

# Signs activate their written word translation in deaf adults: An ERP study on cross-modal co-activation in German Sign Language

Jana Hosemann, Nivedita Mani, Annika Herrmann, Markus Steinbach & Nicole Altvater-Mackensen

## Appendix: Complete list of stimulus sentences

### (A) Complete list of stimulus sentences; within-language priming

prime / target	critical and control sentences	phon.
Prim: DOCTOR / MINUTE Control: POLICE / MINUTE	YESTERDAY ACCIDENT <b>DOCTOR</b> FIVE <b>MINUTE</b> LATE COME YESTERDAY ACCIDENT <b>POLICE</b> FIVE <b>MINUTE</b> LATE COME	loc
Prim: NOON / WATER Control: EVENING / WATER	DAILY <b>NOON</b> IX <sub>1</sub> <b>WATER</b> DRINK SHOULD DAILY <b>EVENING</b> IX <sub>1</sub> <b>WATER</b> DRINK SHOULD	hs
Prim: ORANGE / CHAOS Control: APPLE / CHAOS	SUPERMARKET IX <b>ORANGE</b> SAME <b>CHAOS</b> LOOKS SUPERMARKET IX <b>APPLE</b> SAME <b>CHAOS</b> LOOKS	mov
Prim: ROOM / FAMILY Control: RESTAURANT / FAMILY	NEXT WEEK <b>ROOM</b> IX <b>FAMILY</b> PARTY ORGANIZE NEXT WEEK <b>RESTAURANT</b> IX <b>FAMILY</b> PARTY ORGANIZE	hs
Pr: ACCEPTANCE / REGISTRATION Cont: GRAMMAR / REGISTRATION	TALK TOPIC DGS POSS <b>ACCEPTANCE</b> IX <b>REGISTRATION</b> IMPORTANT TALK TOPIC DGS POSS <b>GRAMMAR</b> IX <b>REGISTRATION</b> IMPORTANT	hs
Prim: TREE / TALK Control: ANIMAL / TALK	TOPIC <b>TREE</b> IX <sub>1</sub> <b>TALK</b> PREPARE MUST TOPIC <b>ANIMAL</b> IX <sub>1</sub> <b>TALK</b> PREPARE MUST	mov
Prim: STORE / ANIMAL Control: CHURCH / ANIMAL	USUALLY <b>STORE</b> IX <b>ANIMAL</b> ALLOWED-NEG VISIT USUALLY <b>CHURCH</b> IX <b>ANIMAL</b> ALLOWED-NEG VISIT	mov
Prim: CULTURE / FLOWER Control: RELIGION / FLOWER	INDIEN POSS <b>CULTURE</b> IX <b>FLOWER</b> IMPORTANT INDIEN POSS <b>RELIGION</b> IX <b>FLOWER</b> IMPORTANT	mov
Prim: MEDICINE / SCIENCE Control: ART / SCIENCE	CHINA IX <b>MEDICINE</b> SAME <b>SCIENCE</b> OLD CHINA IX <b>ART</b> SAME <b>SCIENCE</b> OLD	loc
Prim: HIKE / PAIN Control: SPORT / PAIN	YESTERDAY <b>HIKE</b> IX <sub>1</sub> <b>PAIN</b> SHOULDER YESTERDAY <b>SPORT</b> IX <sub>1</sub> <b>PAIN</b> SHOULDER	mov
Prim: WORRIES / DREAM Control: STRESS / DREAM	MANY <b>WORRIES</b> OFTEN <b>DREAM</b> BAD INFLUENCE MANY <b>STRESS</b> OFTEN <b>DREAM</b> BAD INFLUENCE	hs
Prim: BIRTHDAY / ADVANTAGE Control: WEDDING / ADVANTAGE	SUMMER <b>BIRTHDAY</b> IX <b>ADVANTAGE</b> REASON WEATHER NICE SUMMER <b>WEDDING</b> IX <b>ADVANTAGE</b> REASON WEATHER NICE	mov
Prim: WORK / STONE Control: HOBBY / STONE	MY GRANDPA POSS <b>WORK</b> IX <b>STONE</b> HAMMER <sub>CL</sub> MY GRANDPA POSS <b>HOBBY</b> IX <b>STONE</b> HAMMER <sub>CL</sub>	mov

