

Bridging the gap

A handbook for environmental educators and interpreters.

Ideas and activities for making meaning of our environment.



This book is for environmental educators and interpreters, field guides, parents, trainers, nature guides, tour guides, teachers, museum staff – in fact for anyone who is passionate about sharing our environment with others.



JOHN  ROFF
GUIDING & TRAINING

Illustrated by
Trish Tarr

Don't interpreters translate languages?

Yes, they do. But the word interpreter is increasingly being used to describe what many people do, and what this book is about – translating the hidden meanings, stories and messages that surround us into a language that everyone can understand.

Motivation

I believe that all people need to know this place we call the earth – the delicate processes that sustain our lives, the glorious diversity of living things, the interconnectedness of all life, the ancient stories we are part of. I long to see more and more people enjoying, understanding, delighting in and caring for this magnificent creation.

And I believe that good nature interpretation can help us get there.

Reconciliation

Many of us think we understand things well enough, yet that in itself does not lead us to change. I believe that, for truly lasting change, we need to be reconciled –with the Creator and with His creation – people, the earth and all life. Part of this reconciliation means realising, from the heart, a deep respect for and connection with all of creation. And actively enjoying, sharing and caring for it. It means, also, recognising that every part of creation is precious because of who it belongs to; that value and beauty are not only determined by usefulness to humanity.

John Roff



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Environmental Interpretation

What is Interpretation?

As you read this book, you will find many different definitions of interpretation. Each of these adds to a fuller understanding. You can also develop your own definition, as you learn and grow in this field.

Definition

You'll find definitions of interpretation in boxes like this.

Bridging the gap

There seems to be an increasing gap between people and nature. Interpretation can be seen as a process of repairing this divide by building bridges, across unfamiliar territory, to places of deeper care and understanding.

Making meaning

The simplest definition of interpretation is 'making meaning'. The interpreter is one who **makes** or **reveals meaning** of a place and the living things, processes and human interactions (past and present) there. Interpretation is **an educative process**, in which all participants (including the interpreter) are learning. (See the section on Learning theories, page 2)

Interpretation happens in many ways, from guided tours to brochures, signboards, slideshows, living theatre and many others. The principles in this book can be applied in any place, to any kind of interpretation.

Definition

Interpretation is first and foremost a communication process, to reveal the meanings of natural and cultural resources in a way that inspires and educates...

Jim Buchholz

Learning theories

There are as many ways to learn as there are learners. Nevertheless, here are some ideas of how many people seem to learn.

Head, Heart, Hands

Try to engage the mind, emotions and body of those you work with.

Education means...

The word educate comes from the Latin 'educare', which means 'to bring forth meaning'.

The 4 T's

This model, based on active learning ideas, suggests that the following components of an experience lead to effective learning:

Touching – Sensory encounters & discovery/research.

Talking – Discussion on these encounters with others.

Thinking – Reflecting on the experience.

Taking action – Doing something with the learning.

For good interpretation, get people talking.

Our research showed that the most effective exhibits for learning were those which... encourage visitors to talk to *each other* about the exhibits, what they mean and how they relate to their life...

Therefore it is not the interpretation *per se* which leads to learning, but rather the discussion encouraged by the interpretation. What does this mean for practice?

David Uzzel

The Interpretive equation:

$$(KR + KT) \times AT = IO$$

**(Knowledge of the Resource + Knowledge of the Audience)
X Appropriate Technique = Interpretive Opportunity**

i.e. Know your place. Know the people. Know a range of interpretive techniques. Interpretive opportunities will become available.

U.S. National Parks service interpretation training materials

Interpretive communication

Successful interpretation relies on clear communication skills and principles. The most important thing to remember is that you should consider the audience/visitors/group first. What are their needs and interests, what will make them feel comfortable, what will make them receptive to new ideas? Here are some of the more important techniques:

- Be welcoming, friendly, caring and kind.
- Speak simply, clearly and slowly, and look for indications that your group can hear you. Look at people's eyes when you speak.
- Make sure people are comfortable when you speak to them. Is the sun shining in their eyes? Are wasps stinging them?
- Appear confident, and take a genuine interest in your group.

Definition

Revealing and building
heart and mind connections
between people and
the natural world.

Modified from NAI definition

Definition

(Note the order)

A good interpreter is:

1. Easy to understand
2. Easy to approach
3. Knowledgeable

Jeanette Stewart

Communicating using interpretive signs and displays

Make sure the content is relevant to the subject. Check that overgrown plants do not obscure signs and displays, and that their subject matter is still there! Likewise, ensure that there is a level surface for people to stand on when reading interpretive signs. (See page 33 for an example of a sign.)



To reduce bright reflections in sunny places, try repositioning signs and labels, or designing them with a neutral or dark background.



Wood's Indigo is
the host plant for the larvae of
the rare Karkloof Blue butterfly.

Legume family (Fabaceae)

Indigofera woodii

Uluhloantethe (Z)

Aambelbossie (A)

The key to interpretive communication

Your own heart is the key. In the end, most people respond best to friendly enthusiasm and passion. This can't really be faked – it just is. If you always have to manufacture enthusiasm, and see interpretation as just a job, then it is probably not the best work for you to do.

A guide or a friend?

Nature guiding is "helping people to become happily acquainted with the life and wonder of wild nature." From nature to the guide, from the guide to the guest. Experience first, then information; last of all, systems. First-hand facts are most valuable. For the guide, knowing the way is not a necessity but "Mental development and character are the essentials of a successful guide."

Guides inspire. Guiding is traveling gracefully, not arriving. Above all, guiding is practical brotherhood. To be genuine, it must flow from the plenitude of the heights back to humanity. It brings, like the song of the solitaire, peace and harmony; like the play of the coyote, joy; like reticence before the mother and her cubs, respect; and like seeing through the baby woodpecker's eyes, unity.

Enos Mills

Definition

Effective interpretation doesn't mean telling people what you know... it means using what you know to engage... and motivate visitors to become active participants in their own learning.

Tom Ryan

Definition

The art of helping people explore and appreciate our world.

www.heritageinterp.org.uk

A companion to share it with...

If a person is to keep alive their inborn sense of wonder... they need to have the companionship of at least one other, who can share it, rediscovering with them the joy, excitement and mystery of the world we live in.

From Rachel Carson, *The Sense of Wonder*

Interpretive techniques

Use illustration

People respond quickly and well to pictures – be they pictures illustrating something on a sign or brochure, or word pictures that you use to make a point on an interpretive walk.



Using pictures to make your point

Keep it simple

While some people are keen to learn as much as possible, many are happy to interact with just a few new ideas and facts. We want people to be excited by nature, not see it as a set of complicated facts that must be learnt before you can appreciate it. Interpretive materials, to be most easily read and understood, should be at the reading level of a 12 year old.

Enthusiasm

This is not really a technique, but an essential ingredient in every interpreter's make up. People respond best to other people's passion, well –communicated. Expand your interests so there'll always be something around that you can be excited about.

