...) or through body language (closeness/distance, facing towards/turned away, open/closed posture, gaze/gaze interruption,...).

As a rule the emotional level dominates the communication, although it usually only comes about indirectly. As most of the emotions stay invisible “under the surface” and in cases of hardening of the fronts can at the same time unconsciously hinder a nearing, this is called the iceberg model of communication.



Conflicts on the emotional level lead to blockage on the factual level (“I’m not about to let him tell me anything!”). In order to impart contents on the factual level, the emotional level has to first be “in tune”.

If - for example through an unfamiliar surrounding - an underlying defensive posture exists it must first be brought to consciousness and resolved. That

means, in practice, that we must - consciously or unconsciously - continually monitor what our conversation partners are sending or receiving on the factual and emotional levels.

The question by some visitors, “Is this exercise going to take much longer?” could for example go far beyond the objective asking of a question (see: 10). We must then change over to the level of the persons and meet them where they are at.

Besides that we must try to empathise with their situation and communicate this feeling to them. This is especially important when we want to not only teach or inform (factual speech) but rather also convince and inspire to action (convincing speech).

If the estimate of a person is not fathomable for us, s/he should be encouraged through questions to make his or her standpoint clear.

From this background it is completely acceptable - and often unavoidable when goal-directed communication processes meander continuously between factual and emotional levels.

The Communication Rectangle

The communication psychologist Prof. FRIEDEMANN SCHULZ VON THUN, University of Hamburg, together with BERND FITTKAU and INGHARD LANGER, developed the communication rectangle in the 1970-'s on the basis of work by several different authors.

The division of communication processes into fact and relationship aspects (WATZLAWICK in "Pragmatics of Human Communication", 1967) was thereby extended to include the aspects of self-announcement and appeals, so that the "anatomy of a message" can be examined with a "communication diagnose" for four aspects:

10

- 1. factual content What I am informing about.
- 2. self-announcement What I say about myself.
- 3. relationship signals What I think about you and our juxtaposition to each other.
- 4. appeal What I would like to get you to do.



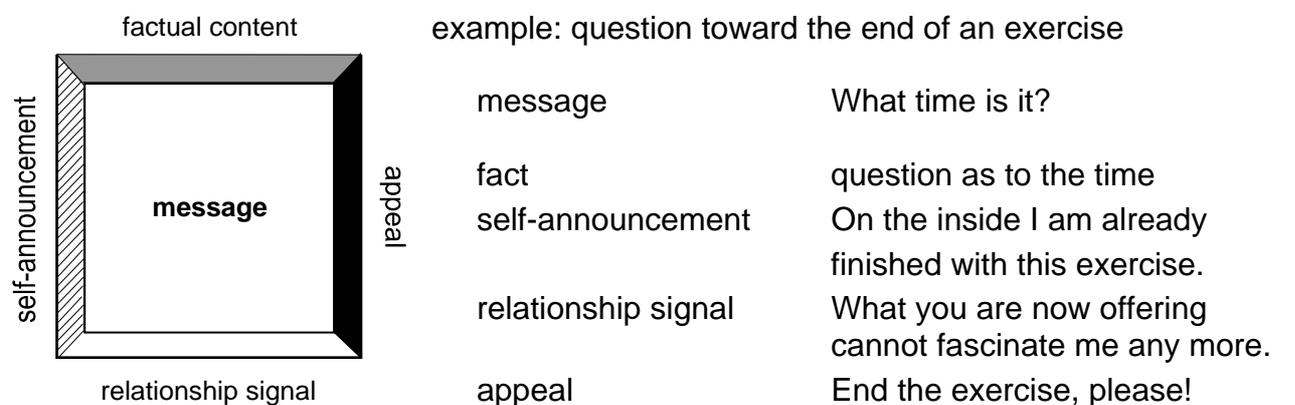
These four aspects, which most messages contain, are accessed differently by the receiver than by the sender.

Therefore the four different "ears" are quite differently shaped and also more open for some statements than for others.

In order to be able to work convincingly in nature and environment protection we must develop a sixth sense for how our messages are being received and which messages are being sent to us.

Picking up on the observation "that 'clarity' in communication is a four-sided situation" (SCHULZ VON THUN, 1994, p. 15), SCHULZ VON THUN developed the model of the communication rectangle out of the four aspects of a message, with the help of which messages can be examined under the "communication-psychological magnifying glass". To be taken into consideration are, however, numerous accompanying factors like the external situation under which the message is uttered or the non-verbal signals which accompany it.

The communication diagnosis increases the possibilities of consciously approaching one another; interpretations remain nevertheless vague. To what degree a message has been correctly interpreted can be ascertained, at best, by the sender him or herself.

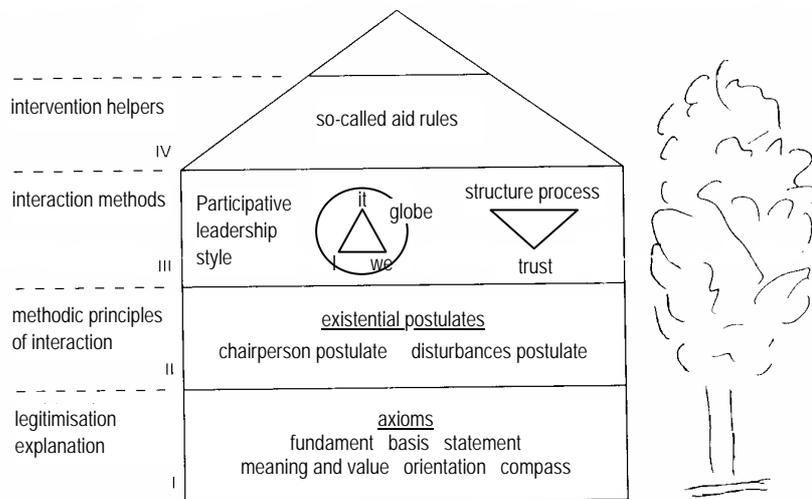


Theme-centred Interaction

The development of theme-centred interaction (TCI) as a communication system comes from the psychotherapist RUTH COHN.

TCI belongs to humanistic psychology. The concept came about through the realisation that it is necessary to see individuality and communality as equals.

The method of action of the TCI can be depicted in a layered model:



11

- I. As **axioms** for successful interaction processes: the individual's autonomy and integration, the reverence for all things living and the freedom of decision within flexible borders have been adopted.
- II. The first **existential postulate** of the TCI - "**be your own chairperson**" means that TCI participants work as independently as possible and the TCI leader hands over the power of determining who, what, when, how and to whom, in whatever form, has the right to say or be said. The second postulate – "**disturbances take precedence**" – means not breaking up or pushing aside learning and living disturbances but rather acknowledging them as a part of the person.
- III. TCI follows a **participatory style of leadership**; that means that the leader puts her- or himself, as s/he is, on the same rung of the ladder as the participants in the group.
- IV. A central interaction method of the TCI is the **principle of dynamic balance** between the person (I), the group interaction (WE) and the theme or the task (IT) within the environment in the narrowest or widest sense (GLOBE).
The principle of dynamic balance, which is the TCI basis of both group work and group leadership, points out the necessity of incorporating contrasting poles of life in the sense of a dynamic new orientation (as in yin-yang philosophy, for example). In the formulation of the theme it does not have to be a purely object-oriented theme!

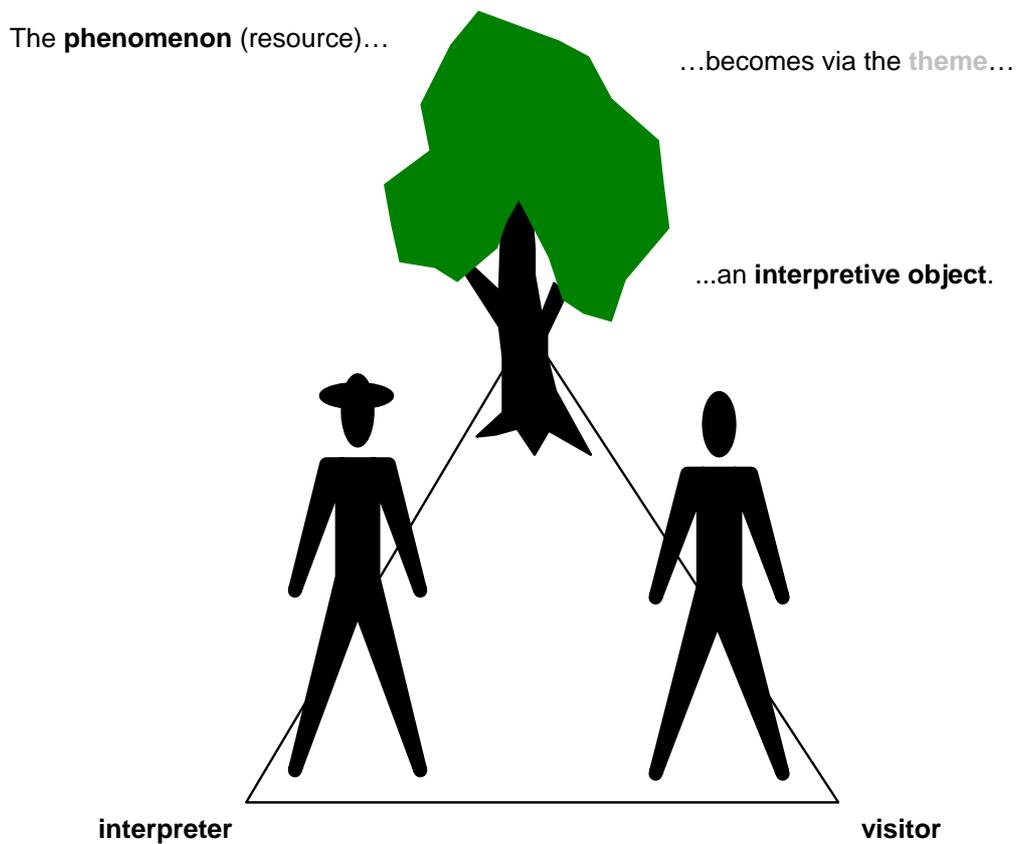
Finally the TCI aims at a **structure-process-reliance** (positive effective climate) as a central organisation principle for its events. Structures offer security (through limitations), but become animated only through processes.

Helpful rules (e.g. "Speak for 'yourself', not for 'us' or 'you'") serve in the TCI as intervention assistance, which can facilitate keeping to the basics if they are not applied too rigidly and can be translated into the language of the participants.

The Interpretive Triangle (see: 12) as developed by Prof. WILLIAM LEWIS (University of Vermont) has significant parallels to TCI.

The Interpretive Triangle

with lots of space for your notes...



About the Significance of the Phenomena

At the pinnacle of the interpretive triangle (see: 12) - Prof. WILLIAM LEWIS (University of Vermont) speaks about an interpretive threesome - is the phenomenon. The beginning and closure of an interpretation can put bridging the gap into the world of the visitor in the foreground. The personal or non-personal presentation itself, however, always focuses on the resource and its messages as the central point.

13

**An interpretation
which does not deal with a concrete,
present and tangible on site phenomenon
is not an interpretation.**

On the one hand the resource serves to make our message for the visitor perceptible, directly grasp-able. Only after the abstract (for example the vegetative succession on vacant land) becomes concrete by pointing out phenomena on site (this lichen, this moss, this fern, this tree...), can the visitor, who does not deal with this sort of thing in his or her everyday life, perceive it. They become relevant.

But on the other hand the phenomenon also represents our philosophy. That ought at least to be a major criterion for choosing it for our interpretation. To do it justice, to uplift it together with our visitors, means at the same time to honour that with which it is connected and that which, according to our convictions, it represents.

We are used to handling antique vases and paintings with kid gloves.

**We should handle all natural and cultural resources,
which we want to make objects of our interpretation,
in the manner due them, as unique occurrences,
in whose emergence we have at best a limited part.**

When we succeed in getting this respect for our resource to spring over to the visitors we can often achieve more than we do by simply supplying isolated facts about the resource.

Just the very nearing of an object by the visitor should for this reason be given our special attention. In personal interpretation an important role is played by focus questions in particular - which aim at direct experiencing of a phenomenon (see: 14). In this first phase of the approach we should make the resource visible, audible, tangible, smellable and tasteable to the greatest possible extent, that is: comprehensible with all the senses. Each of these approaches sparks individual associations in the visitors' minds. In addition it lets the resource be illuminated from different perspectives (scientific, aesthetic, philosophic, symbolic,...), which in combination let the phenomenon become visibly apparent.

When we deal with a resource it can of course happen that we want to illuminate background information which for the visitor is not immediately imaginable (for instance the processes going on within a tree). For background information as well, an important criteria for selection is how easily it can be cognised.

On the whole, however, we ought to be especially careful that the cognitive penetration of background information remains in balance with the effective, direct experiencing of the resource itself.



Responding to the Visitor

Actively responding to the visitor is fundamental to good interpretation. But didactically, too, there is much to be said for an intensive involvement: what people say and do themselves leaves a more lasting impression than that which they only see or hear.

14

How do we speak personally to the visitor?

Many visitors only really become involved when they feel they have been personally accepted. This feeling can be conveyed in personal interpretation through

- ⇒ eye contact
- ⇒ introduction to each other (especially informally), catching and using names
- ⇒ you-messages (“Did you ever...”, “When did you first...”)
- ⇒ active listening to get more information (“So you like being in the forest?”)
- ⇒ references to friends of the visitors or groups to which they ascribe themselves
- ⇒ references to the lives of the visitors (work, family, hobbies...)

What makes our facts attractive?

Interpretation ought to be entertaining. Some possibilities for “dressing up” sober factual messages to make them more interesting for visitors are:

- ⇒ references to time and place (“This tree...”, “Here where we stand...”, “Just now...”)
- ⇒ reports of exciting happenings (“When I came by here last week...”)
- ⇒ metaphors (tree crown, leaf roof, root work,...)
- ⇒ comparisons (“Trees are giant pumps”, “Trees have an effective architecture”)
- ⇒ examples (“This alder shows us how trees can heal wounds”)

How do we transform personal interpretation from a lecture into a conversation?

He who questions leads - and at the same time questions get the visitor involved. Closed questions which can be answered with “yes” or “no” or a term (like: “What’s the name of this tree?”) give us a first response; but they get us no further. For a dialogue, questions to which the answer is not yet known are helpful. There are

- ⇒ focus questions (“What does the bark of this tree feel like?”)
- ⇒ process questions (“How does this tree react when its bark is damaged?”)
- ⇒ evaluative questions (“What can we do when trees are suffering from acid rain?”)

How do we get visitors to do things themselves?

One of our fundamental rules in personal interpretation ought to be: don’t do anything which the visitor can also do him- or herself.

The first step of active involvement is to demonstrate something and have the visitor assist (“Could you just hold this branch for a moment?”). In the second step the visitor is given assignments in which we assist only with the solution. These assignments include the actual natural space and involve the most senses possible. The following make the inclusion attractive for the visitor:

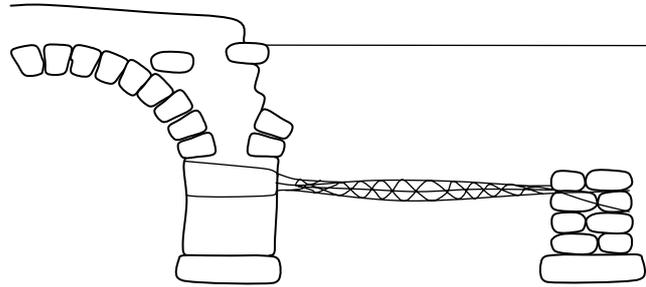
- ⇒ the request to find some particular thing
- ⇒ the prospect of being able to discover something
- ⇒ the possibility of assisting
- ⇒ the completion of something incomplete

Our Role in Personal Interpretation

Our goal is building bridges between the phenomenon and the visitor.

