Please cite as:
Majid, A., Senft, G., & Levinson, S. C. (2007). The language of touch. In A. Majid (Ed.), *Field Manual Volume 10* (pp. 32-35). Nijmegen: Max Planck Institute for Psycholinguistics. doi:10.17617/2.492907.

REGULATIONS ON USE

Stephen C. Levinson and Asifa Majid

This website and the materials herewith supplied have been developed by members of the Language and Cognition Department of the Max Planck Institute for Psycholinguistics (formerly the Cognitive Anthropology Research Group). In a number of cases materials were designed in collaboration with staff from other MPI departments.

Proper citation and attribution

Any use of the materials should be acknowledged in publications, presentations and other public materials. Entries have been developed by different individuals. Please cite authors as indicated on the webpage and front page of the pdf entry. Use of associated stimuli should also be cited by acknowledging the field manual entry. Intellectual property rights are hereby asserted.

Creative Commons license

Background

The field manuals were originally intended as working documents for internal use only. They were supplemented by verbal instructions and additional guidelines in many cases. If you have questions about using the materials, or comments on the viability in various field situations, feel free to get in touch with the authors.

Contact

Email us via library@mpi.nl
Max Planck Institute for Psycholinguistics
P.O. Box 310, 6500 AH, Nijmegen, The Netherlands

THE LANGUAGE OF TOUCH

Asifa Majid, Gunter Senft & Stephen C. Levinson

Project	Categories and concepts across language and cognition
Task	Linguistic elicitation for tactile texture vocabulary using "texture book"
Goal of task	To investigate how languages encode tactile texture – specifically (1) whether there is dedicated vocabulary for encoding texture and (2) how much consistency there is within a community for describing tactile texture.
Prerequisite	You must have completed "Language of perception" (pp. 10-21). To conduct this task you need – (i) texture booklet and (ii) blindfold

Background

Newborn infants learn about the world around them through touch. Piaget famously noted the importance of manual and oral exploration of objects for developing spatial cognition and knowledge of the world. There are a number of receptors and nerve endings in our skin that perform different information processing tasks. Pain, temperature, itchiness, proprioception (the sense of where body parts are located with respect to one other, and whether the body is moving with effort) and touch are all conveyed through the skin. These components are grouped together under the heading of "somesthesis" (see Craig & Rollman 1999 for an overview). Normally, we can differentiate sensations that are the result of external stimulation and those that are from inside our own bodies – I can know that I am touching an apple with my hand and know where my hands are with respect to one another (without them touching each other).

In this project we will focus on touch, specifically the language of perception for texture. Touch – or the "haptic system" – provides information about various object attributes, shape, surface texture, vibration, wetness, hardness, weight, elasticity, pliability, etc., each associated with different exploratory movements (see Table 1). Widening the domain further, Katz (1925) identified four modes of touch. (i) "Surface touch" such as that experienced when running a fingertip over a piece of paper. In this mode one can apprehend the material of the object, and feature attributes such as softness, wetness, etc. (ii) "Touching objects filling a space" which lacks a definiteness about the localization or orientation in space. This is the sensation we experience when moving a hand in water, or feeling a strong puff of air on the face. In this mode we can discriminate elasticity, stickiness, viscosity, etc. (3) "Bulky touch" – the apprehension of an object indirectly such as when a hard ball can be felt even though it is completely wrapped in cotton wool. The surface of the object cannot be detected, but still one can garner its global size and shape. (4) "Touching through a transparent film" where the surface of the object can be discerned, but not through direct contact with the skin, for example, when one touches something wearing thin rubber gloves. (An amazing amount of information about objects can be detected through indirect contact – for example, using a stick or a pencil to probe an object, we can detect whether it is pliable, rough, etc.!)

Exploratory procedure	Attribute of object
Lateral motion (e.g. rubbing fingers across surface of object)	Texture
Pressure (e.g. squeezing, poking object)	Hardness
Static contact (e.g. fingers resting on object surface)	Temperature
Enclosure (e.g. holding/grasping object)	Shape/size/volume
Unsupported holding (e.g. holding object in hand)	Weight
Contour following (e.g. tracing contours of an object)	Global shape, exact shape

Table 1: Adapted from McLinden & McCall (2002).

We are focusing on a tiny corner of haptic perception, namely texture perception which can be perceived by lateral hand or finger motion. To this end, we have developed a "texture booklet" which has a standard size aperture in which a single material substance is displayed. The materials differ in roughness/smoothness, hardness/softness, etc. and we are interested in whether there is dedicated vocabulary for conveying surface texture attributes. Prior work suggests that this domain may be relatively effable, with Dutch speakers consistently referring to generic qualities of texture such as 'soft', 'harsh' and 'rough' (Picard, Dacremont, Valentin et al. 2003).

Research questions

What are the general resources for describing haptically perceived texture? Is there a dedicated vocabulary, and if so what types of distinctions are encoded? How much consistency is there within a speech community for describing texture experiences?