Evaluate

A constant attitude of evaluation is vital in interpretation. Go back to the reasons why you are doing the work and ask yourself if you are achieving your goals. Ask other interpreters to look at your work with a critical eye, and listen to their comments. On a guided walk, evaluate 'on the job' by observing your group. Watch their eyes. Are they looking bored and starting to gaze around? You've lost them. Try something different.

Using resources

It is essential to know why you use certain methods and activities. What are the educational ideas behind them? Do you agree with those ideas? Avoid doing things just because someone else does them. This goes for all the activities you'll find in this book. Work out for yourself why you want to use them (if you do), and build them into a program that is designed to achieve your goals.

A simple summary of interpretive techniques

- Ask **questions**, and respond to what people say. Try to get them thinking and talking about **why** things are the way they are.
- Speak **clearly**.
- Provide a **focus**.
- Try **putting yourself in the shoes** of the visitor.
- Be **friendly** and **prepared to learn** new things from visitors, who may know more about something than you do.

A gram of encouragement

Encourage looking and finding by being appreciative. A gram of encouragement is worth a wheelbarrow of information. Each tiny creature is a tiny world of wonder with its own story to tell, not a collector's item to be catalogued and forgotten.

Frank Opie, Rousing the Sleeper

Case study - Using keys

Using keys is a real challenge for most people. I used to play a game with students in the UK where we drew up keys to distinguish and identify the members of the group – hair colour, eye colour, height, clothing. A bit time consuming, but it can be a great opener and intro to keys. People are often overwhelmed with the idea of identifying things, but pointing out that we do it all the time, through such a game, really helps. I also used to take the students to a car park or motorway bridge and ask them to identify the cars – INSTANT recognition of most makes and models – far better than me! Then open up discussion on what distinguishes the different models, and the realisation that the differences are in fact incredibly subtle, just as subtle as between plants, is mind-blowing – we already possess the skills.

Lawrence Sisitka

Knowledge with meaning

It is more important to feel than to know. Plant the seeds that later produce knowledge. Arouse the emotions and the wish for knowledge will come later. Once found it will have lasting meaning.

Rachel Carson

Interpretive people skills

Encourage participation

Encourage interaction with other people in a group, or interaction with the subject of your interpretation. This is usually done best by participating and interacting yourself. If you look closely at a spider's web or some gorgeous beetle, your group will too.

Involve me...

Tell me, I forget...

Show me, I remember...

Involve me, I understand.

Carl Orff

Perceptions and lenses

Every person sees the world in a different way. We all have, if you like, a set of lenses through which we view the world. It is essential to find out, through casual questioning of a group or observation of visitors to a site, what lenses the people you work with are 'wearing'. Ask questions like these: "What interests you about this place?, What do you see here?, Do you like it?" Don't see people as knowing nothing. Each one has his or her own understandings and knowledge of a place - by incorporating these you can make the experience much richer for everyone, without diluting the purpose of your interpretive work.



People have different
perceptions of
a place and its meanings.

Be inclusive

Make nature accessible for people with varying physical and mental abilities. Consider everyone's needs. For example, make sure that an older person can hear you clearly, give a person in a wheelchair the chance to smell a leaf, include interpretation for children in a mainly adult group and wait for slow movers at the back.

Planning an interpretive experience

Goal setting (What's your purpose?) → **Preparation** (Are you ready?) → **Action** (Doing it) → **Evaluation** (Is it working?) → **Action** (Change if necessary) → **Conclusion** (Did we achieve the purpose?) → **Evaluation** (How did it work, and how could it be better?) → **Goal setting...**

There's an excellent web page on planning at:
www.snh.org.uk/wwo/interpretation/pdf/planning.pdf

Practicalities – caring for people

Are the people comfortable? If it's a guided walk, are they wearing good shoes, do they have water; do you have a first aid kit? Do they know how long the walk is and how strenuous it will be? Have they visited the toilets? People need to know what's coming next before they can fully relax and enjoy themselves.

On feeling comfortable to be receptive

The forest itself – I love the atmosphere. Not the mosquito infestation. And I was pretty glad that the walk wasn't too intense. Can't have scenery spoilt by lack of breath!
Bev Grieshaber, Madagascar, Easter 2002

Likewise, are interpretive signs easy on the eye; are they written simply, with a regard for different levels of understanding? Are there sharp edges sticking out of them that might hurt somebody? Are they visible from a wheelchair, or by an 8 year old?

Preparation for interpretive trails

Thorough and confident knowledge of the area you are working in is essential. What is happening today that is different to other days? Are there road works, for example, or flowers in season? What is the weather like, and are there other visitors around?

Try not to have one plan with set points, which you always stop at. This is boring for them, stifling for you, and leaves no room for responding to changes in the place and interests in the group.

A sense of wonder

Concepts create idols, only wonder understands anything.
Gregory of Nyssa

One of the most important things an interpreter can do is help inspire a sense of wonder. One way this comes is through getting people involved in interacting directly with nature, (e.g. **feel** the mud, **smell** the flower) and encouraging their creativity (**describe** in words, **draw** the shape). Somehow, being creative with natural materials, inspired by natural designs, sparks off wonder and delight in many people.

The best way of inspiring a sense of wonder is to express your own sense of wonder. Stay curious and open to being delighted yourself - who knows what's around the next corner?

Maximising the wonder

Look for opportunities/things/views/ that people respond to that get them to say 'wow', or 'that's interesting', or 'I didn't know that'. Often you can simply point people to something and let it do the 'talking'. Beautiful views and landscapes speak clearly, and flowers do the same, and we can move from there to open up the bigger picture to people. So look for things that move, that jump, that catch the eye and get you thinking, things that are animated. Look for stories and designs for which you know the purpose and that you find fascinating. Use the hidden potential in these things to stimulate responses.

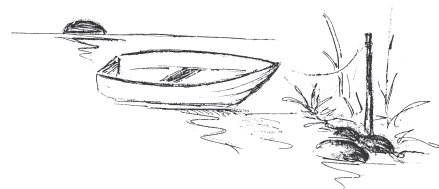
From grind to gratitude

The frustration, burn-out, boredom, and purposelessness of modern life can often be traced to one crucial factor: the loss of a sense of wonder. Perhaps we become too educated, too jaded, too full of pride and self-importance to be alive to the utter awesomeness and daily miracles of life. A lively interest in the intricacies of the world around us, and gratitude for the beauty and benefits we receive as pure grace, will "restore our soul". Each of us needs a place to kneel.

From: www.namb.net/helplink/SP-HLTH.asp

There are 2 kinds of people: those for whom nothing is a miracle, and those for whom everything is a miracle.

Attributed to Albert Einstein



Activities

Exercise your own creative imagination, and design activities to suit your purposes. (Please let us know about them for the next book.)

San paint

Make the paint that the San (bushmen) could have made, from charcoal, egg, ochre and blood. Paint some stones with it.

Leaf layout

Collect a selection of interesting natural objects that have meaning to their collectors, and arrange them as an art gallery on a suitably large leaf. This also builds a sense of team in a group, and makes for friendly and effective interaction. If you have a camera, you could send a picture of their gallery to the group after the walk is over.



Petal smears

Trying squashing flower petals on paper - it looks wonderful.