Our communication is the tool for laying the foundation of the bridge.

The main theme is our guideline. Themes and theme statements form the fibres and knots of the net which prevents us from falling into empty space.



15

Of course other similes could also be used when we reflect on our role. At any rate it goes far beyond the pure relaying of information, because:

The major advantage of personal interpretation over non-personal interpretation lies in the uniqueness of every situation and in the possibility to respond directly to the manner in which people perceive the situation.

If we reel off our concept we gamble away our advantage, just as we do when we lose sight of our theme. And neither is a good way to convince the paying public of the advantage of this manpower-intensive form of interpretation.

Personal interpretive services - such as interpretive talks, interpretive walks and roving interpretation (see: A5) - do not depend on scientific distance but rather upon bringing our own personality into the interpretation. If we ourselves are enthusiastic about something we can carry this enthusiasm over into the group. In order to be authentic, this enthusiasm is indispensable.

If the group seems disinterested, we must motivate them. Self-confidence and a sense of humour are important qualities. If differences of opinion arise or the visitors do not agree with what we are saying, we can put the statements up for discussion (thus bringing ourselves out of the line of fire) - and moderate the process in the group. For this we must naturally have the necessary palette of methods at hand. In natural outdoor situations the atmosphere of a classroom cannot be allowed to arise.

Out of all this it is clear that our role is not limited to that of a lecturer or an animator or a moderator but rather that we must unite many rolls within ourselves. And - even though this point is often over-emphasized - for all that, we naturally must have sufficient factual knowledge to know what we're talking about.

The key qualifications, with which we become more and more proficient, are called in didactic terms, "communicative, cognitive and methodological competence".

No one is perfect - and that is also important, so that we never leave the common ground with the visitor. Thinking about our personal role (see: A3, A4a,b) means, though, that we are aware of our personal strengths and weaknesses. Especially if we have special skills (such as playing a musical instrument or performing magic tricks) we can give our events a surprising and personal note. - And every walk or talk should, in addition, have a small element which gives us cause to improve...

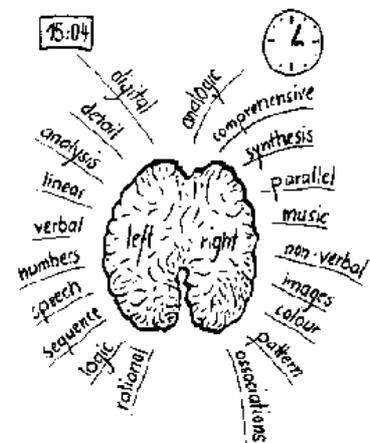
Remembering Facts by Mind Mapping

When we plan an interpretive talk the theme and its statements are easy to keep track of. We can write them down one after the other and remember them easily. With an interpretive walk it is a little more difficult. And in a roving interpretation reminder lists are almost impossible because it is not clear what is going to happen or when. Luckily there are other ways to jog our memories. Possibilities which our education system often introduces to us insufficiently. Some have even said that at least half of our brain is largely unused. How come?

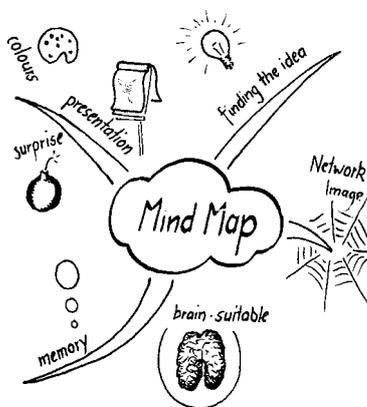
16

The fact is that the two halves of our brains are specialised for different information (see: 5). Whereas the left half enables us to speak, read and write, to work with numbers and to examine things in a logical way, the right half is particularly good at storing images, colours, rhythms, melodies and stories. It seeks forms with which it is already acquainted or which are similar and manages - so to say "without thinking" - to instigate a reaction upon recognition of a symbol (for instance a warning sign). In our heads many processes run unconsciously and simultaneously.

The essential advantage of the left half of the brain is the exact naming of things. Our storage capacity for exact information is limited. The right half of the brain works in comparison less exactly. In it an image or tune or an entire bundle of information connected with it (associations) can be released - and that is what matters all the more in proportion to how unexpected the run of our interpretation is.



One method which employs the advantages of the right side of the brain is the one developed by the Englishman TONY BUZAN in the 1970's, called "mind mapping". The essential advantage of a mind map - for example in comparison to a list - is that the mind map reproduces such associations. It shows which thoughts have a relationship to each other and enables us to think further in various directions.



Mind maps should use colours and symbols in addition to words, should aim at the greatest possible visualisation. In this way they can be more easily remembered.

We can construct mind maps by structuring graphic descriptions (visualisation) of the statements about the phenomena and the methods which we want to use to demonstrate them like branches on a tree. Often the best ideas come in this way.

When we have practised a presentation with the accompanying mind map in our hands we notice how much better the images have become stamped in our minds than when we only work with cue words - and most especially we notice which graphics are next to each other and can therefore unfold our interpretation in different directions.

especially we notice which graphics are next to each other and can therefore unfold our interpretation in different directions.

Incorporating Props and Auxiliary Techniques

What are props good for?

They help to:

- ⇒ limit the participants' range of view (e.g. picture frames)
- ⇒ focus the view (e.g. telescopes)
- ⇒ provide an unaccustomed view (e.g. mirrors)
- ⇒ make something more clearly visible (e.g. binoculars and magnifying glasses)
- ⇒ mark, connect or compare things (e.g. ropes)
- ⇒ make lengthy processes understandable through models (e.g. erosion models)

Auxiliary aids should form a relationship with the participants and should support our message. They serve the phenomenon and should in no case dominate. This danger is especially prevalent in the case of highly technical apparatus when their manner of functioning gets into the foreground. Such "aids" should not be used.

Disturbances as opportunities in personal interpretation?

Disturbances come from within the group ("I see that entirely differently!") or from without (A tree has fallen down during the night). They surprise us and for this reason often remain in memory for a long time. Therefore they can become an important learning form - if we can snare them. Understanding disturbances as a challenge and an auxiliary aid is important; even if just to remove our fear of disturbances.

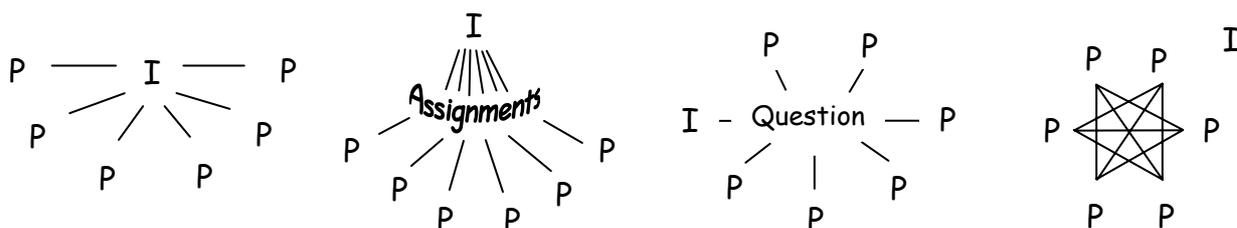
What are structural aids good for?

For the most part individual themes (see: 5) are handled one after the other in an interpretation; they build logically one upon the other. Sometimes, however, this is not possible. In nature a phenomenon belonging to a second theme complex can come into view while the elements which belong to the present theme complex keep us waiting. So that the visitors don't lose the overall view, a structural aid makes sense.

Structural aids reveal where we now stand and at the same time challenge us to complete the individual theme conglomerates. A good structural help is, for instance, a fill-in graphic (perhaps in the form of a small folding board): the visitors must then fill in the empty spaces with puzzle pieces, thus completing the overall graphic. In this way linear thinking is replaced by structural thinking.

How do we form a group during personal interpretation?

The form of communication determines the formation of the group - and vice versa. The arrangement of our group is a very essential auxiliary technique. By selecting appropriate places, through assignments, questions and discussion impulses we can, for instance, achieve the following formations (consciously for us, unnoticed by the group):



Via the Theme to an Interpretive Talk

Every interpretation is thematic. That means: it doesn't just pick up any piece of information from along the way but rather concentrates on a distinct **topic**.

- ⇒ A topic has its origins in the contents we are representing.
- ⇒ It has a direct relationship to the world of the visitors

Example for a topic: limited habitats

Topics are very general. They can first be grasped when they have been put into concrete terms. For this reason we fasten them to **phenomena**

- ⇒ which are examples of what we want to say on a larger scale
- ⇒ which contain small surprises which we can reveal.

Example for a phenomenon: the Lilienstein - a table mountain

Not every phenomenon is immediately recognisable as being appropriate. Usually we have to intensively study various phenomena before finally deciding which one to choose.

Our phenomenon sends very different **messages** to the different interpretive fields.

Examples:	topographic:	I am the most prominent table mountain here.
	hydrographic:	I am surrounded by the currents of the Elbe River
	geomorphologic:	I am made of sandstone - a sedimentary rock
	anthropogenic:	I am the symbol of the national park

Through scrupulous examination and careful research (residents, museums, literature,...) we increase our treasure of messages on which we can later draw. From this quantity of information we carefully select the messages which best serve to express our topic, and from them we develop a **theme**.

Our theme for our phenomenon should

- ⇒ be particularly perceptible in the landscape
- ⇒ allow accurate analogies to the world of our visitors
- ⇒ enthuse us and be our guiding star during our interpretation
- ⇒ make clear what our visitors should have experienced after contact with our phenomenon ("magic formula").

Example for a theme: After our interpretation the visitors should have found out that the Lilienstein is an island. (Our final theme statement: The Lilienstein is an island.)

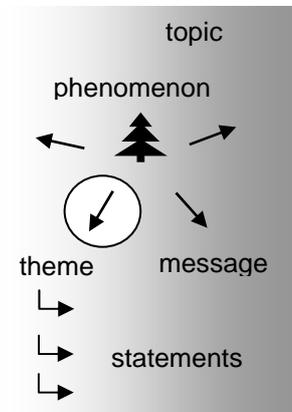
A theme is a concise, essential, impressive sentence.

Only through the theme can the phenomenon become an interpretive object.

We can now substantiate the theme with fitting **statements**:

Examples:	The Lilienstein stands alone within a culture landscape.
	The Lilienstein has a vegetation peculiar to itself.
	The Elbe River originally flowed on the <u>other</u> side of the Lilienstein.

An elegant opening and a pithy conclusion round out the interpretation.



Designing an interpretive talk in the personal form of interpretation is the same as designing a wayside exhibit in the non-personal form.

Via the Theme Line to an Interpretive Walk

Just as in an interpretive talk, which is bound to one phenomenon, has one theme (see: 18), so does an interpretive walk, which puts a number of phenomena and their themes in the foreground one after the other, have one **main theme**.

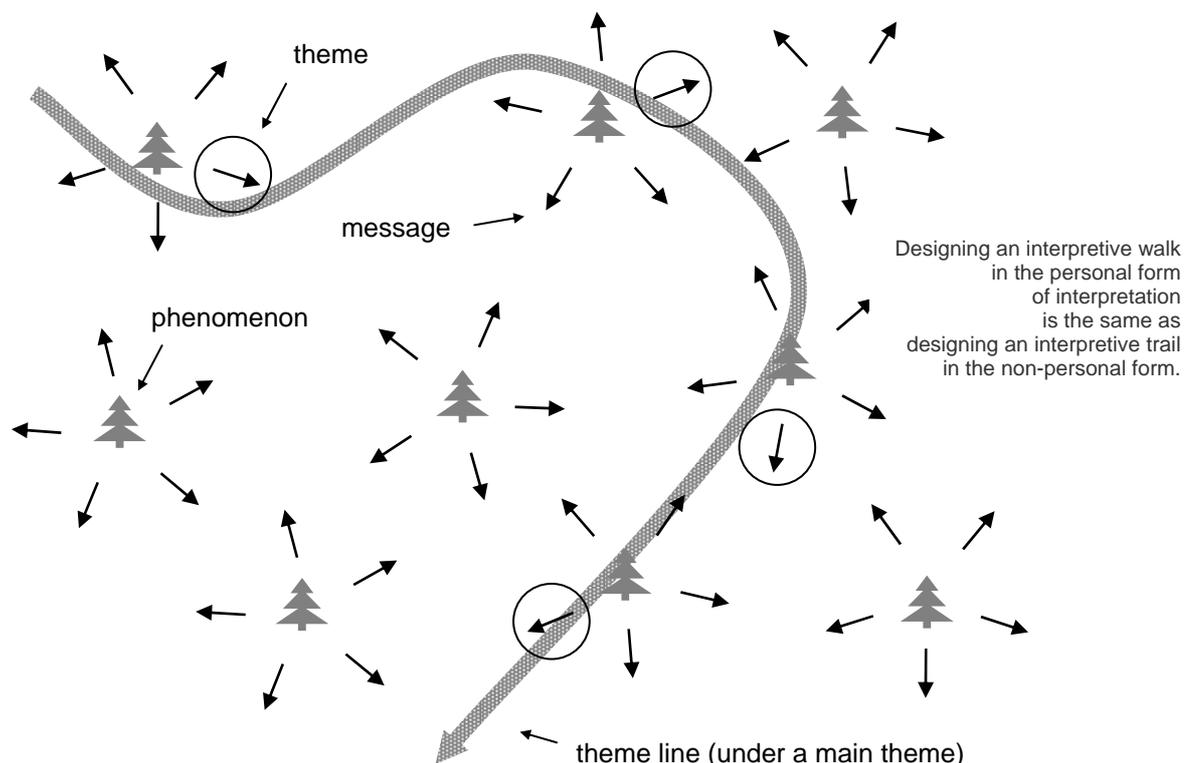
A theme must always be solidly understandable. It is bound to the phenomenon. The main theme, on the other hand, can also incorporate an abstract idea about the resource (see: example 2).

1. The Lilienstein is an island. (The messages on 18 in this case become themes.)
2. National parks protect our natural heritage.

Under the main theme the individual phenomena and their themes and statements can now be net-worked. An interpretive walk, in which the interpreter follows along a line of logically arranged and interlocking points, usually has a sequential structure.

Ideally it is constructed so that

- ⇒ an area is researched in regard to phenomena, their messages and possible themes
- ⇒ the interpretive walk - at first intuitive - is given a main theme.
- ⇒ a theme line is worked out which connects the selected themes and phenomena under the main theme.



The difficulty in sequential interpretation often lies in the fact that nature seldom reveals its phenomena in the same sequence as our concept. Phenomena catch the eye which are apt to distract our visitors from the theme. Through the use of a structural aid we can sometimes get a grip on this problem (see 17).