Prim: INTERVIEW / DIALOGUE Control: MOVIE / DIALOGUE	TELEVISION <b>INTERVIEW</b> IX <sub>1</sub> <b>DIALOGUE</b> DIFFICULT UNDERSTAND TELEVISION <b>MOVIE</b> IX <sub>1</sub> <b>DIALOGUE</b> DIFFICULT UNDERSTAND	hs
Prim: SOCIETY / PARTY Control: COMMUNITY / PARTY	DEAF <b>SOCIETY</b> OFTEN <b>PARTY</b> ORGANIZE DEAF <b>COMMUNITY</b> OFTEN <b>PARTY</b> ORGANIZE	or
Prim: FUTURE / CRITIQUE Control: 1-YEAR / CRITIQUE	IX <sub>1</sub> THINK <b>FUTURE</b> IX <sub>pl</sub> <b>CRITIQUE</b> WITHSTAND MUST IX <sub>1</sub> THINK <b>1-YEAR</b> IX <sub>pl</sub> <b>CRITIQUE</b> WITHSTAND MUST	hs
Prim: MATCH / DISCUSSION Con: CHAMPIONSHIP / DISCUSSION	TOPIC SOCCER <b>MATCH</b> IX <b>DISCUSSION</b> OFTEN LONG TOPIC SOCCER <b>CHAMPIONSHIP</b> IX <b>DISCUSSION</b> OFTEN LONG	hs
Prim: FUN / MISTAKE Control: SUCCESS / MISTAKE	TODAY IX <sub>1</sub> <b>FUN</b> 10 <b>MISTAKE</b> FIND TODAY IX <sub>1</sub> <b>SUCCESS</b> 10 <b>MISTAKE</b> FIND	hs
Prim: LONDON / BATHROOM Control: PARIS / BATHROOM	IX <sub>1</sub> VACATION <b>LONDON</b> IX <b>BATHROOM</b> LOOK-FOR IX <sub>1</sub> VACATION <b>PARIS</b> IX <b>BATHROOM</b> LOOK-FOR	hs
Prim: FEAR / PROBLEM Control: DEPT / PROBLEM	HEIGHT <b>FEAR</b> IX <b>PROBLEM</b> BIG FOR-ME MANY <b>DEPT</b> IX <b>PROBLEM</b> BIG FOR-ME	hs
Prim: STATE / CONFERENCE Cont: UNIVERSITY / CONFERENCE	THIS YEAR <b>STATE</b> IX <b>CONFERENCE</b> ORGANIZE THIS YEAR <b>UNIVERSITY</b> IX <b>CONFERENCE</b> ORGANIZE	hs
Prim: TRAINING / EXAMPLE Control: SCHOOL / EXAMPLE	JOB <b>TRAINING</b> IX <b>EXAMPLE</b> MANY EXIST JOB <b>SCHOOL</b> IX <b>EXAMPLE</b> MANY EXIST	mov
Prim: GRANDMA / PIG Control: FATHER / PIG	PAST FARM IX MY <b>GRANDMA</b> OFTEN <b>PIG</b> FEED PAST FARM IX MY <b>FATHER</b> OFTEN <b>PIG</b> FEED	loc
Prim: HOBBY / ILLNESS Control: FRUIT / ILLNESS	DIFFERENT <b>HOBBY</b> IX <sub>pl</sub> <b>ILLNESS</b> PROTECT DIFFERENT <b>FRUIT</b> IX <sub>pl</sub> <b>ILLNESS</b> PROTECT	hs
Prim: INJURY / METAL Control: INJURY / SAW	JOINER POSS <b>INJURY</b> IX <b>METAL</b> CUT JOINER POSS <b>INJURY</b> IX <b>SAW</b> CUT	mov
Prim: RESTAURANT / DIALOGUE Control: BAR / DIALOGUE	WAITER <b>RESTAURANT</b> IX <b>DIALOGUE</b> SIGN CAN WAITER <b>BAR</b> IX <b>DIALOGUE</b> SIGN CAN	hs
Prim: PROOF / EXPENSES Control: RECEIPT / EXPENSES	TAX#RETURN IX <sub>1</sub> <b>PROOF</b> FOR <b>EXPENSES</b> NEED TAX#RETURN IX <sub>1</sub> <b>RECEIPT</b> FOR <b>EXPENSES</b> NEED	hs
Prim: PRACTICE / CAR Control: EXPERIENCE / CAR	DRIVE#LEARNER MUCH <b>PRACTICE</b> WITH <b>CAR</b> NEED DRIVE#LEARNER MUCH <b>EXPERIENCE</b> WITH <b>CAR</b> NEED	mov
Prim: HILL / WOMAN Control: LAWN / WOMAN	YESTERDAY BAVARIA <b>HILL</b> IX <b>WOMAN</b> STAND YESTERDAY BAVARIA <b>LAWN</b> IX <b>WOMAN</b> STAND	loc
Prim: GRAVE / SHIP Control: PROBLEM / SHIP	CAPTAIN POSS <b>GRAVE</b> IF <b>SHIP</b> SINK CAPTAIN POSS <b>PROBLEM</b> IF <b>SHIP</b> SINK	loc
Prim: MATHEMATICS / RAIN Control: NATURE / RAIN	LAW <b>MATHEMATICS</b> SO <b>RAIN</b> ALWAYS FALL-STRAIGHT <sub>CL</sub> LAW <b>NATURE</b> SO <b>RAIN</b> ALWAYS FALL-STRAIGHT <sub>CL</sub>	or
Prim: WORK / UMBRELLA Control: SCHOOL / UMBRELLA	YESTERDAY IX <sub>1</sub> POSS <sub>1</sub> <b>WORK</b> IX <b>UMBRELLA</b> FORGET YESTERDAY IX <sub>1</sub> POSS <sub>1</sub> <b>SCHOOL</b> IX <b>UMBRELLA</b> FORGET	mov
Prim: TOWER / UMBRELLA Control: HOUSE / UMBRELLA	YESTERDAY IX <sub>1</sub> <b>TOWER</b> IX <b>UMBRELLA</b> FORGET YESTERDAY IX <sub>1</sub> <b>HOUSE</b> IX <b>UMBRELLA</b> FORGET	hs