A fine leaf layout
art gallery

Poetry/creative writing

Recording thoughts on paper is a good way of allowing emotions and feelings about nature to come to the surface. Signs or labels with poems on them, sensitively placed along a trail, can make a place very special, and can encourage expression of people's own thoughts.

Creation song

Use a harmonica/other instrument to make the kind of noises that could have been used if the world and all in it were created using music. It's fun to match plants/animals with particular sounds.

Make music

Through music, you can get people to listen and look with new eyes. Using whatever instruments you can, make music for different things/places/events, e.g. flying ants emerging, pollen being shed, waterfalls, pollination and firefly evenings. Translate these sounds into compositions, played with groups. Use music to tell made-up folk tales. Use voices.

Involve the senses

People seem to remember experiences in which they are involved. And involvement means using several senses. Look for opportunities to experience nature in different ways. Such experiences are more effective if participants do something that draws the new experience into their own understanding. (see **Sound drawing**, below, and **Bird streaking**, p.28)

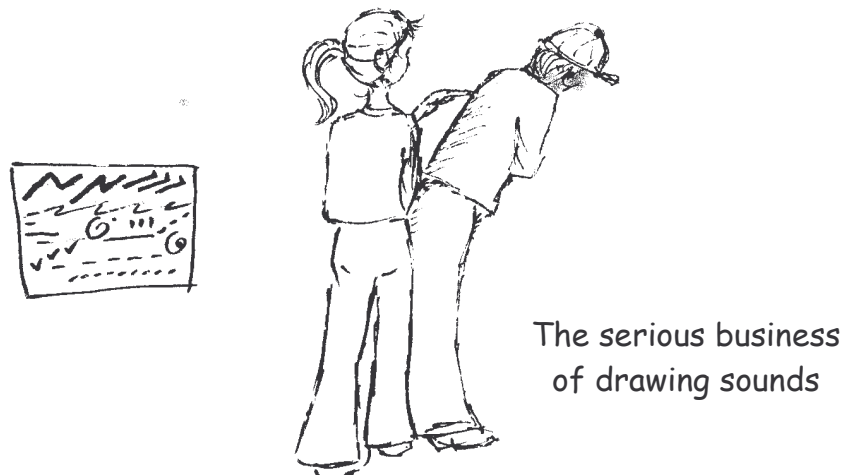
Try to lead people into this gently, rather than thrusting them into what, for many, can be at first an uncomfortable experience. For example, try smelling something yourself, then encourage others to do the same. Sensory activities should always be done sensitively and with respect for the people you are working with.

Backhanders

Feel something with the back of your hand, or your nose, or your face. It gives a whole new perspective. Make sure that the subject is not dangerous first!

Sound drawing

Sounds have a look about them. Some sounds can be recorded as jagged lines, others as circles, and others as tiny dots. Get people to record these on a surface of some kind. It could be a piece of modelling clay (plasticene works well), a small bit of card or, for great fun, a partner's back. The challenge with this last one is to prevent the participants from hooting with laughter in first seconds of the activity. It can be encouraged in the latter seconds. This activity works because you are doing something with the sound, not just hearing it.



Question

If this smell was a piece of cloth, what would it feel like?

Sensory search

Make small cards with 5 categories - Smell, Sound, Sight, Taste, Touch. For each category, record as many different events as you can, in the form of symbols. Count these for a sensory demonstration of biodiversity.

Bonging

Try hitting bushes of various kinds with a stiffly open hand, and register how they respond. You may find that some bounce off vigorously, while others are soft and pliable, and others don't move much at all. This activity encourages direct involvement. Take care to check the bush first for any dangers.

Case study - more senses, less signs...

When you visit the Eden Project, you won't see forests of graphic panels covered in text – we decided very early that we wanted people's experience of the Eden Project to be real, rather than virtual – with lots to see, smell, hear, taste and touch – rather than read.

We are working with a whole range of artists from many different media, to tell the plant stories at the Eden Project – sculptors, automata makers, musicians, performers, painters, mosaic artists, weavers, dancers, stone-carvers, cartoonists...

www.edenproject.com

People retain:

90% of what they do

50% of what they see

30% of what they read

10% of what they hear

90% of what they do

Definition

A good interpreter is a sort of pied piper, leading people easily into fascinating worlds that their senses never really penetrated before. He/she needs 3 basic attributes: knowledge, enthusiasm and a bit of the common touch.

Yorke Edwards

Ask the right questions

Create an environment in which people can find out and ask questions. - Alexis Symmonds

Questions engage people and get them involved, moving them from being passive spectators to participants.

Ask open-ended questions that promote response and enquiry. These challenge people to **use** ideas instead of simply remembering them.

Some open-ended questions:

Why do you think it looks like that?

How many are there?

Why is it here?

How is it designed to do its job?

Do we affect it?

How does it make you feel?

'One might say that good interpreters are professional questioners'.
Source unknown

Try asking questions to which you don't know the answer. Every person in a group has something to contribute, and you will find that careful questions can bring out the various understandings in the group so all can enjoy and grow through them.

Encourage people to ask questions, and don't be scared of saying 'I don't know'. If people want to know something, offer to research it with them later, or tell them where they can find out. An interpreter, while needing to be thoroughly prepared, should not feel that they must know everything.

Well-asked questions help you discover people's levels of understanding, making it easier to interpret accordingly.

Please note that questions asked on an interpretive sign should be answered in the text of that sign. People like to know that they are on the right track.



If you ask a question on a sign, make sure you answer it.

Let nature speak

The pace of modern life is very unnatural, and many people feel caught in an endless cycle of rushing and urgency, driven by electronic media and deadlines. To reconnect and hear nature 'speaking', it takes deliberate slowing down, patience, and determined effort to shut out the hurrying voice of the world.

The rewards are well worth it. (In fact, why not stop reading this, take a walk outside, and slow down awhile...) It is a deeply rewarding privilege to lead others to places where silence speaks, and they can hear.

Sit down and listen...

At the 1995 IAA (an Australian interpretation association) conference, Mr Horne, in pondering what might be the best way for us to experience, learn from and develop a bond with (read interpret?) heritage, arrived at a simple method. Sit down and shut up. That is simply stop, take time and feel free to just look.

Doing this may cause some changes: How cleverly can the humble seat be located to maximise view and experience. If all the lizards are on the ground, how do we get visitors down low?

It's arguable that good, focussed, well rewarded watching is the ultimate interpretation, providing an experience and understanding which words on a page or flaps on a wall can only mimic.

From: Alice Springs Desert Park Interpretation Concepts plan.

The sky is talking

The heavens declare the glory of God; the skies proclaim the work of his hands. Day after day they pour forth speech; night after night they display knowledge... Their voice goes out into all the earth, their words to the ends of the world.

The Bible, Psalm 19.1-2, 4. NIV

Shhh..

Nature is the teacher

He believed that his responsibility was to incite people's interest, and that nature was the teacher.

Edna Mills Kiley, on Enos Mills.

Interpret responsively

Interpretation is not static and unchanging - instead, it should respond creatively to changes in people and places. If you discover, for example, that your beginners birding group includes 3 professional ornithologists, let them share what they know with the rest of the group (and with you). Don't let them take over, though!