Roving Interpretation within a Theme Circle

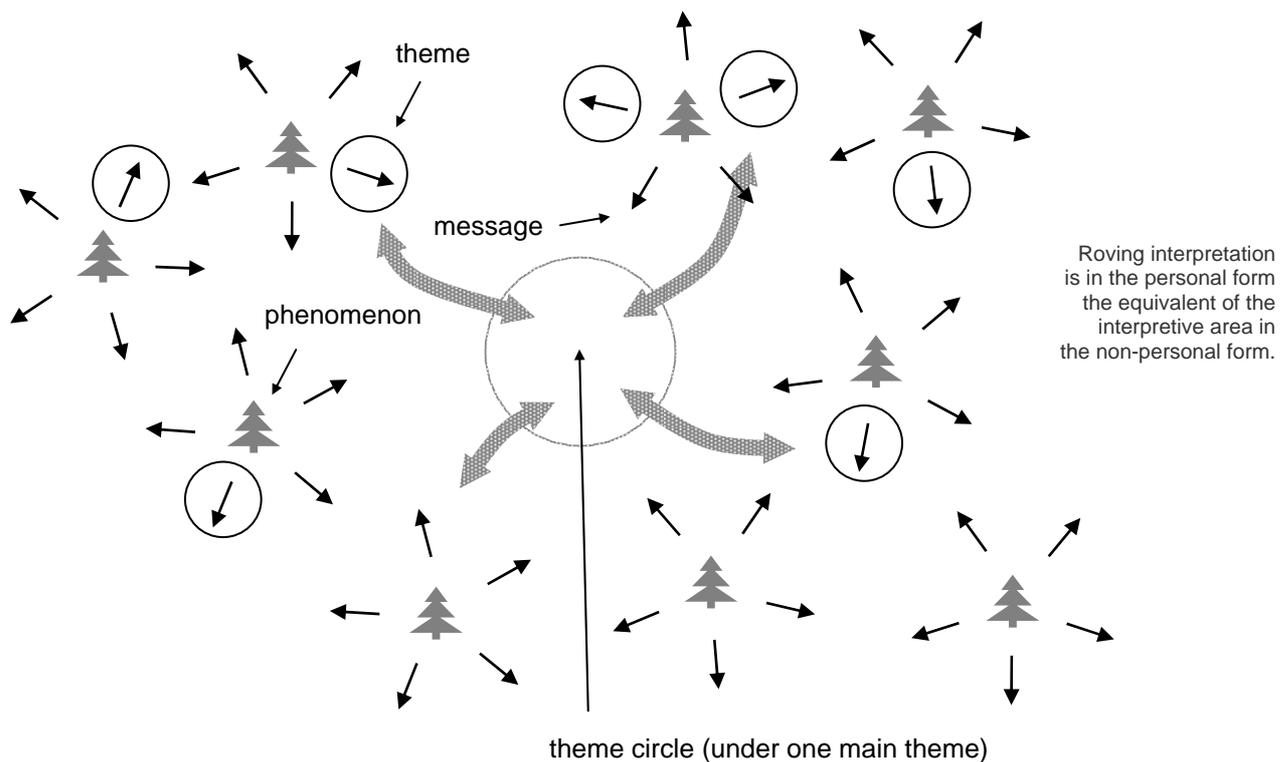
Roving interpretation is the third and perhaps the most demanding form of personal interpretation.

As opposed to an interpretive talk or an interpretive walk, it is structured according to points, not a sequence. That means: there is no pre-set sequence in which the individual phenomena are handled, but rather for the most part the visitors decide when they want to centre their attention on something. In roving interpretation the dialogue with the participants determines the structure.

20

Roving interpretation cannot become idle chatter. To be armed for any turn of the conversation, the interpreter should have acquainted him- or herself with all the phenomena in the sphere which could be mentioned by the visitors. In order to react flexibly s/he ought to be prepared with appropriate theme-related statements to the most possible messages of the phenomena. All of these themes are networked to each other within a theme circle.

Above and beyond that, the interpreter must develop a sense for which things appeal to the visitor's attention and which statements can be placed when and where.



Generally roving interpretation is used where a large number of visitors is to be expected - that is in touristic focal points. It can move smoothly into an interpretive talk when the necessary interest is signalled from the visitors' side.

In reverse, sequential forms of personal interpretation such as interpretive walks (see: 19) can contain elements of roving interpretation; for instance when the interpreter breaks up the group formation in later-to-be-evaluated individual lectures (see: 17).



Roving Interpretation and Off-Site Interpretation

Situations often arise in the daily experience of park and protected area managers where the duties of protection and supervision are combined with those of an interpreter.

Specific sites are particularly heavily frequented. During the observation and information duty at such sights a form of interpretation can arise in which we first inform the visitors about aspects of nature and the landscape, then go in to interpretation for the spontaneously formed visitor groups who converse among themselves, and finally move on to another point after all questions have been answered. In this way a landscape segment becomes an interpretive area.

This particularly lively kind of interpretation is called **roving interpretation**. Roving interpretation is very demanding. To keep it from degenerating into idle conversation we must be certain that we can gauge the visitor's interest and that we are very knowledgeable of the phenomena and messages related to them.

Of course we can announce a short **interpretive talk** on a particular theme at such a place as well (e.g. every hour on the hour for about 10 minutes). An interpretive talk is interesting to many visitors because they can take part in an event and ask questions without it affecting their day's schedule. In a short time there are many contacts, and especially for assistants who are not yet ready to do interpretive walks it is a good beginning.

We are however not always on duty in places where the phenomena are immediately at hand. When we erect information stands at car parks or outside of our protected area (like at a fair or school event) we are faced with the question of how we are going to get beyond the pure dissemination of information and move towards some sort of off-site interpretation.

An **information stand** usually consists of a table with brochures and flyers as well as a number of exhibit panels - all of which ought to be designed in accord with basic interpretive skills (see: 24, 25). To turn the information into an interpretation we need a selection of attractive phenomena which will bridge the gap to our protected area and hold the visitors at our stand by letting them take something in their hands (which has to stay at the table) and involve them in conversation. Likely prospects are animal skulls and furs, for instance, or objects from our grandparents' time.

Demonstrations are particularly attractive. In selecting them we ought to be sure that they can hold the attention of several visitors at the same time and that this interest is not only in the object. A good way is to have visitors work with other visitors in front of more visitors (like in making a rope) while we describe what is taking place.

Less appropriate are objects with which only one visitor at a time can become involved and which hold his entire attention while at the same time tying up our attention. For this reason microscopes are appropriate only with reservations.

If our information stand is just one of many and in danger of getting lost in the fray, an attractive and convincing eye-catcher is important.

A stand which is to be used for indefinite events should be expandable. From the carpet-bag-show up through to big action events with seating and room-filling interactive elements we can then make the best possible use of whatever space is offered.



The Arrangement of Interpretive Walks

An interpretive walk is an event which

- is directed at the general public
- has a concrete main theme which determines the course of the event
- connects at least three phenomena within short increments (about 5 minutes)
- lasts from one hour to two hours.

22

The guided hike (in which rambling together is the foremost wish) and the excursion (directed at a specialist audience) are therefore not interpretive walks.

The interpretive walk is the form of personal interpretation. It gives us the opportunity to move about in our element and open up all those things to experience which make an interpretation good. We can develop an interpretive walk in various ways. The method of

- ⇒ first recording all the phenomena which could in any way attract our visitors' attention
- ⇒ only then formulating the main theme for our theme line
- ⇒ finally choosing exactly those phenomena and preparing them with subordinate themes which fit in the theme line has proven effective (see: A2).

The announcement of an interpretive walk (press release and flyers) should have a catchy motto and a short and stimulating informative text and most important the meeting point (usually a car park or bus stop), start and finish times (co-ordinated with bus schedules), the area, the degree of difficulty, and the required equipment. When a tour is always under the guidance of the same person, s/he should be named. A telephone number for questions is important for many interested parties.

We should show up at the meeting point for the actual interpretive walk ahead of time. This makes a careful "warming up" possible and gives the participants security as well as an overview of the route and the fixation of an easy-to-find meeting point (or end point) in case anyone loses the group. Wherever possible we should have, in addition to our first aid equipment, a two-way radio or mobile phone which can transmit and receive along the entire route.

At the start we make sure that all the participants have the appropriate gear, explain the relevant rules of behaviour in some cases, and ask the people in our group to introduce themselves, which gives us an impression of the visitors and their interests. This makes it possible later on to meet expectations and respond directly to feedback. From the beginning we should endeavour to speak with and not to the participants.

After a dynamic start we adjust the tempo so that the interpretive walk does not become a strain for the slowest participant. Each phenomenon should have about ten minutes "applied" to it and the announced duration of the walk should be adhered to.

A group size of from ten to 15 participants is the best for an interpretive walk. If the group is larger, breaks must be taken in short intervals. Checks must be made frequently to be sure that the group is complete.

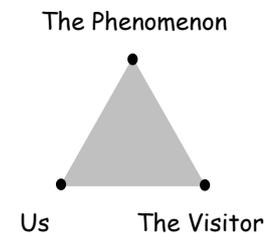
A summary of the interpretive walk with reminders of the highlights and a clear closing statement should be made before the end point comes into view.

The Use of Wayside Exhibits

A wayside exhibit is an economical form of non-personal interpretation which is permanently on hand for the visitor. As in any interpretation it must meet the requirements of three components:

- a) those of our facility and its philosophy
- b) those of the visitor who will view the exhibit
- c) those of the individual characteristics of the phenomenon, which the exhibit is supposed to explain

We must build bridges between the three points of the interpretation triangle, and the exhibit ought to help us.



23

The most important tool within the different types of wayside exhibits is the panel. We differentiate, according to their purposes, four different kinds of panels:

- navigation panels facilitate the orientation and movement in the area
- regulation panels cover the regulations as well as the consequences of violation
- information panels advise of programmes, dangers and other things
- interpretation panels reveal the backgrounds of natural and cultural resources.

In the following when we deal with the design of panels we are dealing most especially with interpretation or interpretive panels. Therefore we should quickly review the elements which apply to the other three groups:

In reference to formulating the texts for **navigation panels**, the following applies:

- ⇒ They are used where visitors are searching for a target area or their present location.
- ⇒ They are used where we want to emphasize the visitor's present location.
- ⇒ They are erected where confusion about the trail direction could occur.
- ⇒ Trails should have names and/or symbols making them easier to remember.
- ⇒ Trails are more interesting to visitors if given names of target areas.
- ⇒ Trails of differing duration should be offered (e.g. 2, 3, 4 hours duration).
- ⇒ Trails mentioned should begin there where the visitor is standing now.
- ⇒ If trail markings change in the course of the route, small maps should be available.

When designing **regulation panels** wherever possible we should

- ⇒ avoid negatives (e.g. the word *prohibited*).
- ⇒ convince the visitor of the reason for a rule
- ⇒ tell the visitor not only what s/he should not do, but what s/he *should* do.
- ⇒ offer the visitor alternatives to what we are not allowing them to do.
- ⇒ emphasise the mutual responsibility and awaken a "we" feeling.
- ⇒ make the positive as well as the negative consequences of visitors' actions clear.

For **information panels**:

- ⇒ Even more so than otherwise, the information must be short and easily understandable.
- ⇒ Information panels must be brought up to date at regular intervals.
- ⇒ Where dangers are pointed out priority must be given to being readily noticeable and clarity of message (e.g. *Stop! Danger of Falling*).



Writing Texts for Interpretive Panels

Our text ought to build a bridge between our theme and the visitor. We are dealing with one theme, which we want to get across. Factual statements support this theme.

How do we find our theme? (see: 18)

- ⇒ Conclude the sentence: "After reading my text, I want the visitor to understand that..."
- ⇒ A theme is a short, essential, impressive sentence.
- ⇒ A theme gets under our skin.
- ⇒ A theme has a relationship to the visitor's world
- ⇒ A theme deals with objects or phenomena on site

What should we keep in mind when preparing the text?

- ⇒ The text contains 2 to 3 short and pithy statements about the theme.
- ⇒ The text should cause an impressive image to form in the visitor's head.
- ⇒ The text provokes (a), relates (b), and reveals (c).
- ⇒ Every fact is condensed into a story which touches the visitor.
- ⇒ The text should be understandable for every 7th grader.

How do we make our texts readable?

- ⇒ Use one simple type form (e.g. Helvetica) in running text without special markings.
- ⇒ Use adequate type size (about 48 pt) and pleasant colour contrasts.
- ⇒ Write in a simple and stimulating way (e.g. use humour) - and structure it clearly.
- ⇒ Use words with few syllables and active verbs.
- ⇒ Illustrate extraordinary sizes or periods of times.

What should we avoid?

- ⇒ running text in capital letters
- ⇒ boring short sentences, secondary clauses and convoluted sentences
- ⇒ filler words, unnecessary adjectives, unfamiliar words, foreign words and jargon
- ⇒ elongated verb forms and hyphenated words
- ⇒ numbers (when not necessary or if we cannot make them understandable).

What makes our facts easy to remember?

- ⇒ a connection to something actual
- ⇒ staging a surprise revelation (ah ha! effect)
- ⇒ pointing out an individual (this person, this tree...)
- ⇒ an example, metaphor, comparison, analogy, quotation from the visitor's world
- ⇒ personally addressing people and inviting them to think or take action

Can we calculate the readability of a text?

No - but it's helpful to have the following criteria in mind:

- ⇒ A person reads 200 words per minute in average.
- ⇒ There are three groups of visitors; 3 sec.-, 30 sec.- and 3 min.-readers.
- ⇒ The 3 sec.-readers often make up more than 90% of all visitors.
- ⇒ Titles should have a length of max. 10 words (3 sec.), texts of max. 100 words (30 sec.).
- ⇒ A paragraph should have a max. of 3 sentences, a sentence a max. of 15 words.
- ⇒ A line should have a maximum of 50 characters.
- ⇒ The characters divided by the words (readability index) should be less than 6.

Design and Placement of Interpretive Panels

How should a panel be laid out?

- ⇒ It should be in conformity with, if existent, the corporate design of our institution.
- ⇒ It should have a maximum of five elements; 1/3 of the area should be blank.
- ⇒ The statement of the panel should be clear (often the theme is in the title).
- ⇒ The title should catch the eye (large letters) and arouse curiosity.
- ⇒ It is good to use a graphic (often in the upper right) to draw the eye into the contents.

25

What can a graphic image do?

- ⇒ speak for itself (“a picture is worth a thousand words”)
- ⇒ underscore the message of the text and illustrate it
- ⇒ make the visitor curious and aware of details
- ⇒ indicate of what to look for (e.g. when watching for a specific species of bird)
- ⇒ clarify the concept which is concealed behind a phenomenon

What should a graphic image not do?

- ⇒ make the panel optically out of balance
- ⇒ distract from the phenomenon through special effects (e.g. colour choice)
- ⇒ show something which is clearly visible in nature or easy to imagine

Where is it best to place a panel?

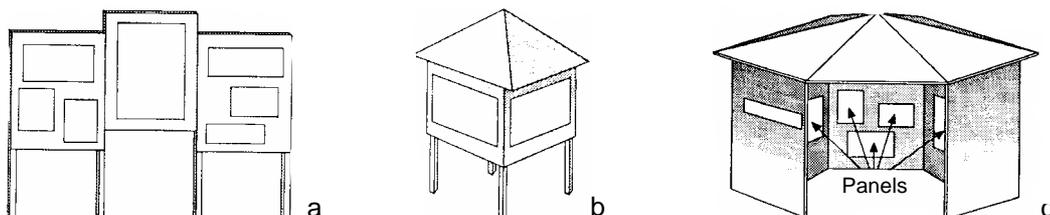
- ⇒ where there are enough visitors to see it and to make it worth our effort
- ⇒ where the effort and the benefit are in good balance, for the visitors, too
- ⇒ where the theme can be recognised in a feature of interest
- ⇒ where questions are likely to occur to visitors
- ⇒ where the visitor feels safe, waits for something, or can rest

What should be considered in placing a panel?

