



# Attribute listing





*Each time we take a step we do it by changing an attribute or a quality of something else, or else by applying the same quality to some other thing. The pattern of great pieces of creation may involve hundreds of successive changes. The creative step is the same, but it is repeated many times with many variations*

CRAWFORD, 1964: 96

## What's it all about?

Attribute listing was pioneered in 1931 by Robert Platt Crawford in his course on creative thinking. The technique takes an attribute or idea from one thing and applies it to another. The task of creating the ideas is more than just the process of combining things; an essential element of the process is the Attribute Listing Matrix (ALM) where the features, attributes and ideas are listed.

The Bahco Ergo Screwdriver was developed through a focus on the attributes of its handle both in terms of safety (preventing repetitive strain injury) and that at some point most people want to use a screwdriver with both hands, which meant the handle had to be redesigned.

## What's it for?

Attribute listing is a means of getting you to focus on as many attributes of a product or problem as possible. In breaking down the elements of a problem or object, you can look at each in turn and generate new ideas. The technique is particularly useful for considering complex products or processes in that it allows you to consider each feature or stage and look at the associated attributes in detail. You can also specify the criteria by which you want to examine an attribute, for example it could be quality, cost or speed of production. You can also look at the attributes from a range of perspectives:

- Physical attributes: shape, form, colour, texture

- Social attributes: responsibilities, taboos, roles, power
- Process attributes: selling, marketing, production
- Psychological attributes: needs, motivation, emotions
- Price attributes: cost to the customer, manufacturer, supplier

## Using the tool

- Attribute listing involves four steps:
- Select a problem, product, or process
- Break it into key attributes or stages or parts
- Look at each attribute in turn and identify ways for improving it
- Design or create a solution by manipulating and recombining the variables (known as structured synthesis)

Here is a simple ALM example for improving a torch:

Feature	Attribute	Ideas
Casing	Metal	Plastic, recycled plastic, rubber, recycled tyres, carbon fibre, glass fibre
Switch	On/off	On/off/low/high
Battery	Finite power	Rechargeable, wind-up
Bulb	Glass	Plastic, neon, no bulb
Weight	Heavy	Light

As the torch has a range of features, these have been broken down to look at the attributes of each. You could break each feature down further. For example, with regard to the metal casing, it might also be hard, cold, slippery, round etc.

# What next?

Think about a product or process you have used at some point today and create an attribute list for it. Now analyse those attributes and see what ideas emerge. How would you redesign or improve the product or process?

## Quick tips

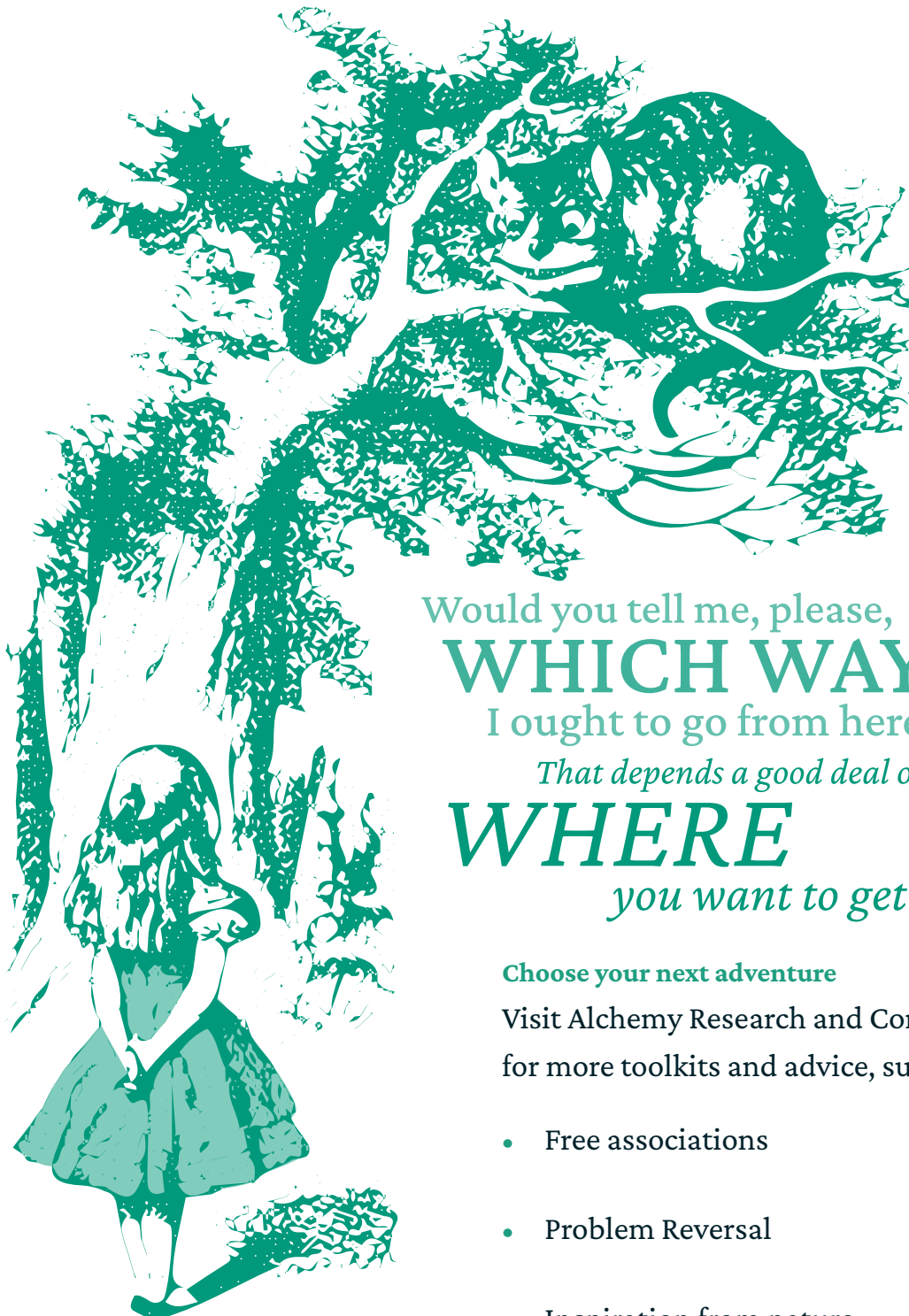
- You can use free association in conjunction with attribute listing. Once you have a list of attributes, freely associate five to ten words alongside each to build your ideas
- Work with a group of people to bring in different perspectives on the attributes
- Try not to get focused on one or two attributes too early. Create a full list first before you move into generating ideas
- Combine it with other creative techniques like mind mapping, analogies and metaphors or sensory images

## References

Crawford, R., P. (1964). *The Techniques of Creative Thinking: How to Use your Idea to Achieve Success*. Virginia, USA: Fraser Publishing Co.



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