

An overview of sign language research in German Switzerland

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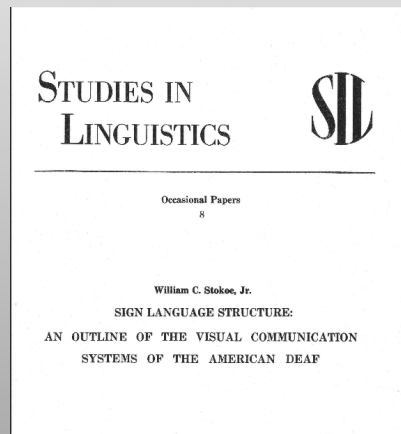
University of Applied Sciences of Special Needs Education Zurich (HfH)

Overview

- Short outline of the history of sign language (SL) research
- Research projects involving Swiss German Sign Language (DSGS)
- SL research and (new) technologies
- Conclusion
- Outlook

History of sign language research

- William Stokoe, Gallaudet University (1960): Publication on the linguistic structure of American Sign Language
- SL research in Europe: since the late 1970s
- Motivation in the beginning of SL research: find evidence that SLs are languages of their own



Stages of SL research

- Three stages of SL research (see Perniss et al., 2007):
 - „Modern period“ (Woll, 2003; ca. 1960-1980s): underlying identity between signed and spoken languages (there was little typological research).
 - „Post modern period“ (Perniss et al., 2007; starting in the 1980s): researchers first turned to the issue of modality and investigated similarities and differences between signed and spoken languages.
 - „3rd period“ (started in the late 1990s): Typology among SL as topic, emergence of new methodological and technological tools for elicitation, collection and documentation (Johnston et al., 2007)

SL research

- SL research is represented in different areas of linguistic research, such as psycholinguistics, computational linguistics, lexicography
- Within linguistic research: no need any longer to argue that SLs are natural languages
- Both SL and spoken language research presently in the process of approaching each other
 - For example:



Situation in Switzerland

Three sign languages in Switzerland:

- German-speaking part: Swiss German SL (Deutschschweizer Gebärdensprache, DSGS)
 - 5'500 users
- French-speaking part: French SL (Langue des Signes Française, LSF)
 - 1'700 users
- Ticino (Italian-speaking part): Italian SL (Lingua Italiana dei Segni, LIS)
 - 300 users

Study programs involving SL at university-level

Training programs at the University of Applied Sciences of
Special Needs Education (HfH):

- BA program in SL interpreting
- SL instructors training (continuous education)
- MA program in special education, specialization in
education of the deaf and hard-of-hearing
(„Schulische Heilpädagogik“)

Research projects involving DSGS

1983-1984: Comparison of three dialects in DSGS

- Institution: Center for Sign Language Research, Basel (FZG)
- Linguistic field: Lexical variations
- Funding: Basler Naturforschende Gesellschaft
- Researcher: Penny Boyes Braem

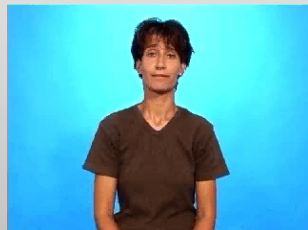


DSGS signs for BREAD (Bern and Basel)

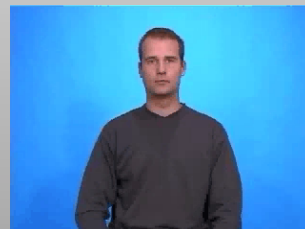
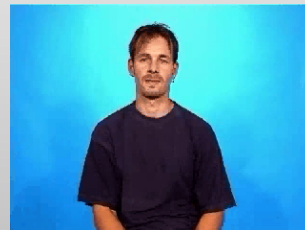


Videos from DSGS lexical database

...more examples



DSGS signs for BREAD (Lucern, St. Gallen &
Zurich)

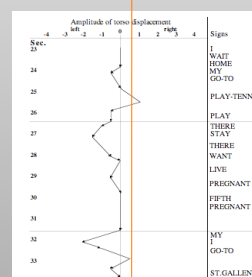
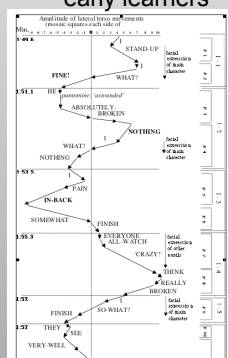


Videos from DSGS lexical database

1990-95: Effect of age of acquisition on forms used by deaf DSGS signers

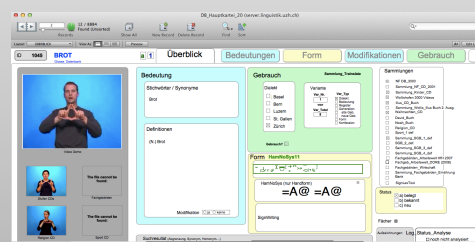
- Institution: FZG
- Linguistic field:
Acquisition, prosody, mouthing
- Funding: Swiss National Science Foundation (SNF)
- Project team: Penny Boyes Braem, Tanja Tissi, Claudia Jauch

Torso sways as prosodic markers
early learners late learners



1996-2001: Lexical database for DSGS

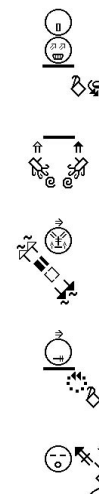
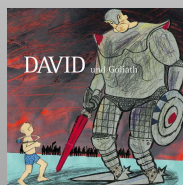
- Institutions: HfH, FZG
- Linguistic field:
Lexicography
- Funding: SNF
- Project team: Penny Boyes Braem (project director) with a large team of deaf and hearing co-workers