Prim: DAY / SENTENCE Control: WEEK / SENTENCE	ABOUT EVERY <b>DAY</b> IX <sub>1</sub> <b>SENTENCE</b> ENGLISH WRITE ABOUT EVERY <b>WEEK</b> IX <sub>1</sub> <b>SENTENCE</b> ENGLISH WRITE	mov
Prim: DOG / LAUD Control: CAT / LAUD	MY <b>DOG</b> IX <b>LAUD</b> NEED MY <b>CAT</b> IX <b>LAUD</b> NEED	loc
Prim: COFFEE / WORK Control: TOBACCO / WORK	BRAZIL POSS <b>COFFEE</b> IX <b>WORK</b> PROCESS LONG BRAZIL POSS <b>TOBACCO</b> IX <b>WORK</b> PROCESS LONG	mov
Prim: UMBRELLA / COFFEE Control: ROOF / COFFEE	IX <sub>1</sub> TERRACE <b>UMBRELLA</b> IX <b>COFFEE</b> DRINK IX <sub>1</sub> TERRACE <b>ROOF</b> IX <b>COFFEE</b> DRINK	mov
Prim: GRIEF / BATH Control: PROBLEM / BATH	LOVE <b>GRIEF</b> IX <b>BATH</b> WARM HELP LOVE <b>PROBLEM</b> IX <b>BATH</b> WARM HELP	mov
Prim: BANK / STORE Control: SCHOOL / STORE	STREET IX <b>BANK</b> NEXT <b>STORE</b> ALREADY CLOSE STREET IX <b>SCHOOL</b> NEXT <b>STORE</b> ALREADY CLOSE	mov
Prim: AGENCY / PRINTOUT Control: OFFICE / PRINTOUT	TOMORROW MAN <b>AGENCY</b> IX <b>PRINTOUT</b> PICK-UP TOMORROW MAN <b>OFFICE</b> IX <b>PRINTOUT</b> PICK-UP	mov

*(B) Complete list of stimulus sentences; cross-language priming*

prime / target	critical and control sentences
Prim: Engel / Angel Control: Mann / Angel	MUSEUM IX PICTURE CONTENT TOPIC <b>ANGEL</b> WITH <b>FISHING-ROD</b> HANG MUSEUM IX PICTURE CONTENT TOPIC <b>MAN</b> WITH <b>FISHING-ROD</b> HANG
Prim: Raum / Baum Control: Haus / Baum	ARCHITECT WISH <b>ROOM</b> IX <b>TREE</b> PLACE <sub>CL</sub> ARCHITECT WISH <b>HOUSE</b> IX <b>TREE</b> PLACE <sub>CL</sub>
Prim: Wein / Bein Control: Sekt / Bein	YESTERDAY RESTAURANT IX <b>WINE</b> IX <sub>1</sub> <b>LEG</b> SPILL <sub>CL</sub> YESTERDAY RESTAURANT IX <b>CHAMPAGNE</b> IX <sub>1</sub> <b>LEG</b> SPILL <sub>CL</sub>
Prim: Tier / Bier Control: Kind / Bier	USUALLY <b>ANIMAL</b> IX <b>BEER</b> DRINK LIKE-NEG USUALLY <b>CHILD</b> IX <b>BEER</b> DRINK LIKE-NEG
Prim: Tuch / Buch Control: Tisch / Buch	MAGUS PERSON <b>CLOTH</b> IX <b>BOOK</b> LAY-BENEATH <sub>CL</sub> MAGUS PERSON <b>TABLE</b> IX <b>BOOK</b> LAY-BENEATH <sub>CL</sub>
Prim: Mutter / Butter Control: Vater / Butter	REFRIGERATOR POSS <sub>1</sub> <b>MOTHER</b> IX <b>BUTTER</b> FETCH REFRIGERATOR POSS <sub>1</sub> <b>FATHER</b> IX <b>BUTTER</b> FETCH
Prim: Dach / Schach Control: Tür / Schach	HOUSE POSS <sub>3</sub> <b>ROOF</b> LIKE <b>CHES</b> PATTERN LOOK HOUSE POSS <sub>3</sub> <b>DOOR</b> LIKE <b>CHES</b> PATTERN LOOK
Prim: Kampf / Dampf Control: Training / Dampf	LAST-TIME BOX <b>FIGHT</b> IX <b>STEAM</b> MUCH LAST-TIME BOX <b>TRAINING</b> IX <b>STEAM</b> MUCH
Prim: Dieb / Sieb Control: Mann / Sieb	YESTERDAY KITCHEN IX OLD <b>THIEF</b> THREE <b>SIEVE</b> STEAL YESTERDAY KITCHEN IX OLD <b>MAN</b> THREE <b>SIEVE</b> STEAL
Prim: Fahne / Sahne Control: Hemd / Sahne	POSS <sub>1</sub> SOCCER <b>FLAG</b> IX <b>CREAM</b> SMACK <sub>CL</sub> POSS <sub>1</sub> SOCCER <b>SHIRT</b> IX <b>CREAM</b> SMACK <sub>CL</sub>