- ⇒ A panel should not block the view of the phenomenon.
- ⇒ A panel should not intrude on a photographic view (photo point).
- ⇒ A panel should not invite encroachment of a protected area.
- ⇒ A panel should be, if possible, accessible by children and disabled visitors.
- ⇒ The materials used should be in harmony with the subject matter and the environment.

What form should a panel take?

- ⇒ Desktop panels are preferable; they don't block the view of the things behind them.
- ⇒ Upright standing panels do not distort, lend themselves to closer examination (e.g. maps), and can sometimes be used on both sides.
- ⇒ Upright wall panels save space; often presentations in front of them are possible.
- ⇒ Rows (a), kiosks (b) and pavilions (c) provide much information in a small space.



Interactive Elements in Different Trail Types

The importance of demonstrations and interactive elements is explained by the high degree of effectiveness which learning has for human beings - when they learn actively by using a number of their senses at the same time. According to Confucius a person remembers about

20% of that which s/he hears,
30% of that which s/he sees,
50% of that which s/he hears and sees,
90% of that which s/he does.

26

So that means that everything which promises activity is welcome in non-personal interpretation as well. Of importance is however the question of the willingness of each target group to be active, and what the visitor ought to remember. That then determines what role the demonstration and interactive elements play in the trail.

Although the transitions are flowing, we distinguish **four kinds of trails**:

- a teaching trail conveys, often free of a theme, knowledge through texts and graphics.
- on a learning trail the visitor works out the knowledge or task for him- or herself.
- on an adventure trail s/he approaches the objects actively with all his or her senses.
- an interpretive trail tries to link the visitor to the phenomena along a theme line.

All of these types of trails can be "exhibit trails" (with panels and interactive elements) or "number trails" (with discreet number posts and an accompanying booklet or recording).

A **teaching trail** takes a "thirst for knowledge" in the visitor for granted. It is based upon interest being present and the demand for active inclusion is usually limited to observation tasks, and sometimes to hearing, feeling, etc. tasks.

The **learning trail** also assumes a readiness to learn in its users. But the fact that the visitor must do something (e.g. operate a valve or a pump or look through a telescope) in order to get his or her information has a more stimulating effect on some target groups than others.

An **adventure trail** involves the visitor even more actively. It appeals especially to the recreation-seeking public (mainly families). Nature adventure trails often have a great many pieces of play equipment through which a positive relationship to nature is supposed to be formed in the visitor. Often children guide adults (back) into nature. Although knowledge can be imparted through play ideas, most adventure trails have no concrete themes as their basis. Playing is the decisive factor.

An **interpretive trail** is also directed at the recreation-seeking public; that is it, too, must be entertaining. But because in interpretation the "show cannot be stolen" from the phenomenon, and the connection to the theme has high value, the usage of interactive elements does not predominate. We employ demonstration and interactive elements, fitting to the theme, in about 50% of the stations.

Highly prized interactive elements, which are beyond the scope of this manual, include "touch and feel" exhibits, long jump pits, aroma organs, vista windows and telescopes, trumpet voice pipes, humming stones, tree-stump telephones, xylophones, or balance disks. On trails in which written texts are replaced by spoken ones or corresponding sounds, audio units play a central role.

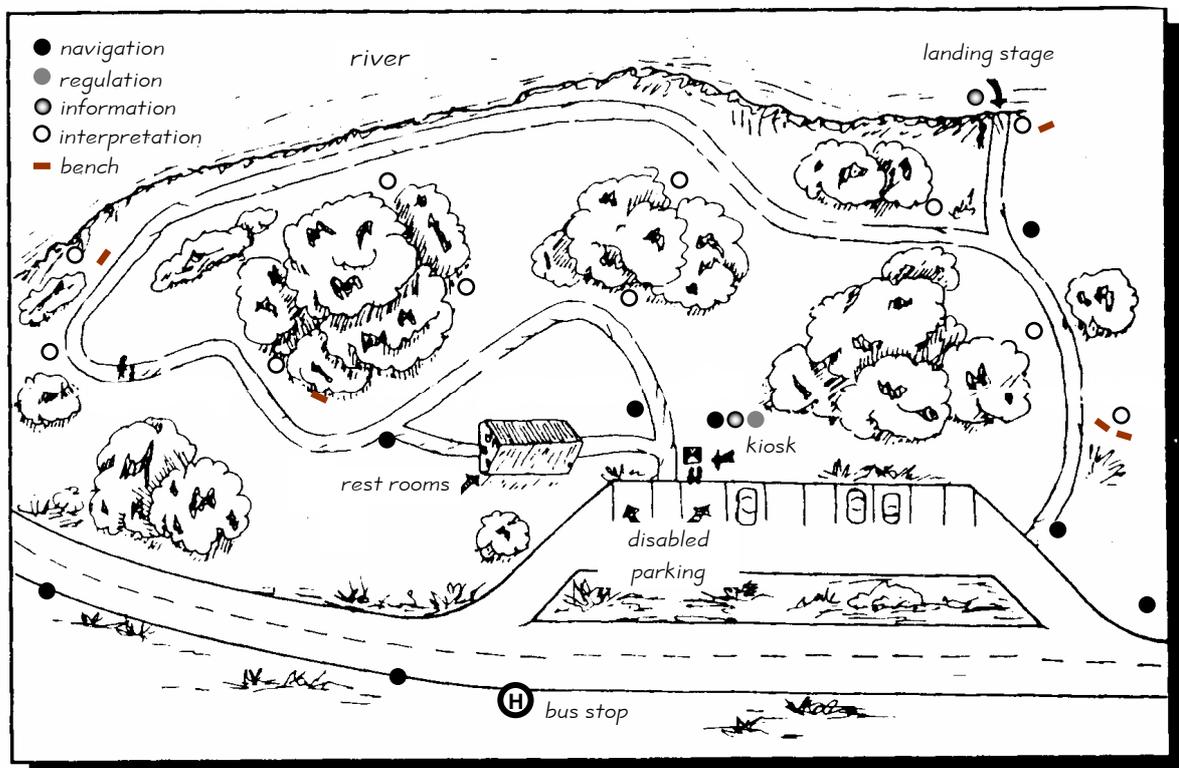
The Structure of an Interpretive Trail

Trails have a sequential structure. Like a report or a story, so, too, an interpretive trail consists of essentially three parts: introduction, main body, and closing.

The **introduction** (or trail head) contains all the preliminary information that is important for the visitor to have. Usually this area is apt to be rather lively, so that warnings or rules of behaviour do not seem out of place. The important thing is that the visitor can get an overview of the trail experience here. This orientation should be provided in a form that entices the visitor to give the trail a try.

The **main body** - the actual trail - follows a dramaturgy designed by us. We plan for the trail to be varied, deliberately lead the visitor to the high points, make sure that one station leads to the next (without any station being indispensable), and that one station cannot be seen from the other unless it is absolutely unavoidable. The deciding factor here is our "feel" for each situation and what it releases in the visitor. The main body can have one as well as several high points. It repeats the main theme in different variations. Each of the subordinate themes is however so interesting in itself that the visitor hardly notices the thematic repetition. The amount of information which is disseminated increases as the trail unfolds.

The **closing** is formed by an area which in more than one sense serves as a gathering place, on the one hand for families and groups in which not everyone covered the route at the same speed, on the other hand for the individual to collect himself. Here we make the point of our main theme once again.



Planning an Interpretive Trail

In order to plan an interpretive trail, equipped with panels and interactive elements, there must be clarity in regard to the **site** to be interpreted and the **topic** upon which the interpretation will be based. In addition there should be a rough estimate of the **budget**. Are these all given, we plan a trail based upon the following questions in three phases:

28

Phase 1: Preliminary Planning

- ⇒ Should the trail form a loop or should it connect other trails?
- ⇒ Does foot traffic in only one or in both directions make sense, can it be steered?
- ⇒ Where will trail construction be necessary and which materials should be used?
- ⇒ Are measures for visitor safety necessary? (e.g. removal of dead wood)
- ⇒ Which resource protection restrictions apply?
- ⇒ What are the surroundings like (car parks, public transport, pedestrian/bike paths)?
- ⇒ Are there already similar facilities in the close neighbourhood?
- ⇒ How many visitors are to be expected when? (Are there day or seasonal peaks?)
- ⇒ Who is “the visitor”? Which needs and wishes does s/he bring along?
- ⇒ What can be said about the resource and the topic (wide-reaching research)?
- ⇒ What is the character of the site - what effect does it transmit?
- ⇒ Where are the “sensitive points” which reflect an aspect of the topic?
- ⇒ What could the theme statements be, especially at these points?

Results of phase 1:

sketch in 1:1000 scale, theme line, main theme and subordinate themes, design idea

Phase 2: Design Planning (the most extensive phase of planning)

- ⇒ How exactly should the path be laid out? (lines of view, vistas, visual connections)
- ⇒ Where are seating, toilets, trash bins, and the like planned?
- ⇒ Where are alterations necessary? (e.g. opening up vistas)
- ⇒ What should the panels look like? (material, colour, lettering type and size, pattern)
- ⇒ How should the stations be designed? (from the viewpoint of interpretive areas)
- ⇒ Which statements are to be put under each of the themes?
- ⇒ Where should interactive and demonstrative elements be placed? (design sketches)
- ⇒ Which texts and graphics are to be used? (text suggestions)
- ⇒ Which navigation panels should point out the trail? (design sketches)
- ⇒ Are additional information and regulation panels necessary? (text suggestions)

Results of phase 2:

drawing in 1:100 scale, detailed design suggestions, integration in the surroundings

Phase 3: Construction Planning

- ⇒ What do the panels and interactive elements look like? (construction drawings)
- ⇒ Are authority certificates for safety standards to be acquired?
- ⇒ How much maintenance should be calculated?
- ⇒ Who submits bids for what? (bids for all things specified)
- ⇒ What costs are to be expected? (detailed cost calculations)

Results of phase 3:

bids, detailed construction drawings – ready to begin

Interpretive Trail or Interpretive Area?

Interpretive trails and interpretive areas are two central forms of non-personal (in comparison to personal) interpretation. The essential difference between the two lies in the fact that in the interpretive trail the information is organised in a fixed line - is sequential. In an interpretive area on the other hand it is punctual: the visitor has the choice of when s/he observes which phenomenon.

29

An **interpretive trail** has a carefully thought out chronological order as its basis. The visitor does not have the freedom of choice in which order s/he assimilates the information. An attractive theme line, with a main theme and one subordinate theme for each phenomenon, is indispensable. It prevents the visitor from skipping too much information and in so doing losing the continuity.

The major advantage of sequential assimilation is that the visitor can be led deliberately by a linear-causal presentation to a higher level of knowledge.

The greatest difficulty lies in the planning of the trail, because the interpretive objects must occur exactly there where they fit into the concept - without the visitor's attention being distracted by other impressive phenomena along the way. For this reason the designers of trails often go over to importing less fitting interactive elements, departing from the principle of using concrete existing objects. Through this, however, the resource is pushed out of the centre of vision into the background setting.

Interpretive trails can tempt visitors to pass through an area in stages instead of spending time in it. In this case, too, the resource moves into the background. An imbalance between experiencing the site and burdening the site might be the result. If the interpretive objects are too far away from each other the theme line can be lost sight of along the way.

Within the concept of an **interpretive area** these difficulties do not occur. Here the goal is to find a "power field" which has an attraction for the visitor for reasons which are relevant to our purpose. The enrichment of spending a longer time in what is usually a small restricted nature space is in the foreground.

From varying viewpoints (so-called interpretive fields) mental bridges are built between the existing objects in this area and the visitor, which serve to make the different aspects of our goal understandable for the visitor.

The interpretive area also has a main theme as its basis. The subordinate themes are not however in a theme line but rather in a theme circle, a free arrangement which can be entered at any point. For this reason the interpretive area is less appropriate for a one-thought-built-upon-the-other approach.

The decision as to whether an interpretive trail or an interpretive area should be established depends not only upon conceptual reasoning. The deciding factor here is what the site is like which has been chosen for the non-personal interpretation.

Long nature "rooms" like a ridge, the path of a river, or a canyon, which channel visitors into them, lend themselves for interpretive trails.

Nature spaces which have a more or less room-like character - like a clearing or a plateau - lend themselves for interpretive areas.

Planning Small Visitor Centres

Visitor centres are buildings (or clear divisions of same) which are manned by personnel during the opening hours and serve to disseminate visitor information within a protected area. The public space of a small visitor centre is from 50 to 100 m².

Such a centre generally has three areas:

- ⇒ lobby and exhibit area
- ⇒ sanitary facility area
- ⇒ administrative area (office and adequate storage for exhibition objects).

The most logical size for these areas and their relationships to each other must be clarified beforehand. In the case of new buildings or changes of usage in existing buildings our task is to represent the interests of nature and landscape preservation when dealing with the building department and architect's office, as well as the visitors' requirements and the aspects of content and methods.

Important questions regarding the design of visitor centres are:

- ⇒ which function will the centre have in the maintenance and development plan?
- ⇒ are there binding design criteria (e.g. a corporate design) in the protected area?
- ⇒ how is the visitor centre to be harmoniously integrated in the immediate surroundings?
- ⇒ how is the visitor centre to be reached (pedestrian and bike circulation, public transportation connections and car park)?
- ⇒ are utilities and waste disposal facilities exemplary in terms of environmental impact?
- ⇒ are the operation and maintenance and the staff financially assured?
- ⇒ how many visitors at what times are to be expected (visitation patterns)?
- ⇒ with what impressions and motives do they enter the visitor centre?
- ⇒ what do the surroundings have to offer (phenomena and their messages)?
- ⇒ is a supporting programme (interpretive trail, talk, walk) planned?

The anticipated visitation patterns are decisive in the calculation of the open space in the exhibit area - without the exhibits. We calculate 1 m² per visitor for the lobby and 2 m² per visitor in the exhibit area itself.

If the visitor centre is wheel-chair accessible, then it must also meet wheel chair usage standards inside. In every case the safety standards (fire protection, escape routes) applying to public buildings of this size must be adhered to.

The lobby should have a welcoming atmosphere and have adequate space to receive the largest expected number of visitors (e.g. during rainfall). The central element of the lobby is generally the information desk with a map under glass - facing the visitors - and with printed material. When visitation is lower, variable displays or seating arrangements can "furnish" the room. If the lobby is too small then it should at least have a covered outdoor area with benches and basic information (e.g. general site plans). Where the room space is limited it can be wise to equip the sanitary facilities (which are often sought out first and foremost) with their own clearly recognisable entrance and to offer weather protection in front of the visitor centre. These facilities are then available for use outside the opening times of the centre as well.

The way to the visitor centre must be adequately signed. Especially in remote locations directional signs must give the opening times when it is the main destination.