If a particular event occurs in your place, such a rare plant flowering, or a bird nesting in a very visible tree for a few days, seize the opportunity and make some interpretive material to respond to this situation straight away. A quick, cheap and effective temporary sign can be made in a few minutes using a marker and a piece of white plastic.

Listen to the interests of a group on a guided walk, as you get to know them, and respond to them as best as you can on the walk. Without compromising the purpose of the walk, try to build learning around people's inherent interests.

Respond to seasonal changes by offering guided tours appropriate to that time of year.



"It's amazing that a forest-adapted bird could mis-judge distance like this."

Be flexible

The **Stinkhorn** fungus in front of this sign produces its spore-spreading 'mushrooms' for only a few days each year.



The dark smelly stuff in the middle contains spores and attracts flies. They carry the spores away on their feet when they leave. *Care to take a whiff...?*

Using an opportunity to interpret a rare event

Give away your skills

Make interpreters out of audiences

If we want people to understand and enjoy nature, then we need to give them skills that will enable them to interpret their environment for themselves. Every interpretive encounter is an opportunity for us to give away a new skill, talent, idea, activity or thought that can help people make meaning of their surroundings into the future.

Encourage observation

Encouraging observational skills will enrich a trail. Participants will be able to look more closely for things, which may take the pressure off you. This skill is a gift they can use long after the trail is over. To do it, try activities that involve looking for small, specific things, or play a game of 'spot the hidden insect', when you've seen something that the group hasn't.

Open the doors to wonderland

"A nature guide is a naturalist who can guide others to the secrets of nature. Every plant and animal, every stream and stone, has a number of fascinating facts associated with it and about each there are numberless stories. Beavers build houses, bears play, birds have a summer and a winter home thousands of miles apart, flowers have colour and perfume – every species of life is fitted for a peculiar life zone. The why of these things, how all came about, are of interest. Touched by a nature guide the wilderness of the outdoors becomes a wonderland. Then, ever after, wherever one goes afield he enjoys the poetry of nature. This wonderland may be enjoyed around the world, forever. Wild birds sing, wild flowers bloom wherever streams ebb upon the sand or the seasons show their pictures."
Enos Mills

Definition

Interpretation aims at giving people new understanding, new insights, new enthusiasms, new interests...
Yorke Edwards

Gifts of wonder

"I should ask that ... gift to each child in the world be a 'sense of wonder' so indestructible that it would last throughout life..."
Rachel Carson

Use an ecological framework

A basic understanding of the principles of ecology is essential knowledge for every person. And I think it is especially important to open up and explain the relationships that connect all life on earth.

As you interpret, try to foster an understanding of these principles, and highlight the interconnectedness of living systems. When interpreting a frog, for example, consider the facts that frogs are very sensitive to pollution, and that frogs love to eat mosquitoes. Look at the form and function of these creatures and how they fit in where they live.

We need to know what we're doing

We must have ecological awareness and ecological knowledge.

We must know and understand the interrelationships between living creatures and their environments.

We must know the nature and impacts of human activities.

We must have knowledge and skills for sustaining, renewing, and preserving the Creation and its rich diversity.

Modified from: Au Sable Institute Official Bulletin no. 24, 2004

Principles of Ecology

Energy, Cycling, Diversity, Community, Relationship, Change, Adaptation.

From Steve van Matre

Strong words and feelings

"What do you automatically think when you come across a venomous snake? 'Kill it', right? They haven't been studied. They certainly haven't been protected. And yet they hold important secrets for us. No one has ever really looked at them".

"The key to some sort of medical breakthrough, that sort of thing?"

"If you must measure these animals by that tired old yardstick, 'Is it useful to man?' Frankly, I'm sick of it, it doesn't matter if it's useful to man. It's a thing of beauty in it's own right. It has value whether it is useful to us or not, it's part of the complete picture of life on earth. You can't kill this element of the picture and wipe out that little item without ruining the picture."

From Gila Monster, a novel by Sandy Dengler.

Relationships and links

Choose a plant or animal and get the group to think of and look for everything that is connected to it. Look particularly for direct links. Then write all these down and count them. A twist on this is to do the activity with one group, then take all their findings and give them as clues to another group to guess what the first group's organism was.

Frames with a message

A piece of card in the shape of a frame with a question written on it helps to focus attention on the subject you want a person to investigate.



Frame
with a
question

Make your own

Each person or group receives a piece of plasticene. This is used to construct a plant/animal, which must have never been seen on earth before. There are certain design criteria for these creatures. They must be able to move, breathe, reproduce, protect themselves and eat. Ask people to name their creatures, and explain their designs.

Get your head around cycling

Using a piece of double sided tape stuck on a piece of card wrapped around their heads, participants stick leaves in increasing stages of decomposition around their heads, to demonstrate in a fun way, the concept of nutrient cycling.



Getting your head around nutrient cycling

Get and focus attention

Because of our fast-paced, many-distractioned world, people often need their attention drawn very clearly. Guides must often actively engage visitors. There are many useful techniques for doing this.

Interpret what is clearly visible to people. Although you may know what something is, unless it is absolutely clear that it is the subject, other people may be confused. For example, interpretive signs referring to plants must be placed in a way that they can only refer to one particular plant.

Start from the concrete, move to the abstract

Begin interpreting by using a subject that is easy to see and relate to. Once you have established a connection, build a bridge to more abstract concepts. For example, a sign interpreting a tree should first make meaning of the obvious features, such as the flowers, bark, seeds and shape of the tree. Thereafter facts about pollinators, age, seed dispersal, and design for a specific habitat can be brought in.

Make sure every person in a group gets a clear view of whatever you are focusing on at the time.

Practical tip: Avoid passing something around a group while you are talking. Attention will be diverted from you to the object.

Bush bashing

Take a piece of white card or other stiff light-coloured material. Hold this underneath a clump of leaves and shake the leaves while keeping the card still. All sorts of interesting creatures fall out (usually) and you can catch these and put them in containers to examine more carefully. Be sure to release them afterwards.

Magnifying glasses

An automatic focus.

Use a container when looking at fast insects!



Bush bashing - what did you find?

Pointers

Coloured card arrows clearly pointing to something. To provide an ecological focus, include a simple message or question.

A pointer
in situ

CAN YOU SEE A NATURAL FLY-TRAP?



Rings

Like a magnifying glass but with no magnification. Very useful for drawing attention to something some distance from a path.

Field sketching

Simply draw what you see. This makes people look more closely.



Rings catch
your eye

People's actions

If you or other people in a group move in a different way to normal, it draws attention. This attention can then be used to get people focused on something.

Drama

People respond very well to themselves as the focus - being involved in acting out some process, concept or structure. I find this always breaks the ice with a group (young or old) and clearly demonstrates ecological concepts, which are often hard to see directly.

"So, this is how
a forest is
structured."



Highlighting

Draw attention to something by putting a white surface behind it (great for spiders in webs).