Interface of DSGS lexical database

2001-2002: Sign Writing and DSGS

- Institutions: HfH, GS-Media
- Linguistic field: Writing systems
- Funding: SNF (program: DORE), Commission for Technology and Innovation (KTI), Ökumenische Kirchengemeinden Klosters
- Project team: Penny Boyes Braem and team
- www.signwriting.org

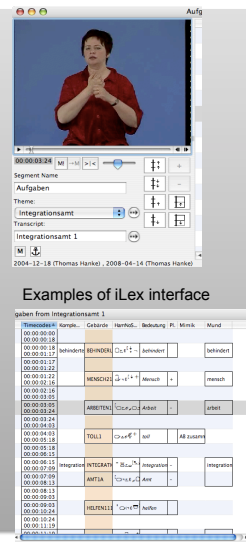


2007-2010: German/DSGS Web lexicon for technical terms

- Institution: HfH
- Linguistic field: Lexicography
- Funding: SNF (program: DORE), HfH, Swiss Federation of the Deaf (SGB-FSS), Vocational school for the Deaf Zurich
- Project team: Penny Boyes Braem, Barbara Bucher, Simone Groeber, Heidi Stocker, Katja Tissi, Carmela Zumbach

From: www.fachgebaerden.ch

- Institution: HfH, FZG
- Linguistic level: Lexicography and corpus linguistics
- Funding: HfH, Max-Bircher-Stiftung, FZG
- Cooperation with University of Hamburg, IDGS
- Project team: Penny Boyes Braem, Simone Groeber, Naomi Sonetto, Katja Tissi



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- Ph.D. project
- Institution: University of Zurich (UZH)
- Linguistic field: Computational linguistics
- Funding: UZH, Max-Bircher-Stiftung, EBGB
- Project team: Sarah Ebling, Sandra Sidler-Miserez, Katja Tissi
- Advisors: Martin Volk, Penny Boyes Braem

From: <http://www.uzh.ch/~linguis/lehre/ss16/comp-ling/>



From: <http://www.cl.uzh.ch/research/maschinelleuebersetzung/signlang.html>



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2013-2014: Sentence Repetition Test for DSGS

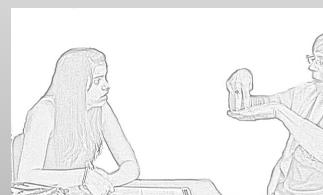
- Institution: HfH
- Funding: HfH, EBGB, Lotteriefonds Kanton Schwyz & Zug
- Project team: Tobias Haug, Christa Notter, Simone Groeber, Mireille Audeoud



From: Haug, 2006

2013-2015: Gaze and productive signing in deaf and hard-of-hearing signers of DSGS

- Institutions: HfH, in collaboration with UZH and FZH
- Linguistic field: Conversational analysis
- Funding: SNF
- Project team: Simone Groeber, Katja Tissi, NN
- Consultant: Penny Boyes Braem



SNF project „Intergaze“, 2013-2015

2012-2014: Deaf consumers' perception of signed to spoken language interpretation

- Institutions:
 - Macquarie University, Australia
 - University of Applied Sciences of Special Needs Education (HfH), Switzerland
 - Trinity College Dublin, Ireland
 - Heriot-Watt University, Scotland
 - Gallaudet University, USA
 - University of Applied Sciences Utrecht, the Netherlands

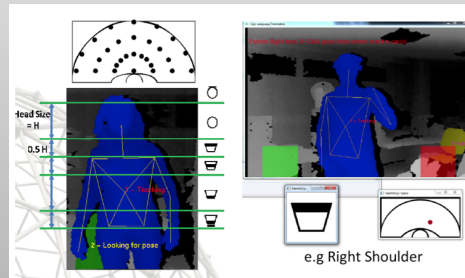
Upcoming EU projects

- **Italy**, France, Spain, Switzerland: Sign Language: Methodologies and Evaluation Tools (**SignMET**, 2014-2015, 2 years)
- **Ireland**, Austria, Belgium, Switzerland, UK: Justisigns (legal interpreting) (2013-2015, 2 years)

New technologies...

...enabling new research!

- Automatic SL recognition (e.g. via Kinect)
- Automatic SL generation/synthesis (avatar)
- Adaptive SL assessment



Example of Kinect for automatic SL recognition
From: Dicta-Sign, 3rd year public report, dictasign.eu

Improvements in technology



Interview with Bencie Woll, Virginia Volterra & Penny Boyes Braem,
July 10, 2013, London for project „Back to the Beginning“
(Haug, Leeson, Van den Bogaerde & Vermeerbergen)



From project „Trainslate“, University of Zurich

English translation:
*Please spread yourselves over the entire platform
and move towards the center of the wagon immediately after
boarding.*

Conclusion

- Different research projects involving DSGS:
 - First projects were driven by empirical research questions
 - Results (e.g. from DSGS lexical database) fed into the making of teaching materials
- What is still missing? E.g.
 - DSGS corpus
 - Pragmatics
 - Early acquisition
 - Interaction
 - ...

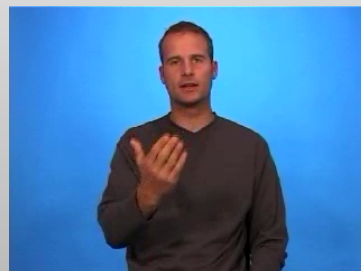
Outlook: SL research in Switzerland

- Establishing of SL research at the university level in Switzerland
- Recruitment and education of Deaf researchers

Outlook: Topics of SL research in the future

- What are the „big questions“ in SL research we want to address?
- Concrete projects, e.g. initiated through the Sign Language Research Network

Thanks for your attention!



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