

## Good tactile images for all

In the transmission of cultural goods, works of art, architecture, landscape structure and scientific-technical objects the following methods are generally recommended according to the following ranking. These methods are especially important for people with vision impairment, who can see images, photos, graphics, movies, etc., only in a limited way. A holistic approach with as many senses as possible however is useful for everybody.

### 1. Actively representing the objects

- The posture of a person in a painting can be imitated.
- A represented action can be mimicked.
- A technical or biological process can be illustrated by an experiment.

### 2. Original objects

Original objects should be made accessible. As many objects as possible should be tactile. For touching sensitive surfaces one can use cotton or latex gloves. Highly valuable or sensitive objects can be replaced by faithful reproductions. Even parts of an object are helpful for a holistic impression as e.g. a special tactile paint application on a canvas, a gearwheel on a transmission or a blossom of a plant.

### 3. Models

If originals or faithful objects are not accessible, models can be useful, e.g. if the original is too large, too hot, too sharp or too dangerous.

### 4. Tactile images

Those are especially useful, if the original has a flat surface, e.g. a painting, a blueprint, a map etc.

### 5. Descriptions

Objects or facts which are barely or not at all presentable in a tactile form can be described orally.

## **Ten Guidelines for the Production of Tactile Objects**

### **1. Orientation on Target Group and Context**

The following criteria do not apply equally to every blind and visually impaired person. The presentation of images should always be focused on the specific target group. For those in various stages of tactile training and concept development as well as for congenitally blind and acquired blind, images with different complexity or abstraction level can be useful in order to familiarize them with the metaphorical language of the sighted. Also important are the circumstances in which the tactile media are used. A building model next to a cathedral needs different requirements than a relief which is only used for guided tours with small groups.

### **2. Images**

- Simple pictures! They don't need to be faithfully copied with every single detail.
- The picture has to be limited to its essential elements, simply because haptic perception takes longer.
- The image must be adapted to age, haptic ability and gained experience of the recipients.
- Complicated facts should probably be arranged on several tactile pictures.
- Symbols and forms of representation should be uniform.

### **3. Diversity of Materials**

- Use as many different materials as possible!
- The materials should feel like the represented originals. You can use for instance articles from craft stores (e.g. leaves of artificial flowers) or self-made miniatures (e.g. modelling clay).
- Original objects like stones, wood pieces, fur, snail houses or shells can be applied as well.

### **4. Clear Differences**

The elements of a tactile image should be clearly distinguishable, e.g. by clear edges, level differences or different surface finishes.

### **5. Creating Forms instead of Drawing Lines**

The form of the objects should be represented as faithfully as possible. E.g. a circularly elevated surface can more easily be recognized as a ball than a tactile circular line.

## 6. Considering Haptic Anatomy

- Lines or dots less than 2 mm apart cannot be sensed. Therefore the distance must always be larger.
- Lines cannot be felt as easily as flat areas. Approaching or crossing lines can easily create the impression of closed figures. Avoid line crossings and line interruptions!
- Although dotting and hatching are visually easy to distinguish, they are not by touching.

## 7. No Perspective Representation!

- Objects should always be presented in a straight viewpoint. Houses should only show the front elevation and not an additional side elevation. Animals should be represented only straight from the side or from upfront, but not at an angle. If necessary, more than one display can be offered, e.g. elevation and blueprint of a building in separate reliefs.
- Objects further away must not simply be presented in a smaller scale.
- Elements should always be presented next to each other, but not one behind the other and not overlapping.
- However, perspective representation can of course be used, if you want to explain perspective representation to blind people.

## 8. Use Strong Colours and Contrasts

Most of the visually impaired people still have residual eyesight. Therefore tactile pictures for the blind must be designed with contrasting colours.

## 9. Not too large!

The tactile area should not be larger than the arm length of small persons. That's not always possible with larger objects. At least all parts of the object should be within reach of hands. If applicable, step treads might help.

## 10. Lettering

Lettering should be printed in Braille and large contrasting letters, readable for visually impaired people. Braille and black print should be arranged next to each other. That simplifies the communication between blind and sighted about the texts.

Letters however should not impact negatively the tactile exploration of the pictures. Arrows can complicate the recognition of the pictures. If applicable, abbreviations or short explanations can be used.

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This project (2014-1-AT01-KA204-001014) has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.