Flower focus

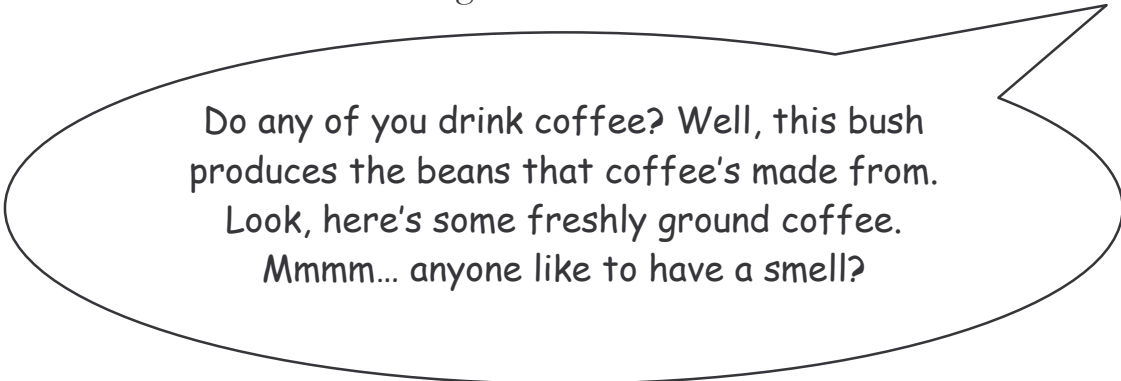
Each person watches a flower for 5 minutes. They then report what they've experienced during this time. The idea is to encourage observation and to see relationships (e.g. pollination) in action.

Be relevant

People relate to things they have a connection with. For example, every person on earth eats, so interpretation connected with food is effective.

Make personal connections with real life

This aspect of interpretation is one of the most important. Strive to make links with what you are interpreting and the visitors' own experience and understanding. Without these connections the interpretive experience remains isolated and something that does not relate to real life.



Do any of you drink coffee? Well, this bush produces the beans that coffee's made from. Look, here's some freshly ground coffee. Mmmm... anyone like to have a smell?

Making personal connections

It is therefore essential to find out about the people you are working with. Ask questions that help you understand them.

In situations where you cannot speak directly to visitors, it is important to know who these visitors are:

- What is their most commonly spoken language?
- What are the issues that they face in their daily lives?
- What meanings do they already associate with the place?

Read widely, and read up-to-date information around your place. Be aware of such things as name changes, current world affairs and societal trends (e.g. interest in plants for natural medicine).

Building strong bridges

Use activities and questions that encourage a person's own interpretation - their favourite branch pattern, for example, or their opinion on a natural phenomenon. Such interpretations are valuable because these are these people's own responses, their own bridges. Other facts are always someone else's revelation, someone else's story. People can add these facts to their knowledge, but reaching *hearts* needs personal connections.

The messages game

One way of making natural processes relevant to people is to 'give them a voice'. Simply write on a piece of card the message that they are sending out to their surroundings. For example, a bright red flower could have a message of 'come and get it!' - referring to the hidden message it speaks to pollinators. A poisonous caterpillar might say 'leave me alone', or 'I taste disgusting'.

Giving them a 'voice'



"Don't come too close!"



"Come come, all tiny flies."



"I bet you can't see my shape."

Definition

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.
Freeman Tilden

Case study - Eshowe Board walk

(Well worth a virtual visit: www.zbr.co.za/boardwalk/index.htm)

In the town of Eshowe, a splendid boardwalk has been built in the nearby Dlinza forest. This aerial walkway takes visitors through the canopy of some very beautiful indigenous forest, and opens up a world that, for many, is usually inaccessible. Even without any guide or brochure, this is interpretation at its simple best – making the wonders and delights of the forest accessible to everyone.

It works because people are mostly used to buildings and structures, we live in them, go to school in them, work in them – they represent something familiar. This is why buildings/structures are useful. They act as a bridge from the known to the unknown (literally in this case), but should never become an end in themselves. Our task is to get people interacting with nature, not with buildings, technology and materials.

John Roff

Be receptive

This is all about the need to deeply study your place. Stay keenly alert and receptive to your surroundings - 'listen' to what is happening around you. Allow nature to set the agenda sometimes.

Be receptive, also, to the subtle changes in mood that people have when in different surroundings. Sometimes they need to just be still and quietly aware – with no extra noise from their companions or from you.

One of the best preparations for interpreting a place is to spend some quiet time there alone. Some places have a definite 'feel' about them that can help determine interpretive techniques you use there. So get acquainted with the place you are interpreting. The more you are familiar with it, the better you are able to interpret it.

Believe one who knows:

You will find something greater in woods than in books.
Trees and stones will teach you that which you can
never learn from masters.

Bernard of Clairvaux

To look at any thing

To look at any thing,
if you would know that thing,
You must look at it long:
to look at this green and say
"I have seen spring in these woods"
will not do - you must
be the thing you see.

You must enter in
to the small silences between the leaves,
you must take your time
and touch the very peace they issue from.

John Moffitt

Reveal hidden meanings

Nature is full of surprises. And behind almost every surprise, every view, every sound, every sight, is a story – some kind of explanation or deeper meaning. Interpreters have the privilege of opening up these hidden stories for those they work with. We should try to unveil what is going on under the surface.

Reveal means to open up and expose, and in this context it means to unveil some of the layers of hidden meaning that underlie every object and process in the universe.

Choosing how deep to go in revealing meaning depends on who you're with. For example, some people will be delighted to simply discover that there is more than one kind of rhino. Others, knowing this, will only be satisfied once they find out details of where these rhinos live and what they eat, and a rhino researcher may need to know the age, weight and height details of the particular rhino standing a few metres away.

Definitions

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.

...the work of revealing, to such visitors as desire the service, something of the beauty and wonder, the inspiration and spiritual meaning that lie behind what the visitor can with his senses perceive.'

Freeman Tilden

The value of Technology

...The best high-tech gadgets are those that "reveal" something. The power of many technologies... lies in their ability to go beyond their senses to see things as we have never seen them before. High technology can reveal startling new perceptions about our world. ... Interpretive gadgets, whether microscopes, telescopes, satellite images or computer simulations, should be judged on their power to *reveal*.

Beck and Cable, Interpretation for the 21st century.

Be provocative or thought-provoking

Curiosity is the stuff of which wonder is made.
Mel Short

People respond well when they are stirred or awakened by meaningful interactions with nature and with other people. In the field of interpretation, this principle is very important. You sometimes have to reach out and ‘grab’ people to encourage a response. The best situation is when the subject itself does the ‘grabbing’, when people’s attention is captured and their minds prompted into action by some fascinating creature or spectacular natural event. Ideally, we want people to be provoked or excited by simple, ‘common’ things, that they find beauty and delight everywhere, and are then prompted to ask their own questions.

Use ‘catching’ words

People’s minds are stimulated by words that have an effect on their own lives. Use unusual words that catch people’s attention – words that are in the news a lot, or words that belong in a different context. Here are 2 possible signs for interpreting a particular species of climber:

DIOSCOREACEAE

Dioscorea sylvatica

Perennial woody climber, used in manufacture of progesterone.

Elephants foot
ufudu (Zulu)
Olifant’s voet (Afrikaans)

In front of you is a huge
Elephant’s foot.

The foot-like stem of this forest climber is used in making
contraceptive pills.