Exhibit Design

In exhibits we can present transitory objects and show or reveal phenomena which in nature are not as visible. This advantage should be used. Using only text and graphic panels would mean reducing the visitors' experience to the visual sense and depriving them of the three-dimensional.

When choosing objects it is, however, important not to have a complete collection but rather a few very carefully chosen objects which best reflect a theme and then stage their display entertainingly. They must be in connection with the surroundings and the attitude of the visitors. The classic museum atmosphere with show cases should be avoided. And the exhibit, too, adheres to the design criteria (text type, colours,...) adopted for wayside exhibits. Objects need space to have an effect. We should assume a circulation area of at least 2 m² per person. Visitors should not get in each other's way and need to be able to take a step back, too.

Children and disabled should have access also. Children can be "concentrated" in their own attractive experience areas. But then the synergy effect is lost: children often inspire adults to look at things more carefully or to get actively involved.

When the visitor's length of stay is short, the statements of the objects must be understandable at a glance. The arrangement of the room furnishings, lighting, and the routing of the visitors (visitor circulation) can be done to ensure that what is most important to us for them to see is the first thing in their line of vision. Where complex facts have to be explained, seating can encourage a longer stay.

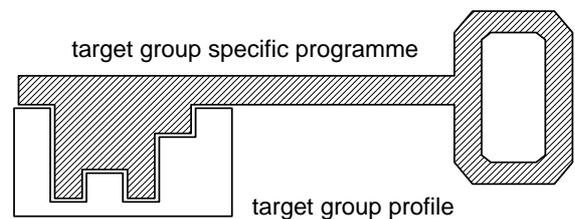
In protected areas the typical presentation forms are landscape models and dioramas. In a diorama a scale model of a segment of nature in precise detail with a realistic painted background is exhibited in a glass case. Dioramas are used where taxidermal animals are exhibited in their typical habitats (for instance underground) or where historic situations are to be made perceptible. Live animals, particularly when they are small, are a great attraction for many visitors. But they must be kept in a manner appropriate to their species and their proper care assured.

When texts are employed the visitors are generally channelled in reading direction (clockwise). Thereby functioning models, shutters, touch boxes and the like inspire them to interact. Often however such offers are not taken advantage of - although they are planned as enrichment. That means: it does not make good sense to "hide" basic messages, important for understanding, behind shutters. In addition, in an exhibit in which the visitors are free to move about within the theme circle, it is important that each station in the exhibit is understandable in itself. Technical apparatus (light barriers, acoustic documents, film cuts, aroma organs,...) can support the statements of objects in the exhibit. We should do without them, however, if they put the objects in the background or if, should they break down, they cannot immediately be put back in working order by the personnel on hand.

Exhibits can also be transportable (see: 21). Important criteria for transportable exhibits are that they are fast and easy to assemble and dismantle, that they are not dependent on electricity, gas or water connections, that they have a degree of robustness, and that the exhibit can be packed and stored in relatively little space.

Target Group Specific Programmes

Activities such as an interpretive walk are generally directed at a non-captive audience. That means that the participants are there by choice. Environmental education programmes on the other hand are often addressed to captive audiences that are organised in specific target groups. Everywhere where organised groups visit our protected area for educational purposes we have the opportunity to develop programmes tailor-made for specific target groups. This applies most especially to school classes. Organised holiday or excursion groups or further-education groups might be reached with such programmes as well. What is included in a target group specific programme?



32

During the planning, along with **strategic guidelines**, the **outer framework** (financial, time, location, and content frames) and the **nature pedagogic principle** (e.g. working in small groups) are factors to bear in mind.

Advisable is a clear organisation of introduction, main body and conclusion. The introduction (sounding out phase) is for getting acquainted and an appraisal of the group, the conclusion is for an exchange of views and their application to the participants' lives. The main body stretches over various stations which are joined together with short (5-10 min.) connections.

To be convincing in the main body, preparation in three phases is undertaken:

1. First there must be absolute clarity about which **target group** will approach the programme with which **target**. These two factors are certainly the most basic and should be reflected in every phase of the programme. In education programmes they must be described as concretely as possible. If the target group analysis is inadequate and the target establishment insufficient the programme form can offer no remedy. It can even actually hamper the work with the participants.
2. Of importance in drawing up the educational programme is also which **theme** of the target will be handled in its contents. A **structural aid** (e.g. in the form of an incomplete picture which the participants will fill in during the course of the programme) assures that the theme line will run through the entire course.
The ordering of the individual congregation points in the theme can be facilitated through the repeated appearance of a **symbol** (logo, mascot,...) and various **reminders** which reawaken the memory of the individual activities. Every now and then these memory-jogger objects can be coupled with the distribution of **rewards** for having accomplished a task.
3. The success of the programme can be deduced in the conclusion phase. The well-planned **compilation** of the results of the activities in reference to the target is facilitated greatly by the memory-jogger objects. There should also be a clear idea of how the programme results are to be **transferred** into the world of the participants - and about the manifold possibilities of an **extension** of the programme (e.g. through announcements, questionnaires about the theme field or a prize competition).



Advantages and Disadvantages of Programming

Target group specific programmes and concrete target education programmes offer in the execution an entire list of advantages, as compared to their disadvantages:

33

+	-
Adjustment to a concrete target group is possible	Participants must conform to the existing spectrum of offered activities
Minimum preparation before and afterwards allows higher number of participants	Group members' influence on the course of the programme is limited
Following a short introduction, execution by counselors is possible	Educational programmes have an extensive personnel demand
Well-practised execution makes concentration on the target group possible	Repetitious execution of the same programme "dulls" employees
Allotted time can be used fully	Interpreters are tied up with the execution of the programme
Despite small working groups a logical, co-ordinated development	Spontaneous contact with programme-extraneous phenomena is limited
Appropriate media can be prepared and be on hand for use at the right minute	Extensive preparation is in fact only effective from a certain minimum extent
Results of an evaluation can be put into action immediately	Evaluation is mandatory to prevent multiplication of errors

The clearest advantages of standardised programmes occur in places where a small number of workers must carry out a great many events and where in addition a large number of counselors have to be trained and co-ordinated. The work in the Saxon Switzerland National Park (Germany), for instance, depends mainly on target group specific day programmes for school classes. Yearly 5,000 to 10,000 children and young people are reached there. Problems arise when counselors too frequently have to present the same programme or when they are not yet sufficiently fine-tuned to each other. In such cases a programme under the intended educational process can be a hindrance. With the necessary practice in team, however, even complex programmes recede further and further into the background while the fruitful interaction between phenomenon, participant and interpreter unfolds almost entirely without interruption.

Standard programmes only make sense where in a protected area many organised visitors are to be found. If the educational work is directed not mainly at park visitors but at the regional population other methods are necessary. So is the case of the Oberlausitzer Heide and Pond Landscape Biosphere Reserve (Germany) which offers, in the framework of the project "Children of the Villages", children the opportunity to be looked after educationally by municipal workers over a lengthy period of time.

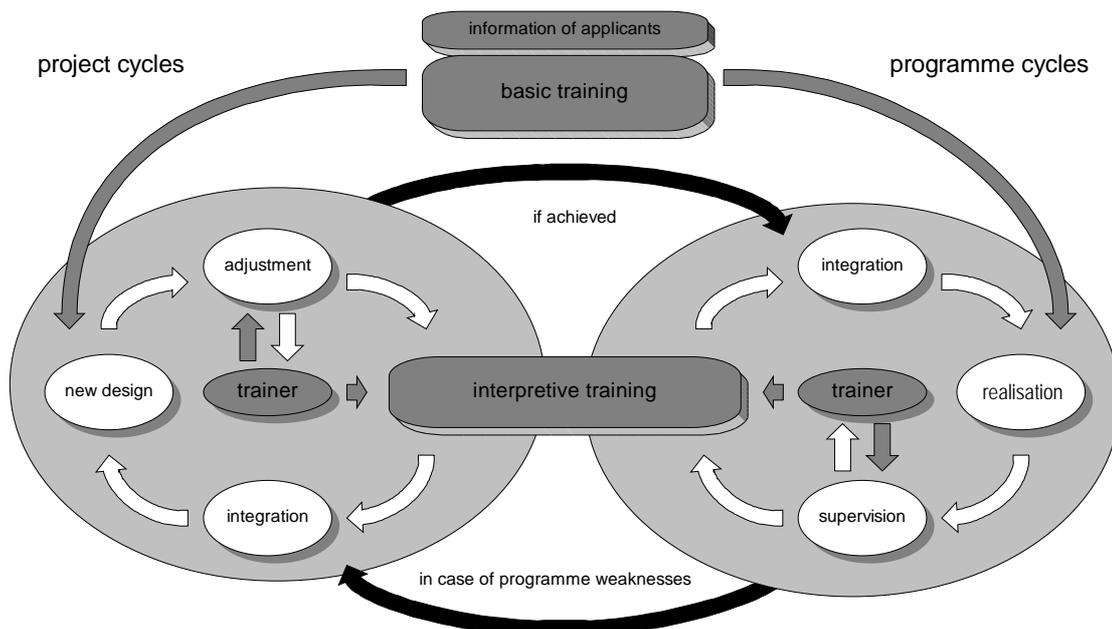
Deployment of Counselors in Programmes

In working out educational programmes through appropriate project teams, the evaluation, the integration of new approaches and the continual monitoring and reworking of the materials runs in project cycles.

Educational programmes must have long trial runs before they become nearly perfectly adjusted to the general set-up. For this reason they are continuously developed further during the first years of their application. In the Saxon Switzerland National Park (Germany) it has proven effective to adjust the cycle of this further development to the seasonal undulations in demand during the year. The individual development phases of the programme cycle can be ordered according to the four seasons of the year:

- spring: selection and training of the staff
- summer: execution and protocol-tracking of the programme
- autumn: evaluation of the summer experiences
- winter: reworking the programme and actualisation of the training content

Both cycles are in connection with one another. Programmes which show obvious fluctuations can run through another project cycle. Integrated with the cycles is a system for continual information and training of new members of the staff.



The application of this system can be very effective when a certain minimum number of suitable counselors (financed through practical training or fee contracts) can be entrusted with the development and carrying out of a minimum number of programmes.

Practically all of the educational programmes used in the Saxon Switzerland National Park have been worked out by counselors - with the necessary advisory assistance of experienced trainers. For this work up to 50 counselors are engaged during one season.



Training of Counselors in the Educational Sector

Counselors can support our educational work economically and to an impressive degree. In exchange - and of course also in order to guarantee the high quality of this work - where a number of counselors are simultaneously engaged we ought to offer appropriate opportunities for further education and training.

35

We distinguish between counselors which come to us through government programmes (in Germany: voluntary ecological year or military-alternative service) from those who work under a fixed-term contract (e.g. trainee-ship contract) or on a fee basis. Job creation measure workers or volunteers are not included.

In the Saxon Switzerland National Park (Germany) a five-tiered education and training system has proven successful for all those counselors working in the educational area responsible for school classes. (see : 34):

1. preliminary information
2. basic training
3. working in
4. supervision
5. interpretive training

At the beginning of each year numerous applications come in from the entire Federal Republic of Germany. In the first phase each worker whose application for the up-coming season has been accepted receives, in February, an information packet with material about the national park philosophy, about the Elbe Sandstone Mountains, about educational work in the national park as well as the programme booklet of one educational programme. In the second phase the applicants go through - always in April - a one- to two-week intensive training in the national park educational facility, during which the basics of ecology and didactic in the national park in theory and practice are explained. The process of familiarising them with the educational programme for school classes begins immediately after the Easter holiday (opening of the season) - where possible by counselors who were already employed there the year before.

After two weeks the first supervision takes place. That means: an experienced worker accompanies an as yet inexperienced one in a programme and completes an evaluation sheet for him or her. They then discuss the evaluation together. It provides insights into both the needs for reworking of the individual programmes as well as the further training needs of the worker.

In intervals of about one month a one-day interpretive training takes place during which new programme elements are tried out and the correction of counselor weaknesses is focused on. Frequently altering supervision and interpretive training goes on until the season closes (at the begin of the autumn holiday).

The system in the Saxon Switzerland National Park is built largely upon on-the-job-training in which the training of up to 25 counselors by one trainer is possible, because the counselors motivate each other, with the help of suitable materials, to improve their performance. Alongside their work in the programme area, all of the counselors are organized in project teams who work out new programmes and so keep the educational work in the national park moving ahead.



Heritage Interpretation as per Agenda 21

In 1992 in Rio de Janeiro, at the UN Conference on Environment and Development (UNCED), the largest conference of the United Nations to date, Agenda 21, a broad statement of goals and potential programmes related to sustainable development, was adopted.

36

The Agenda 21 follows essentially two goals, world wide:

1. crisis management in nature
2. crisis management in international justice.

In the 40 chapters of the Agenda the necessity of achieving cross-sectional decision structures (ch. 8), the important role of non-government organisations in the development and implementation of appropriate decisions (ch. 27) and the importance of a foresighted up-bringing, education, and sensitising (ch. 36) are emphasised. All measures which are to be taken within the framework of the Agenda 21 should be equally responsible to the ecological, economical and social needs of mankind and the environment.

One of the most convincing attempts to apply the principles of the Rio Conference to Europe is a study prepared by the Wuppertal Institute for Climate, Environment, Energy under Ernst Ulrich von Weizsäcker in 1995, called "Sustainable Germany" (*Zukunftsfähiges Deutschland*). The non governmental organisations in Germany have joined together in an Environmental and Developmental Forum to continuously further the Agenda work and numerous cities and counties across the nation are working locally or, respectively, regionally.

The results from Rio also have far-reaching effects for heritage interpretation. The European Network for Heritage Interpretation embraced sustainable development in its main statements. "Education for Sustainable Development" has in the meantime become the major theme for which a number of quality-criteria - also under the auspices of the German Association for Environmental Education (*Arbeitsgemeinschaft Natur- und Umweltbildung - ANU*) for example - have been worked out. Therefore the appropriate education measures should

- ⇒ have a relation to day-to-day life for the target group and have concrete possibilities for action.
- ⇒ encourage creative co-operative work (design competency) and convey the appropriate key qualifications.
- ⇒ pre-eminently use methods which are based on co-operation and self-determination.
- ⇒ assign the participants increasingly greater decision-making and action-taking competency.

Agenda 21 is the first attempt at an international response to the existential questions facing humanity. It cannot solve all the problems, and not all nations are equally involved in finding solutions. The European Union has taken a trailblazer role in this field.

And we can take advantage of the possibility of developing heritage interpretation on the basis of our experiences in the spirit of Agenda 21 and so do our part in preserving the earth as living space for future generations.



We Develop an Interpretive Talk

	Task	Comments	Time (approx.)
1.	Select three appealing <u>phenomena</u> in the research area.	Imagine you were in the area for the first time; what would arouse your interest?	10 minutes
2.	Formulate five <u>messages</u> for each phenomenon.	Use the white cards to make the message visible on each of the phenomena.	20 minutes
3.	For each phenomenon develop its most promising message into a <u>theme</u> .	Replace the white cards concerned with yellow ones. Round out the theme formulations!	15 minutes
4.	Decide upon one phenomenon and its theme.	Is there one phenomenon which you would especially like to interpret and to which something immediately comes to mind?	5 minutes
5.	Based on the appearance of your phenomenon and in accordance with your theme formulate three impressive <u>statements</u> .	"After my presentation the visitors should have found out that..." (useful for themes and statements)	10 minutes
6.	Think about how you can use ⇒ stepping stones ⇒ questioning techniques ⇒ props / auxiliary techniques to get your statements across.	Clip your theme at the top of your work sheets so that you can keep it in mind!	30 minutes
7.	Practice your interpretive talk. Decide among yourselves who will later present it in front of all the others.	All the members of the group present the interpretive talk to the others, as it will be presented to the visitors. Use the formal form of address! What can be improved?	30 minutes

W
1

- Keep to the facts that you actually know yourself.
- Use simple materials, for example those things which nature itself offers you on site.
- Carry a few ideas out carefully rather than mentioning many.
- Try to keep to the planned schedule.