Task

The task is designed to elicit vocabulary for textures experienced haptically from speakers using a standardised kit. The primary goal is to establish how people describe texture and what resources the language provides generally for encoding this domain.

Consultants

Aim to test 12 participants. Keep a note of participants age (approximate age is fine), gender, and full linguistic background.

Stimuli

The touch kit is a single booklet with 10 pages and a blindfold. Each page contains a single textured material that consultants will explore with their fingers. If blindfolds are unacceptable or inappropriate to use in your field site, replace with a large piece of cloth, which should be used to cover the booklet and the consultant's hand while they are exploring the material on a page. The main thing is that the consultant does not look at the stimuli before they have described their haptic experience or while they are manually exploring.

Procedure

Remember to video~audio-tape your session.

First explain to your consultant that you will be presenting a book to him/her that has different materials attached to each page. You want the consultant to explore the material with his/her hand/fingers and describe to you what he/she feels. Explain that you want them to say how it feels to them, not how it looks so you will cover their eyes. To help them concentrate on the feel you will cover their eyes/hide the booklet under a cloth.

Place a blindfold over your consultant's eyes so that they cannot see the booklets. Present the first page of the booklet to the consultant and ask him to explore it with his fingers. The pages should be presented to consultants in a fixed order, beginning at page 1 and progressing through consecutively until the last page.

Ask the consultant in their native language *How does this feel?* The question should be phrased in such a way as to focus on the texture, rather than asking about the source of the texture (e.g. *What does this feel like?* in English seems to elicit source answers such as *silk, metal, paper* – check section on "Language of Perception" pp. 9-20 before proceeding with this task).

Analysis

Each consultant's responses will be coded for word/phrase/construction used to describe tactile texture. This will then be analysed for (1) consistency across consultants and (2) category of response, i.e., are responses (a) evaluative, (b) descriptive, or (c) source-oriented.

Outcome

Data will contribute to a description of the grammar of perception in the field language, intended for a collected volume. The pooled cross-linguistic data will also contribute to an overview publication on the encoding of the senses across languages.

Optional post-task elicitation

As before probe for additional texture vocabulary, particularly on the semantic features encoded and establish form classes of basic vocabulary. We have focused here on texture perception in tactile perception but there are two other directions you may also wish to explore – (1) does texture experienced in the visual modality also received the same sort of descriptions as texture experienced visually? This is not easily explored using the feel-booklets, since the visual characteristics differ quite widely between items making other dimensions (e.g. colour) more salient if participants were to describe them.

(2) How are other attributes of haptic perception are encoded in this language (see Table 1)? Is there dedicated vocabulary for these different features?

(3) How are other components of somesthetic experience encoded in language? While our focus here is on language for touch, specifically texture, we know very little about the encoding of temperature, pain, etc. There is some interesting work on temperature in the literature. For example, Lehrer (1990) suggests that the basic terms for temperature in English are *hot, warm, cool* and *cold*. She states that these denote temperature and the physical state of animates. Syntactically, they can be differentiated. *Warm* and *cool* function as adjectives and verbs, while *hot* and *cold* are only used as adjectives. The

equivalent forms for verbs are *heat* and *chill*. Also *warm* and *cool* can be used as causatives (e.g. *warm sweater* or *cool shirt*), while *hot* and *cold* cannot. She suggests that this difference could be a due to the fact that *hot* and *cold* have a more restricted semantic range since they are extremes on a antonymic scale.

Koptjevskaja-Tamm & Rakhilina (2006) also provide a very nice analysis of Russian and Swedish temperature adjectives. Based on the collocation properties of these adjectives they argue that these two languages differ considerably in how they carve up the conceptual domain of temperature. For example, Russian consistently distinguishes between tactile and non-tactile temperatures (i.e. between temperature sensation and thermal comfort), while Swedish does not. Additional elicitation could be devoted to the encoding of temperature, pain and itchiness.

References

Craig, J. C. & Rollman, G. B. (1999). Somesthesis. *Annual Review of Psychology*, *50*, 305-351.

Katz, D. (1925). *Der Aufbau der Tastwelt*. Leipzig: Johann Ambrosius Barth.

Koptjevskaja-Tamm, M. & Rakhilina, E. V. (2006). "Some like it hot": On the semantics of temperature adjectives in Russian and Swedish. In T. Leuschner & G. Giannoulopoulou (Eds.) *Lexicon in a Typological and Contrastive Perspective* [special issue]. *Sprachtypologie und Universalienforschung, 59,* 253-269.

Lehrer, A. (1990). Polysemy, conventionality, and the structure of the lexicon. *Cognitive Linguistics*, *1*, 207-246.

McLinden, M. & McCall, S. (2002). *Learning Through Touch: Supporting Children with Visual Impairment and Additional Difficulties.* London: David Fulton Publishers.

Picard, D., Dacremont, C., Valentin, D. & Giboreau, A. (2003). Perceptual dimensions of tactile textures. *Acta Psychologica*, *114*, 165-184.