Yam family (Dioscoreaceae)

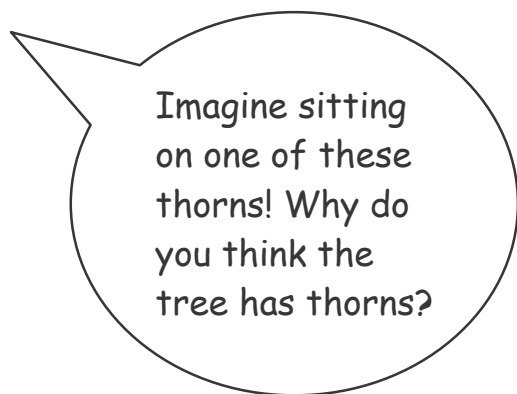
Dioscorea sylvatica

ufudu (means tortoise in Zulu)
Olifant’s voet (Afrikaans)

Which sign do you prefer?

A way to get people's attention:

Demonstrate how some plant or animal protects itself - preferably one of the more active methods such as hissing, folding or squirting.



Ask thought-provoking questions

Start fires

Do not try to satisfy your vanity by teaching a great many things. Awaken people's curiosity. It is enough to open minds; do not overload them. Put there just a spark and if there is some good stuff there, it will catch fire...

Anatole France.

Using themes is helpful

The idea of thematic interpretation is simply trying to ensure that people receive a clear message. If they interact with you for half an hour, go on a 3 day guided trail, or glance at a sign for a second on the way to the toilets, their experience will be enriched by clear and simple messages or themes.

(Refer to goals on page 31 for a simple way of deciding which messages are most important in your situation.)

Try completing the following sentence:

By the time people leave my place, I want them to know/feel that:

.....

This sentence is a theme, or interpretive message.

Some examples of themes:

- Blue Swallows are rare and beautiful.
- You can help prevent soil erosion.
- Some plants only bloom after a fire.
- Fynbos has incredibly high biodiversity.
- Many bushveld plants can be used for medicine and food

Each of these is a 'take-home' message - a complete sentence stating something you want the visitor to **know**, **feel** or **do**, once they leave.

Explore biodiversity

Creation in all its abundance is unbelievably diverse – far from being fully understood, a recent estimate suggests that 88% of organisms have yet to be described! And that doesn't even include the stars and galaxies, which, although non-living, are part of the breadth of creation and deserve our rapt attention. By the way, if you haven't had a look at the Hubble telescope website (<http://hubble.stsci.edu>), please do. It's awesome out there!

One of the very best ways to refresh yourself when feeling tired in this sometimes exhausting field of interpretation is to go and discover something new for you, some biodiversity inspiration. It can be as simple as lifting up a stone and seeing a woodlouse...

Note the difference

Use musical instruments to 'copy' or 'echo' sounds and sights in creation: wind, insects, mountains, water etc. Use different musical notes to emphasise different kinds of plants, animals and landscapes.

Look like

Look for patterns you recognise in natural shapes and designs. Use them to make your own designs on T shirts, paper, cloth and clay.

Leaf check

Hold a leaf up to the sunlight, and look closely. What's going on in there? Is this leaf different to other leaves?

Keep on the edge

Seek channels of finding new, fresh material and ideas from research, museums, universities, local people and the internet.

J.Roff

Sweet diversity

Get people to count different flower colours in a small piece of grassland, forest, marsh or other habitat. They tell you the colours they see, and each colour gets rewarded with a Smartie® of the same colour. Bring a large supply...

Artists palettes

Use a piece of card with a sticky surface for collecting things. For a focus, try colour, shape, design, seeds, feelings, and stories that nature might be 'telling'.

Human diversity

Look around at your friends. Every person is unique and different and special. What about plant and animal species?

Bird/Dragonfly streaking

Use a small piece of card and a pencil or crayons. Draw the flight paths of birds or Dragonflies that move across the view in front of you. This activity works because, with actions, it makes people focus on something hidden, in this case to make visible the invisible lines made by creatures in flight.



Bird streaking

Interpret information

Definition

Information, as such, is not Interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation includes information.

Freeman Tilden. (Emphasis mine)

Information is like a good meal. You need to eat, and it's great when you do, but if you eat too much, it spoils the whole experience. People do need to know facts, and these should be woven into the fabric of understanding that you and the group build together around the subject of the interpretation. Try to relate these facts to the lives of your group. For example, if you must tell a group the gestation period of a certain mammal species (few people are genuinely interested in this), compare it with the human gestation period. (See Be relevant, page 21)

If people are genuinely interested in knowing names and facts, then by all means these should be given. Keep them short and clear and watch carefully to see if the group shows signs of getting bored. Try to limit any new facts/ideas to about 5 at a time, and remember that factual details are only one facet of an overall interpretation.

‘What a clever guide...’

Interpretation is not about reeling off names to people who do not understand them. Our aim is not to have people thinking “Wow, that guide knows a lot. I’ll never be like that”. While this may be one of their thoughts, our task is not to draw attention to ourselves; it is to make nature accessible and relevant. If you want to interpret using names, bridge the probable gap of understanding by interpreting the meaning of these names, e.g. “Ferox means fierce, so think of this *Encephalartos ferox* as the fierce cycad – would anyone like to try it in a salad?”.

When people ask for names, they are usually looking for connections. They’re saying ‘How does this new thing relate to what I already know?’ The connection in the above example is the word ‘fierce’, which most people know. If you provide a bridge, it’s easier to make connections.

Form and function

A focus on the form and function of an organism is very useful instead of merely reciting the name. People respond well to interesting, relevant facts about a subject – it then becomes something they can relate to.

Barriers to ‘the fairest gate of knowledge?’

“Why should we allow a pile of heterogeneous names to stand as a barrier between our people and the fairest gate of knowledge (Botany)? These strange names are all but barren of interest in themselves; what interest they possess springs wholly out of the objects they represent.”

Earle, quoted in Zimmer, 1912

Case study: An information-rich interpretive flower walk down Sani Pass.

This walk is an annual event, with about a hundred people converging on Sani pass in the Drakensberg for a day. The walk is organised by the local branch of the Wildlife and Environment Society of S.A. One of the regular leaders is a botanist, and shares his enthusiasm by telling his group the name of practically every plant he sees. Because the focus of the walk is wild flowers, and the people come keen to learn, this approach works in this context. Note that they respond to his enthusiasm first, then to the names of the plants.

John Roff

Try smelling this **Wild mint.**

Mint is used to make a fragrant, relaxing bath, and for treating breathing problems. It's also delicious in tea and cooking.

Sage/Mint Family (Lamiaceae)

Mentha aquatica

umaliwane (Z)

Waterment (A)

Aquatica means: ‘living in water’. These plants are happiest in wet places. (e.g. next to a garden tap)

An ‘interprelabel’, designed to make plant information *interpretive*.

Interpret for an outcome

Why are you doing interpretation?