We Develop an Interpretive Walk

W
2

	Task	Comments	Time approx.
1.	Walk through the path where your tour will be. Agree upon one <u>topic</u> .	All phenomena must be subordinate to the topic.	10 minutes
2.	Formulate a <u>main theme</u> fitting to the phenomena which you feel are appropriate.	“After my presentation the visitors should have found out that...”	5 minutes
3.	Choose - appropriate to your main theme - four <u>phenomena</u> . Examine their <u>messages</u> and make a rough sketch of four subordinate <u>themes</u> .	Again: “After my presentation the visitors should have found out that...” Every theme must be firmly locatable!	15 minutes

Work in pairs...

4.	Examine your phenomenon and its surroundings ⇒ work out your theme ⇒ three fundamental <u>statements</u> ⇒ how you are going to make your messages capable of being actively experienced by the visitors within 5 to 7 minutes ⇒ connections to the world of your visitors	Write the main theme in big thick letters on your sheet so that you keep it in mind! Does your subordinate theme (to the phenomenon) describe what is special about the phenomenon? Do your activities lead unquestionably to this theme?	45 minutes
----	--	---	------------

...and then in the group again

5.	Combine your themes in an attractive tour. (Duration: about 30 minutes)	⇒ attractive beginning ⇒ references to the phenomena ⇒ “call to action” closing	15 minutes
6.	Decide who is going to present the phenomena; four of you together play the interpreter. Do a critical staging.	⇒ formal form of address ⇒ don’t leave your role and talk about other things you actually <u>wanted</u> to do during the presentation	30 minutes

In case you have a little more time:

7.	Formulate an advertisement with which you could, for instance on a poster, advertise your tour.	The advertisement should awaken the visitor’s interest and draw their attention to your topic.	
----	---	--	--



We Accompany an Interpretive Walk

1. Go through all the questions on this sheet together. Where is something unclear?
2. Form three subordinate groups out of your group which observe as follows:
 - group 1 during the tour the interpreter
 - group 2 how s/he deals with the phenomena during the tour
 - group 3 the integration of the participants.
3. Make short notes during the tour about the following questions.

W
3

for everyone: the overall impression

- ⇒ Was the tour well-rounded (suspense?)
- ⇒ What was best?
- ⇒ Where was the high point?
- ⇒ Where was the low point?
- ⇒ What could have been the main theme to which topic?
- ⇒ What messages did you receive?

for group 1 only: the interpreter's performance

- ⇒ Were the interpreters in your opinion authentic?
- ⇒ Were all of their remarks understandable?
- ⇒ Did all of the interpreters get their messages across convincingly?
- ⇒ Did they incorporate different media/methods in their presentations?

for group 2 only: how the phenomena were presented

- ⇒ Could all the messages be demonstrated on site?
- ⇒ Were the phenomena presented in a dignified way?
- ⇒ Were the participants involved in the presentation?
- ⇒ Were they able to experience the phenomena first-hand?

for group 3 only: integration of the participants

- ⇒ Were all the participants focused on the event all the time?
- ⇒ How often did the participants get to have the word?
- ⇒ Were the interpreters able to pick up impulses coming from the group?
- ⇒ Did the participants have the opportunity to relate something from their daily lives?

Following the tour a round of critical analysis takes place

In the evaluation the group which accompanied its preparation has the first word. After that it is your turn. There will be positive and negative critique.

Please structure your critique beginning with the positive aspects!

Your critique gives your own very personal impression; make that clear.

Be frank. State your criticism in the way that you think the person criticised will be most able to take it or the way you yourself would like to be critiqued.



We Develop an Interpretive Trail

W
5

	Task	Comments	Time approx.
1.	Walk the route selected for your trail. Agree on the <u>topic</u> .	Is there a piece of terrain which supports the trail structure?	10 minutes
2.	Formulate a <u>main theme</u> appropriate to the phenomena which you think are suitable.	“After walking my trail the visitors should have discovered that...”	5 minutes
3.	Choose - fitting to the main theme - four <u>phenomena</u> . Examine their <u>messages</u> and prepare a rough sketch of their subordinate <u>themes</u> .	“After encountering my phenomena the visitors should have discovered, that...” Every theme must be concretely locatable!	15 minutes

Work in pairs...

4.	Examine the phenomena and its surroundings. Develop a) your theme b) three fundamental <u>statements</u> c) connections to the world of the visitor d) the manner of revealing messages e) opportunities to activate the visitors	Write your main theme in large letters on a file card, so that you can keep your eye on it. Remember the sequence 1. provoke 2. relate 3. reveal Think where your panel could be placed, and which form would be the most suitable.	30 minutes
5.	Formulate your text. Where do the visitors stand? How shall we design the panel? Is it suitable for a convincing interactive element to be made out of it?	Use work sheet W3 to work out your text. Transfer the text and graphics to the poster panel (leaving a 2,5 cm border free all the way around).	25 minutes
6.	Mount your panel on the selected base.		5 minutes

...and in the whole group again

7.	Walk all the stations of your trail together.	Read the panels without comment, discuss them later on at the end.	15 minutes
8.	Rework your panels – especially in regard to their suitability.	For the final design, use the reverse side of the poster panel.	15 minutes



Links and Literature

Literature:

- ARISTOTLE: **The Nicomachean Ethics**
Oxford University Press, Oxford (1998)
- BROCHU, LISA: **Interpretive Planning**
interpPress, Fort Collins (2003)
- BROCHU, LISA / MERRIMAN, TIM: **Personal Interpretation**
interpPress, Fort Collins (2002)
- BUZAN, TONY / BUZAN, BERRY: **The Mind Map Book**
BBC Consumer Publishing, London (1993)
- CARTER, JAMES (Ed.): **A Sense of Place – An Interpretive Planning Handbook**
Tourism and Environment Initiative, Inverness (1997)
- CORNELL, JOSEPH: **Sharing Nature with Children**
Dawn Publications, Nevada City (1979)
- CORNELL, JOSEPH: **Sharing the Joy of Nature**
Dawn Publications, Nevada City (1989)
- HAM, SAM: **Environmental Interpretation**
North American Press, Golden (1992)
- HEINTZMAN, JAMES: **Making the Right Connections**
University of Wisconsin, Stevens Point (1988)
- HELWIG, PAUL: **Charakterologie**
Ernst Klett Verlag, Stuttgart (1965)
- HERTLEIN, MARGIT: **Mind Mapping**
Rowohlt Taschenbuch Verlag, Reinbek (1997)
- KEATING, MICHAEL: **The Earth Summit's Agenda for Change**
International Institute for Sustainable Development (1993)
- LEWIS, WILLIAM: **Interpreting for Park Visitors**
Eastern Acorn Press, 1995
- LOSKE, REINHARD / BLEISCHWITZ, RAIMUND: **Sustainable Germany (Abstract)**
Carl Duisberg Gesellschaft, Berlin (1995)
- MASLOW, ABRAHAM: **Motivation and Personality**
Addison-Wesley Pub Co (1987)
- MASLOW, ABRAHAM: **Toward a Psychology of Being**
John Wiley & Sons, New York (1998)
- NEAL, ARMINTA: **Help for the Small Museum**
Pruett Publishing Company, Boulder (1987)
- PRO NATUR: **Besucherleit- und –informationssystem für deutsche Nationalparke**
Föderation der Natur- und Nationalparke Deutschlands, Grafenau (1995)
- REGNIER, KATHLEEN et al.: **The Interpreter's Guidebook**
University of Wisconsin, Stevens Point (1994)



- SCHULZ VON THUN, Friedemann: **Let's Talk**
Verlag Schulz von Thun, Hamburg (1998)
- SERRELL, BEVERLY: **Exhibit Labels – An Interpretive Approach**
AltaMira Press, Walnut Creek (1996)
- SHARPE, GRANT (Ed.): **Interpreting the Environment**
John Wiley & Sons, New York (1976)
- TILDEN, FREEMAN: **Interpreting Our Heritage**
The University of North Carolina Press, Chapel Hill (1977)
- TRAPP, SUZANNE et al.: **Signs, Trails, and Wayside Exhibits**
University of Wisconsin, Stevens Point (1994)
- VAN MATRE, STEVE: **Earth Education – A New Beginning**
The Institute for Earth Education, Greenville (1990)
- VESTER, FREDERIC: **Denken, Lernen, Vergessen**
Deutscher Taschenbuch Verlag, München (1991)
- VEVERKA, JOHN: **Interpretive Master Planning**
Falcon Press, Helena (1994)
- VON OECH, ROGER: **A Whack on the Side of the Head**
Warner Books, New York (1990)
- WATZLAWICK, PAUL: **Pragmatics of Human Communication**
W.W. Norton & Company (March 1967)
- ZEHR, JEFFREY et al.: **Creating Environmental Publications**
University of Wisconsin, Stevens Point (1994)

Links:

- European Network for Heritage Interpretation
www.interpret-europe.net
- Association for Heritage Interpretation (UK)
www.heritageinterpretation.org.uk
- Scottish Interpretation Network
www.scotinterpnet.org.uk
- Bildungswerk interpretation (Germany)
www.interp.de
- National Association for Interpretation (USA)
www.interpnet.com
- Interpretation Canada
www.interpcan.ca
- Interpretation Australia Association
www.interpretationaustralia.asn.au



*I'll interpret the rocks,
learn the language of flood,
storm and the avalanche.*

*I'll acquaint myself
with the glaciers and wild gardens,
and get as near to the heart
of the world as I can.*

JOHN MUIR, 1871



Definitions and Principles of Heritage Interpretation

Definitions of Interpretation

Interpretation is an educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information.

FREEMAN TILDEN, 1957

Interpretation is a communication process designed to reveal meanings and relationships of our cultural and natural heritage to the public (visitors) through first-hand experiences with objects, artifacts, landscapes, or sites.

INTERPRETATION CANADA, 1976

Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience, and the inherent meanings in the resource.

NATIONAL ASSOCIATION FOR INTERPRETATION, 2000

The Six Principles of Interpretation

1. Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.
2. Information, as such, is not interpretation.
Interpretation is revelation based upon information.
But they are entirely different things.
However, all interpretation includes information.
3. Interpretation is an art, which combines many arts, whether the materials presented are scientific, historical or architectural.
Any art is in some degree teachable.
4. The chief aim of interpretation is not instruction, but provocation.
5. Interpretation should aim to present a whole rather than a part, and must address itself to the whole man rather than any phase.
6. Interpretation addressed to children (say, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach.
To be at its best it will require a separate program.

TILDEN: Interpreting Our Heritage, 1957



Personal Attributes of an Interpreter

A
3

1. Which of the following qualities are in your opinion the most important for an interpretive ranger?

--	--	--

2. Put the following 20 qualities in the order of importance to you as a member of the Interpretive Ranger Service by writing numbers from 1 (highest) to 20 (lowest) in the circles.

- | | |
|---|---|
| <input type="radio"/> enthusiasm | <input type="radio"/> politeness |
| <input type="radio"/> sense of humor | <input type="radio"/> receptivity |
| <input type="radio"/> articulateness | <input type="radio"/> reliability |
| <input type="radio"/> warmth | <input type="radio"/> criticism ability |
| <input type="radio"/> adaptability | <input type="radio"/> patience |
| <input type="radio"/> authority | <input type="radio"/> sociability |
| <input type="radio"/> poise | <input type="radio"/> helpfulness |
| <input type="radio"/> willingness to compromise | <input type="radio"/> wealth of ideas |
| <input type="radio"/> credibility | <input type="radio"/> self-confidence |
| <input type="radio"/> pleasant appearance | <input type="radio"/> curiosity |

3. If other qualities are especially important to you, name them here!

--	--	--



Educating for Interpreter Excellence

by Paul H. Risk

Since the early 1900s North American park and recreation agencies have made some effort to provide information and answer questions about their resources. Much of the impetus for this movement had its origins in the national parks of the United States.

Early interpreters were selected almost exclusively from the ranks of natural scientists. Although this choice is still widespread throughout the interpretive field, it is based on two debatable concepts. First of all, it is doubtful that people come to parks with the idea of being educated. Second, there is no correlation between possession of a degree in natural sciences and the ability to communicate. If anything, there may be a negative correlation, and communication is the name of the game. For interpretation to be effective in its goals of developing sensitivity, awareness, understanding, enthusiasm, and commitment, communication skill is of paramount importance.

Personal Attributes of the Interpreter

A great deal has been said and written regarding the formal education of interpreters, but little attention has been directed to the basic building blocks – personal characteristics of the interpreter. Although Freeman Tilden has alluded to the fact that interpretation is, to some degree, a teachable art, the fact remains that some individuals possess certain attributes which seem to destine them to higher degrees of success in this field. Since interpretation is a limited field and can have profound effects on public environmental attitudes, it behooves those who administer such programs to have clearly in mind a number of personality characteristics as indices to use in their selection process. Furthermore, these same attributes should be strongly considered in counseling prospective students investigating this academic pursuit.

The first reaction to a listing of the qualities desirable in an interpreter may be that this is pure idealism. It is! Idealism brought to reality is “the stuff” of which quality interpretation is made.

Although “sparkle” may be a rather nebulous term to use in the description of personality characteristics it nevertheless seems the sum of a series of desirable qualities. Certainly, it is a visceral-level explanation of what is desired. Don’t get trapped in the old argument “we can’t all have sparkle”. This may be true, but we can’t all be interpreters either, and if that is what you are trying to educate or hire, take the time to evaluate and choose those who match your criteria.

Here is a list of qualities which may be included in the definition of the term “sparkle”. It gives some idea of the direction to go in selection criteria.

Enthusiasm

Enthusiasm can help to minimize the problems when difficulties beset the way. It presupposes zeal and drive to produce desirable ends. Here at least it is possible to detect a *literal* sparkle in the eyes that will betray the characteristic you are seeking. Smiling easily and elaborating on ideas, the enthusiastic person is usually a “self-starter” requiring minimal supervision.

Sense of Humor and Perspective

The two go hand in hand. Nothing is more deadly than the person who never sees the humor in a situation unless it is an individual who, when the joke is on him or her, perceives it as an affront. A sense of perspective helps remind one not to take oneself too seriously. (Others don’t!)

A sense of both humor and perspective can be of great aid on those days when things don’t seem to be going well and the interpreter gets “peopled” – crushed by a mass of rushed, unhappy visitors with incessant demands. An inability to maintain perspective can easily result in a serious public relations problem.

A
4a



Articulateness

Essentially this means that the interpreter should be able to communicate and express ideas clearly and smoothly, using phrases easily with words in pleasing and proper order. Practice during the course of employment will increase this ability, but the flair for articulate speech is something which is detectable even before experience molds it. Look especially for this as it has a strong influence on interpreter credibility and agency image in the eyes of the public.