Write it down

Write down your goals and aims, and try to achieve them. The mission of your organisation is one thing you are trying to achieve, but for each interpretive experience or interaction there should be some goal. What are you trying to do? What do you want people to take away with them? Design your interpretation to meet these goals. Having goals also leads easily into developing interpretive messages/themes. (See page 26)

Setting goals for interpretation – Know, Feel and Do

Answering these simple questions will help you set goals and messages for your interpretive work:

- What do you want people to **know**? (Learning objectives)
- What do you want people to **feel**? (Emotional objectives)
- What do you want people to **do**? (Behavioural objectives)

An example of a goal might be: “By the time this group leaves this nature reserve, I want them to *feel* that indigenous forests are special and worth caring for”, or “after I’ve taken this tour, I want this group to *know* why White-winged Flufftails are rare, and to have some ideas of what they can *do* to help these birds survive.”

Remember that, when interacting with people, they will have their own goals and reasons for being there, and you need to be sensitive to these and endeavour to meet their goals where possible.

We don’t care...

‘We want to get some outcome from our interpretation other than just telling the visitor another fact. We don’t care whether people know by the time they leave our park that Red River Gums grow to 25m. Rather we wish to see, in the people, a change in attitude about plants: that they are diverse, interesting and worthy of protection.’

(From Mark Richardson, Alice Springs Desert Park, Australia)

Less is more

For various reasons, often due to the way in which we were educated, many interpreters feel they need to share as much information as possible. Since most people can only remember about 5 new ideas at a time, this over-sharing is often unproductive and can be a negative experience for the visitor. It is usually better to share just a few interesting facts (see the quote **Start fires** on page 26), and to use the extra time to find out what the visitors know and are interested in.

Case Study – Developing ‘Info nodes’

One of the challenges facing many of us who work in beautiful natural areas is that we want to interpret these places without detracting from their unspoiled beauty and the impact, value and importance of ‘wild’ nature.

A few of us came up with an interesting idea recently at the Free State Botanical Garden – ‘info nodes’ on trails through natural areas, with interpretation confined to very small labels at certain points (e.g. benches or path junctions). This interprets, yet doesn't detract from, the often substantial natural beauty in our gardens.

John Roff, Stemmer Ngalo and Peter Gavhi



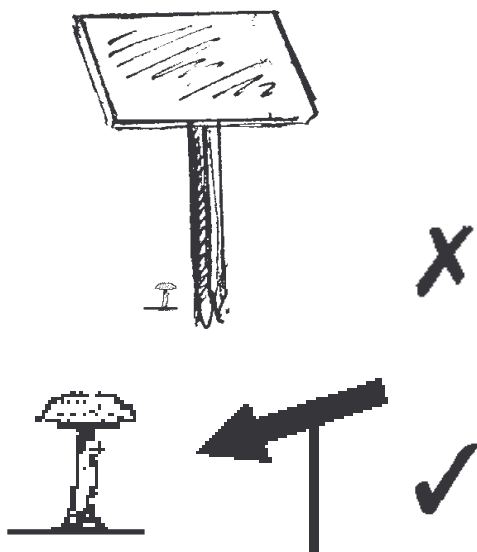
Hidden in this funnel-shaped pit is an

Antlion larva.

This tiny (1 cm long) predator catches and eats ants that fall into the pit.

Adult Antlions look like Dragonflies, but have a slow, flapping flight and clearly visible antennae. *Cueta sp.*

Info node label
(actual size 5.2 cm x 3 cm)



Interpretation should enhance, not overwhelm.

Beware of fire hydrants...

Another good quote that I've heard is "less is more" (supporting the notion of not just providing LOADS of information).

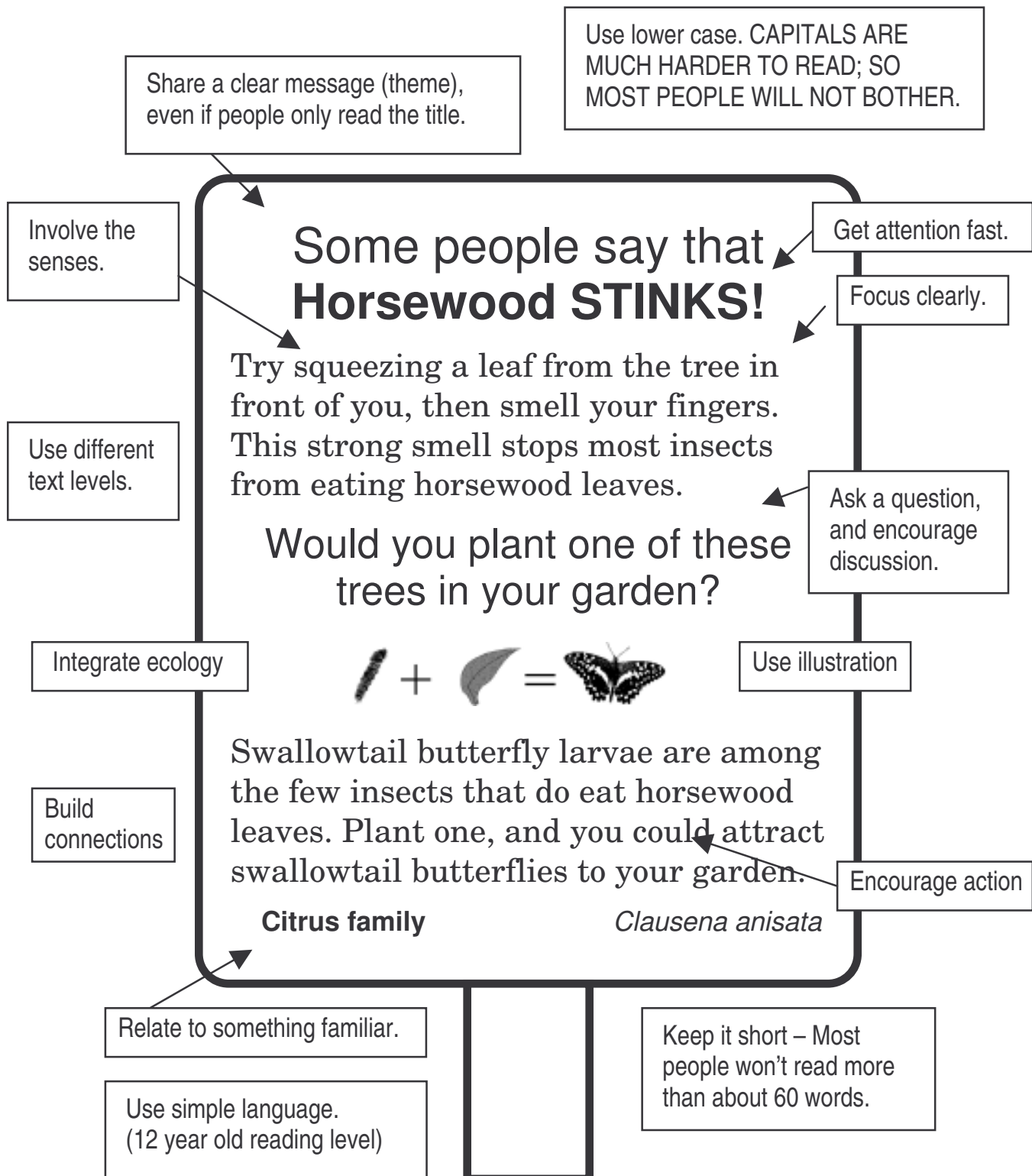
I remember my lecturer in Australia, Delene Weber, suggesting that when you get an answer from a tour guide who just gushes out information, it's a bit like trying to get a drink from a fire hydrant! She also likens information overload on interpretive signs and panels to “having a book on the wall”.