Self-Confidence

Self-confident people instill this same quality in those around them. In addition they won't have to be handed into new enterprises. They will instead look upon newness as a challenge and generally prove to be an asset to the agency as they successfully launch new projects. One indicator of this trait is the person's ability to maintain eye contact.

Warmth

Does the individual make you feel comfortable as you talk? Remember that people like people who like them. Lack of warmth is frequently the single most important factor in the determination of a visitor-perceived image in public contact work. It gives a rather clear idea as to whether or not the person likes to work with people.

Poise

Poise really is a composite of several traits including maturity, confidence, and warmth. People with poise meet strangers easily, giving the feeling that they are in control of themselves and the situation. It is a trait that will grow with experience and age.

Credibility

Perhaps *perceived* credibility is a better way to put this. It is related to the fact that some people in their style of communication give the feeling that they are to be believed. Others, such as those who "put the mouth in gear without the brain being engaged", don't. We often refer to this type as a "know-it-all" who is merely trying to cover up inadequate knowledge with a barrage of words and attempting to impress. In either case the result is undesirable. Frequent hesitations and verbal discontinuities along with overuse of words such as "maybe", "perhaps", "probably", "I guess" or "you know" also shake confidence and destroy credibility.

Pleasant Appearance and Demeanor

This again is a complex of conditions relating to those characteristics of physiognomy, movement, and dress that others use to determine their own sense of comfort with the person. We all are aware that there are some people who don't even need to speak to make us feel drawn to them and others who repel us for various reasons. Careful consideration of dress standards together with physical appearance, habitual expression, and personal peculiarities should give an accurate assessment of how this person will affect others.

Although this is not intended to be an exhaustive list of personal attributes to be sought in interpreters it can provide general guidelines. You will surely find other characteristics that you consider important.

from: Sharpe, Grant W. (Editor): **Interpreting the Environment** (p. 499-502)
John Wiley & Sons, New York (1976)



Interpretive Services

Interpretive Trail *Interpretive Walk*

- ⇒ connects several phenomena
- ⇒ has one main theme and several subordinate themes
- ⇒ follows a logical theme line

grey: *Non-Personal Services*
orange: *Personal Services*

Wayside Exhibit *Interpretive Talk*

- ⇒ is anchored to one site
- ⇒ deals with only one phenomenon
- ⇒ has only one theme

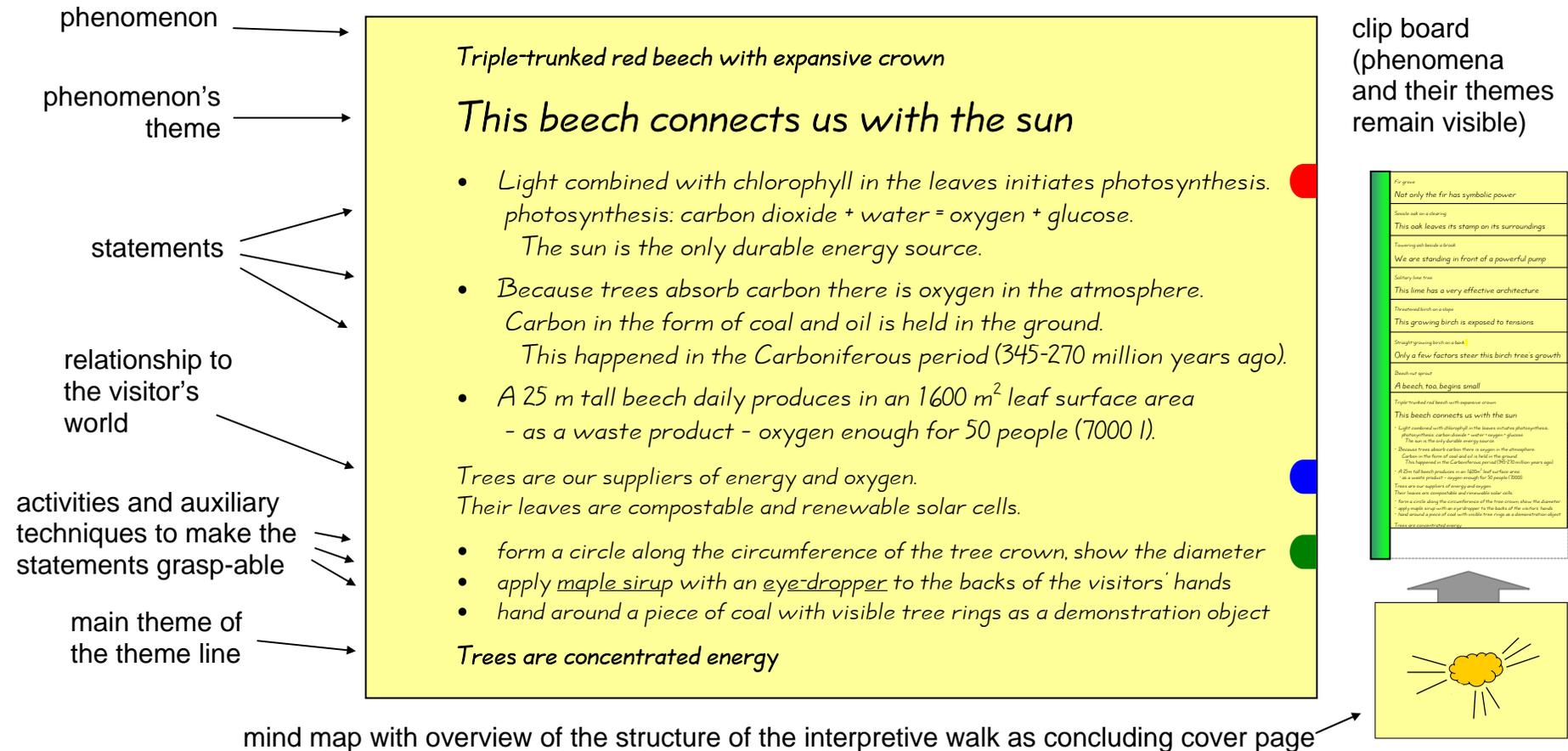
Interpretive Area *Roving Interpretation*

- ⇒ offers several themes and phenomena
- ⇒ leaves the choice up to the visitor
- ⇒ unfolds itself under one main theme within a theme circle



Structuring an Interpretive Walk with the Help of Theme Cards

1. enter the main theme of the theme line
2. select phenomenon on site
3. formulate the subordinated theme of the phenomenon
4. formulate the statements supporting the theme
5. show the relationship to the visitor's world
6. work out activities and name auxiliary techniques



A Panel Text

Example for a standard module taken from the visitor orientation and information system ILS for German protected areas (see Pro Natur, 1995)

Panel form:	single module, framed and on a low profile base (desk form)
Panel size:	470 x 230 x 26 mm (module without frame)
Material and design:	EDP-steered laser engraving on maple (laminated wood)
Weather-proofing:	medium-pigmented spar varnish (matt, clear)

A
7

Can you walk under water?

The dipper can!

Sparrow-sized with a white throat
the bird likes to sit on waterside stones.

Every now and then it hops into the water
and searches the floor of the stream for insects.

Here on the Kirnitzsch the dipper feels at home.
Perhaps you will discover one.



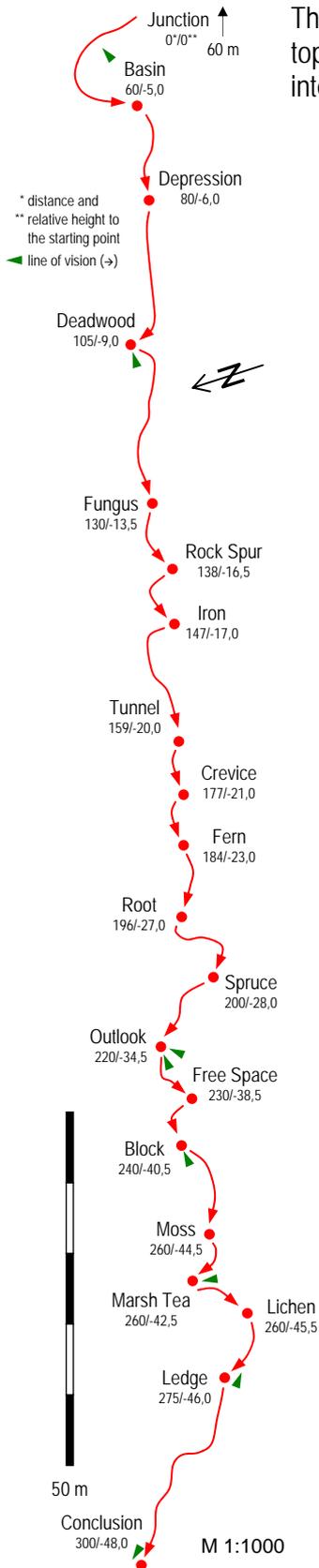
The title and text contain the theme (“The dipper can do what we can’t - walk under water”) and four supporting statements concerning habit and habitat.

Number of characters:	240
max. length of a line in characters:	41 target: max. 50
Number of sentences:	6 target: min. 4 (max. 15 words p. sentence)
Number of words in title:	5 target: max. 10 (reading time: 3 sec.*)
Total number of words:	53 target: max. 100 (reading time: 30 sec.*)
Readability (c:w):	4,5 target: < 6,0
Assimilation in 3 sec. (statist. aver.):*	[graphic] – 1,5 sec. Can you walk under water? – 1,5 sec.
Total reading time (statist. aver.):*	16 sec.
Provocation (provoke):	„Can you walk under water?...“ „...perhaps you will discover one...“
Relevance to the visitor (relate):	„Can you walk under water?...“ „...perhaps you will discover one...“ the dipper feels comfortable.
Revelation (reveal):	„...The dipper can!...“ „...perhaps you will discover one...“

*in a linear assimilation with a reading speed of 200 words pro minute

Greenwood Gorge Interpretive Trail

The trail was planned for the Saxon Switzerland National Park (Germany) in 2001. Its topic is "wilderness", and it leads through a narrow sandstone canyon, connecting 20 interpretive elements over a distance of about 300m.



Stations	Themes within the Theme Line
1. Junction	Moving through untouched nature we find ourselves on a <u>voyage to ourselves</u> . (Main Theme)
2. Basin	Living in harmony with nature means finding the <u>balance</u> between the ordered and the unrestrained.
3. Depression	To do so we must be able to <u>accept</u> the unrestrained.
4. Deadwood	Unbridled nature reveals some of her fundamental <u>patterns</u> to us with one glance.
5. Fungus	But much which surrounds us out here remains <u>unnoticed</u> to us.
6. Rock Spur	Some of the things which occur in nature lie simply <u>beyond our senses</u> .
7. Iron	Other things are beyond our comprehension; where nature is the creator, <u>accident</u> is often the decision maker.
8. Tunnel	How nature <u>influences</u> us is often not clearly explainable.
9. Crevice	Nature becomes familiar to us through the <u>repetition of forms</u> , from large to small, occurring in all things natural.
10. Fern	Not only the landscape but all forms of life as well know this principle of <u>branching out</u> .
11. Root	With this eternal rhythm of coming and going comes, in addition, continual <u>change</u> in the patterns which appear and disappear.
12. Spruce	We can wipe out all evidence of chaos or we can learn to accept it and <u>mature in flexibility</u> .
13. Outlook	Opening ourselves to wilderness can help us open up to new <u>perspectives</u> .
14. Free Space	Then only undeveloped open spaces bear the <u>potential</u> for development in themselves.
15. Block	Seemingly hostile <u>border areas</u> call out for survival artists.
16. Moss	Being able to live with wilderness means either making a <u>home</u> for oneself in them...
17. Marsh Tea	...or it means - in reverse - finding a place there which reflects <u>one's own nature</u> .
18. Lichen	Making a place a good place to live often requires good <u>co-operation</u> .
19. Ledge	Even in a small space a <u>network</u> can be formed in which all the parts profit from each other.
20. Conclusion	We, too, are a part of this free nature, and she is a part of us; wilderness protection is therefore also part of our <u>self protection</u> .

Dipper's Tavern Information Centre

The centre in the Saxon Switzerland National Park (Germany) was opened in 1992.

Theme: The park protects a great number of changing niches in a small area.

Comment: You have moved through a rugged landscape. The distance which you have covered is relatively short. Nevertheless its structure is richly abundant in living spaces for many species. The national park protects these niches - and their dynamic. During the year the habitats change their characters. So you can discover something different in every season.

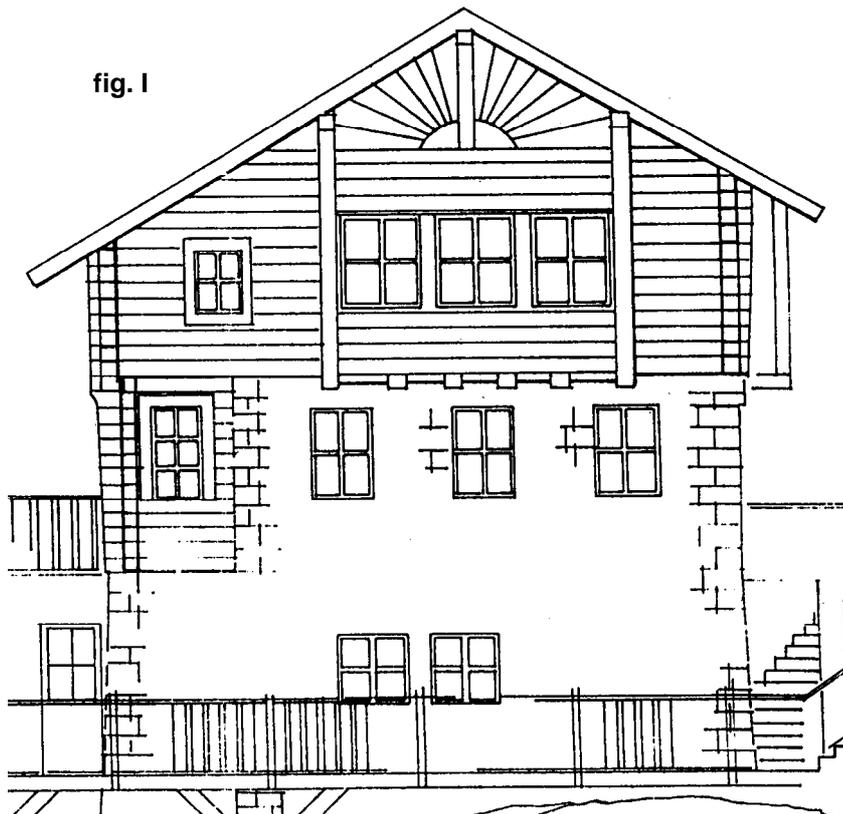


fig. I

fig. I

attic: storage
 upstairs: exhibit area (48 m²)
 "Room with Niches"
 ground floor: kitchen with snack bar
 and terrace
 cellar: sanitary facilities

fig. II

Exhibit area - clockwise circulation
 around the information desk

1. **Relief model** - Rathen area landscape as part of the park
2. **Illuminated box** - comparison between the area covered by the city of Berlin and the area covered by the national park
3. **Diorama** - opening niches (e.g. nesting places of eagle owl and pygmy owl) up to view
4. **Park mission** - explanation based on the continuous change of the habitats.
5. **Four watercolours** - mounted in the hinged tops of tables and representing the seasonal aspects; inside the tables there are **interaction materials** (drawing materials, sniffing bottles, binoculars, microscopes, bird calls, animal tracks).
6. **Wood wall puzzle** - animal forms can be placed in niches; the floor of the play area is covered with furs. A hollowed out **cavern** invites children to "crawl behind the stove".
7. **Litter display** - illuminated behind tinted glass, triggered by photo sensor only as visitors exit the information area.