Nikki Köhly

(Delene Weber is an Interpretation Consultant at the University of South Australia)

Interpretive sign design

The ideas in this book can be applied to any form of interpretation. Because many people design and use interpretive signs, below is an example of how this can be done using interpretive principles.



Resources & references

The Internet:

Look up nature interpretation and environmental interpretation on www.google.com or some other search engine. Some useful sites are:

U.S. Parks service interpretation training:
www.nps.gov/idp/interp/index.htm

National association for interpretation (USA):
www.interpnet.com

Unique approach:
www.edenproject.com/3706.htm

Insightful commentary:
www.uni.edu/~ninhi/tilden.html

A site with many useful free articles:
www.heritageinterp.com

A book with some challenging thoughts:
www.eartheducation.org/eeanb-default.asp

Excellent support materials on 'how to':
www.snh.org.uk/ww0/interpretation/default.html
www.interpretivesigns.qut.edu.au/

Bridging the gap (this book) is available free on the Internet, at:
www.sanbi.org/interpret/bridging.pdf

Definition

Making nature
come alive!

Heritage interpretation

Interpretation is often referred to as heritage interpretation. This illustrates the essential point that one is not only interpreting a place, but also the associated meanings and understandings of that place and the things that inhabit it. You interpret heritage – the rich combination of history, plants, animals, people, stories, mysteries, connections and worldviews.

John Roff

References used in this book:

- Capra F. 2001, **The School Garden: Education for sustainable living**. Roots 23, Botanic Gardens Conservation International, U.K
- Dengler, S. 1994, **Gila Monster**, Victor books, Illinois, U.S.A.
- Kotter, John P and Cohen, Dan S. 2003. **The Heart of Change**.
- Uzzel, D.L. 1995, **The getting of wisdom or the losing of innocence**, Keynote paper, 4th Annual Interpretation Australia conference.
- Zimmer, G.F. 1912, **A popular dictionary of Botanical names and terms**, Routledge and Kegan Paul Ltd., London.

Resources & references

Useful publications:

- Activities for young children.** Goldfields education centre, Kirstenbosch. National Botanical Institute in-house publication.
- Beck L. and Cable T. 1998. **Interpretation for the 21st century.** Sagamore Press, U.S.A.
- Cornell, J. 1979. **Sharing Nature with children.** Exley, U.K.
- Creative Encounters.** Share-Net, Howick, South Africa.
- Ham, S. 1992. **Environmental Interpretation: A practical Guide for people with big ideas and small budgets.** Fulcrum Publishing Inc., Golden, Colorado, USA.
- Honig, M. 2000. **Making your garden come alive! – Environmental Interpretation in Botanical Gardens.** *Southern African Botanical Diversity Network Report No 9.* SABONET, Pretoria.
- Lewis, W. 1980. **Interpreting for park visitors.** Acorn Publishing, USA.
- Opie, F. 1992. **Rousing the Sleeper.** Maskew Miller Longman, C. Town.
- Orr, D. 1992. **Ecological Literacy.** Education and the Transition to a Postmodern World. Albany: State University of New York Press.
- Roff, J. 1994. **Making meaning.** Share-Net, Howick.
- Sharpe, G.W. 1976. **Interpreting the Environment.** John Wiley & Sons.
- The Darwin technical manual for Botanical Gardens,** chapter 9. Botanic Gardens Conservation International, U.K.
- Tilden, F. 1967. **Interpreting our heritage.** The university of North Carolina Press, Chapel Hill, North Carolina.
- Van Matre, S. **Acclimatization,** 1972, and **Acclimatizing,** 1974. The American Camping Association, U.S.A.
- Van Dyke, Fred, et al. 1996, **Redeeming creation: the biblical basis for environmental stewardship.** InterVarsity press, U.S.A.
- Verveka, J. 1994. **Interpretive master planning.** Falcon Press, Montana.

The Fifth Essence

Greek philosophers classified the world into four elements: air, fire, water and earth. Yet they perceived there must be something else, a soul of things, an essence, pure, eternal and inclusive. Writer Freeman Tilden encountered this elusive spirit in those special places called national parks. He coined the term "interpretation" to describe the process of revealing hidden meaning, to touch the ephemeral fifth essence. As you come to know these places better, you attain a certainty that they are but the setting for something that lies behind it all, the mystery of the natural forces and your own place in this bewildering scheme of things.

US Bureau of Land Management

SAPTRIP - A simple summary of interpretive principles.

- S**imple – (easy to understand)
- A**ttractive – (gets your attention)
- P**rovocative – (makes you think)
- T**hematic – (conveys an idea or message)
- R**elevant – (about real life)
- I**nteractive – (invites participation)
- P**urposeful – (has an outcome)

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There's always more

Please don't think that this book is the last word on 'how to do interpretation'. It contains ideas and principles that many people have found useful in doing interpretation. But there are many interpreters in this world, and each one has strengths and abilities unique to them. Learn from everyone, and develop your own style.

Please help write the next edition

The book has been compiled over many years, with literally hundreds of people's assistance and suggestions, and so it is a 'work in progress', with plenty of room to change. If you wish to contribute to a revised edition of the book, please contact the author, through:

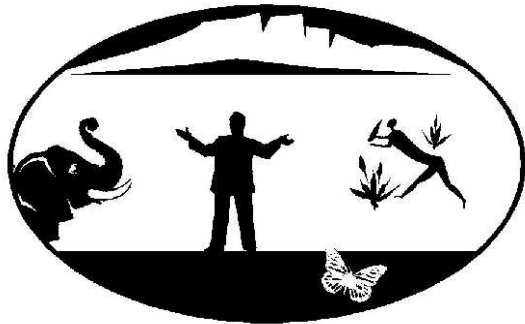
Share-Net, P.O. Box 394, Howick, 3290.

I look forward to hearing from you.

What makes people change?

Change comes more by **experiencing truth that affects our feelings**, than by receiving information that influences our thoughts. Both feeling & thinking are essential, but the heart of change is in our emotions.

Idea from Kotter and Cohen, The Heart of Change



Ecological literacy is driven by the sense of wonder, **a joy at being alive** in a beautiful, mysterious and bountiful world.
David Orr

Touching the heart and knowing the land

For real change to happen, people not only need to understand the world better, they also need to care, deeply. Interpreters should encourage both **understanding** of and **love** for all creation.

John Roff

Tour guide or travel agent?

Travel agents give you brochures and tell you all about the trip, but they've never even been there. They get the tickets for you, give you a planner and send you off somewhere. You don't want to be a travel agent; you don't want to be sending people where you've never been – you want to be a tour guide. You want to bring your people along with you and say, "Let me show you something. I'm going to take you places where I've been and lived, and tell you all about them as we go. **I'm going to let you in on the journey**".

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