circulation space in the exhibit area for 15 visitors (30 m²)

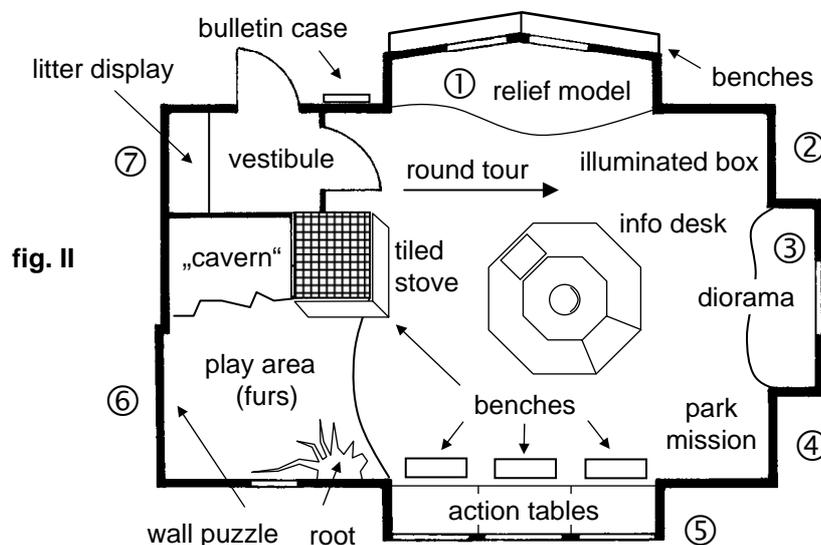
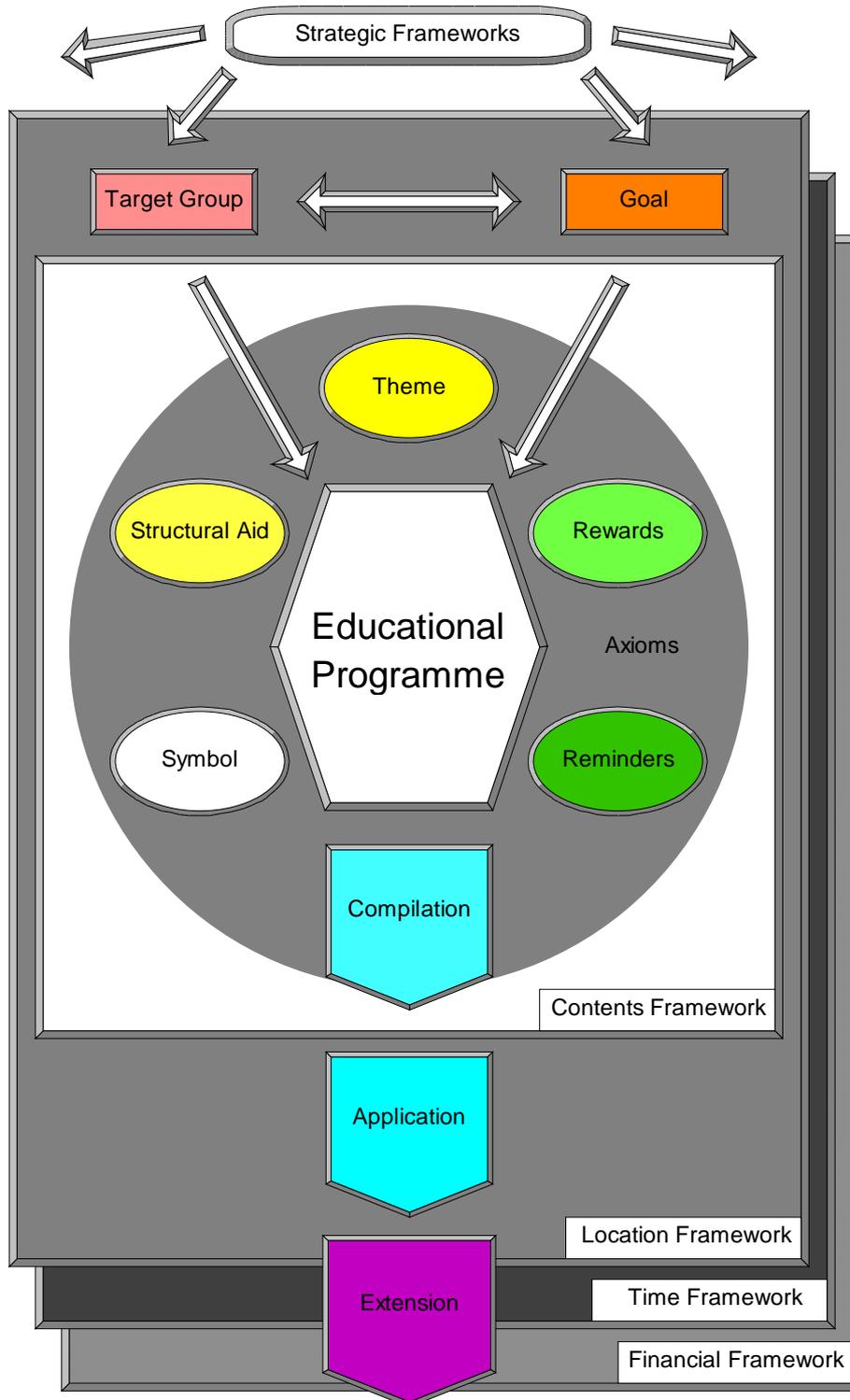


fig. II

Programme Development

A
10





Idea Sheet with an Example for an Environmental Education Programme

heading	colour	“Experience the National Park”	ideas for own programme
target group	red	children ages 8 to 9 (third class level)	
goal	light red	conveying the cycle concept	
theme	yellow	Particles in nature always travel from one to the other.	
structural aid	light yellow	cycle structure (narrative de- scription of trip stages)	
symbol		Minimum (particle represen- ted by leather ball with face)	
rewards	light green	activities at the stations / seeking objects	
reminders	green	objects from the activities / puzzle pieces	
compilation	cyan	independent cycles are connected	
application	blue	imprisonment of Minimum in disposable containers	
extension	purple	announcement with poster / four lesson plan suggestions	



A Playful Round Dance

The song of little Minimum has as its theme the cycle, which is also the theme of the 3rd grader's education programme "Experiencing the National Park" which has been carried out in the Saxon Switzerland National Park (Germany) since 1992.

It can be enacted in a large circle. The entire class forms this circle from which children are chosen to play the six roles of

1. the little Minimum
2. the tree (root/leaf)
3. the caterpillar
4. the hedgehog
5. the fox and
6. the dung beetle

Now the children sing the song.

In the first verse Minimum sits in the circle and the root "sucks it up". That is, during the chant the child who is playing the role of Minimum must crawl through the splayed legs of the child who is playing the role of the tree and hang onto his/her shoulders.

In the refrain the two children hold hands and dance about in a circle, first in one direction and then, during the second round, in the other direction. The surrounding children clap their hands to the rhythm.

In the second verse the caterpillar eats the leaf. Tree and Minimum crawl one behind the other between the legs of the caterpillar during the chant, and stand hands on shoulders one behind the other, forming a chain.

In order for the children to have enough time, the chant in this and the following verses can be begun again for each of the crawling-through-the-legs actions. In the refrain the three children now hold hands and dance again to the rhythmic clapping of the circle of children, once clockwise, once counter-clockwise.

In the third through fifth verses the same action is repeated until the chain consists of six actors: the beetle, the fox, the hedgehog, the caterpillar, the tree and Minimum.

In the sixth verse the beetle runs into the root. Minimum is back home again. This time the circle is made as soon as the chant begins and closes between tree and beetle with them taking each others' hands with Minimum in the middle. It is important that the children make the circle as large as possible so that Minimum has enough room.

In the refrain Minimum now runs in a circle in the opposite direction in which the chain formed by beetle, fox, hedgehog, caterpillar and tree is dancing.

Now all the other children in the larger circle can join hands and dance in a circle in the same direction as Minimum (i.e. in the opposite direction to that in which the middle chain is dancing).

A
12a

The Song of Little Minimum

A
12b

C F G C



Deep under a brown tree root, as dark as chocolate crumb there lived a feisty

F G C G₇ C D₇ G



purzel: the little Minimum. The silly tree root sucked it right into its tum!

Recitative:

'round about and through to the little Minimum!

Refrain: C G₇ C G₇ C

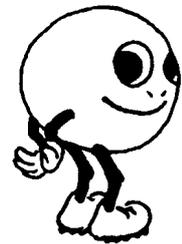


What sails so wildly round about, round about, round about,

G₇ C G G₇ C



what sails so wildly round about? The little Minimum.



Words: Holly Pankow (orig. Thorsten Ludwig) / Music: Thorsten Ludwig

Right up the trunk it hurries and out into a leaf
where sits a caterpillar, it's eating without grief
can hardly keep its balance - perhaps a little dumb !?

A breeze comes blowing lightly and dumps it on the ground.
„How 'bout that!“ says the hedgehog and takes a look around
he finds the meal as tasty and lovely as a plum.

He lies down in the sun to sleep and let the day go by
doesn't hear the sly fox come and poke his needled prey
before the hour is over our hedgehog's gone - yum yum !

After such an ample feast he needs to let it out,
and so he squats behind a stump without a look about.
The heap attracts a beetle, who climbs about the dung.

The beetle bores a pine tree root home quite fast.
With glee now shouts the purzel: "home again at last!"
It's been a toilsome round trip so no one thinks him dumb.



“Good Examples” of Education for Sustainable Development

Within the framework of the project ANU 2000 in Germany examples of good practice in the education for sustainable development were collected. In order to evaluate these we have here formulated some quality criteria. With the *necessary criteria* we attempt to define the requirements of an education for sustainable development. Under *further criteria* examples for such aspects which at present are considered innovative or characteristics of special qualities are named.

A
13

1. Necessary Criteria

In exemplary projects in the sense of education for sustainable development...

- ⇒ a day to day relationship to the target group and realistic action possibilities are listed.
- ⇒ the ability for creative co-operative design for the future (design competency) and the conveyance of the important key qualifications for it as an important learning goal (e.g. the ability to network, plan, think ahead, to reflect on one's own life style; creativity and fantasy) is encouraged.
- ⇒ each individual theme is examined during the preparation from different perspectives (ecological, social, economic and global factors). In the execution of the project not every one of these aspects has to be in the foreground, but the perspectives ought to be, when possible and appropriate, taken into consideration.
- ⇒ inter-active or participative methods have priority; in design, planning and decision-making processes the participants are involved using modern participation and creative methods.
- ⇒ key topic areas related to sustainable development are included (e. g. energy, farming and forestry, nutrition, health, construction and accommodation, traffic and mobility, consume and life style, global learning, tourism, climate, resource conservation and bio diversity, global environmental risks).
- ⇒ dissemination of knowledge and suggestions for action take place within a scientifically secured framework. If there are open questions or conflicting viewpoints, these are presented as such. The priority goal is for the participants to reach decision-making and action-undertaking competence in complex associations.

2. Subordinated Criteria

In exemplary innovative projects...

- ⇒ the participants are involved for an extended time (e.g. more than just one morning).
- ⇒ modern media such as computers or the internet are used.
- ⇒ various social milieus are addressed employing targeted communication strategies.
- ⇒ groups often not addressed (senior citizens, youth, etc.) are targeted or their existing clubs and associations addressed (sport clubs, retirement homes, church groups, farm women's associations...).
- ⇒ there is an openness to cooperate with social groups and institutions up to now “foreign” to environmental education (businesses, agricultural authorities, etc., but also social institutions or also e.g. a creative co-financing which has been successful).

from: Project ANU 2000



Quotations

To be a herald of nature is a fine and holy calling...

For not the naked breadth and depth of knowledge,
nor the ability to weave this knowledge into appropriate names and experiences
and to replace the... foreign-sounding words with familiar ones,
not even the talent...
to order natural phenomena in...
accurate and shining images,
...all of this makes not the true challenge
of a herald of nature...

He who seeks everything in her..

will only recognise his mentor
and nature's confidant in him
who speaks of her with reverence and faith...

NOVALIS

One should not see anything further behind the phenomena:
they themselves are the lesson.

GOETHE

Songs lie slumbering all around in every dreamy worldly thing.

Once the magic word is found, all the world is roused to sing.

EICHENDORFF

Trees are sacred shrines.

He who knows to speak with them,
he who knows to listen,
he will find the truth.

HESSE

He can do what but few can do.

He can not only describe a summer evening and a refreshing
swimming pool and the drooping tiredness after physical exertion –
that's not that difficult.

But he can cause us to be

hot and cold and tired around our hearts.

TUCHOLSKY about HESSE

If you want to build a ship,
don't round up men to gather wood, prepare tools,
assign duties and divide up the work,
but rather teach the men to long for
the vast and endless ocean.

SAINT EXUPÉRY



Dictionary Heritage Interpretation (English-German)

heritage interpretation	Natur- und Kulturinterpretation
natural interpretation	Naturinterpretation
cultural interpretation	Kulturinterpretation
landscape interpretation	Landschaftsinterpretation
urban interpretation	Stadtinterpretation
marine interpretation	Meeresinterpretation
underwater interpretation	Unterwasserinterpretation
sky interpretation	Himmelsinterpretation
interpretive threesome	Interpretationsdreieck
interpreter	Interpret
audience	Zuhörerschaft
visitor	BesucherIn
resource, site, phenomenon	Phänomen
natural resources	Naturphänomene
cultural resources	Kulturphänomene
interpretive object	Interpretationsgegenstand
interpretive field	Interpretationsfeld
topic	Themenfeld
main theme	Hauptleitidee
(subordinated or sub)theme	(nachgeordnete) Leitidee
theme line	Themenlinie
theme circle	Themenkreis
interpretive services	Formen der Interpretation
personal(-attended) interpretation	personale Interpretation
non-personal(-attended) interpretation	mediale Interpretation
interpretive talk	Kurzinterpretation
interpretive walk	Interpretationsgang
roving interpretation	Freie Interpretation
wayside exhibit	Interpretationselement
interactive element	Aktionselement
interpretive panel	Interpretationstafel
interpretive trail	Interpretationspfad
interpretive area	Interpretationsraum (frz. l'espace d'interprétation)
interpretive center (brit. interp. centre)	Interpretationszentrum
amphitheater (brit. amphitheatre)	Amphitheater
pow	herausfordernde Einführung (Aufhänger)
focus question	Fokusfrage
process question	Prozessfrage
application question	Übertragungsfrage
evaluative question	Meinungsfrage
prop	Hilfsmittel, Requisit
interpretive manager	InterpretationsmanagerIn
interpretive plan(ner)	Interpretationsplan(erIn)
interpretive training	Interpretationstraining
interpretive trainer	InterpretationstrainerIn
supervision	Begleitung (einer Aktivität oder Laufbahn)
supervisor	(vorgesetzteR) BegleiterIn