Prim: Narbe / Farbe Control: Hose / Farbe	T-I-M POSS <sub>3</sub> <b>SCAR</b> IX <b>COLOR</b> SLOWLY CHANGE T-I-M POSS <sub>3</sub> <b>PANTS</b> IX <b>COLOR</b> SLOWLY CHANGE
Prim: Tisch / Fisch Control: Küche / Fisch	DINNER POSS <sub>1</sub> MOTHER <b>TABLE</b> IX <b>FISH</b> CUT <sub>CL</sub> DINNER POSS <sub>1</sub> MOTHER <b>KITCHEN</b> IX <b>FISH</b> CUT <sub>CL</sub>
Prim: Gabel / Kabel Control: Messer / Kabel	POLICE INFO <sub>PL</sub> , PLEASE METAL <b>FORK</b> IX <b>WIRE</b> CONTACT MUST-NEG POLICE INFO <sub>PL</sub> , PLEASE METAL <b>KNIFE</b> IX <b>WIRE</b> CONTACT MUST-NEG
Prim: Bericht / Gericht Control: Antrag / Gericht	POSS <sub>1</sub> INSURANCE ACCIDENT <b>REPORT</b> FOR COURT REFUSE POSS <sub>1</sub> INSURANCE ACCIDENT <b>REQUEST</b> FOR COURT REFUSE
Prim: Paar / Haar Control: Geschwister / Haar	BERLIN IX EXIST <b>COUPLE</b> BOTH <b>HAIR</b> RED BERLIN IX EXIST <b>SIBLINGS</b> BOTH <b>HAIR</b> RED
Prim: Hahn / Zahn Control: Vogel / Zahn	USUALLY <b>ROOSTER</b> IX <sub>PL</sub> <b>TOOTH</b> EXIST-NEG USUALLY <b>BIRD</b> IX <sub>PL</sub> <b>TOOTH</b> EXIST-NEG
Prim: Wand / Hand Control: Tisch / Hand	KINDERGARTEN IX <b>WALL</b> MANY <b>HAND</b> PRINT <sub>CL</sub> KINDERGARTEN IX <b>PICTURE</b> MANY <b>HAND</b> PRINT <sub>CL</sub>
Prim: Land / Sand Control: Ort / Sand	EGYPT IX <b>COUNTRY</b> MUCH <b>SAND</b> EXIST EGYPT IX <b>AREA</b> MUCH <b>SAND</b> EXIST
Prim: Mantel / Hantel Control: Tasche / Hantel	SPORT FINISH, MAN POSS <sub>3</sub> <b>COAT</b> IX <b>BARBELL</b> POCKET <sub>CL</sub> SPORT FINISH, MAN POSS <sub>3</sub> <b>BAG</b> IX <b>BARBELL</b> POCKET <sub>CL</sub>
Prim: Hase / Nase Control: Katze / Nase	POSS <sub>1</sub> DAUGHTER POSS <sub>3a</sub> <b>RABBIT</b> IX <b>NOSE</b> SCRATCH <sub>CL</sub> POSS <sub>1</sub> DAUGHTER POSS <sub>3a</sub> <b>CAT</b> IX <b>NOSE</b> SCRATCH <sub>CL</sub>
Prim: Haus / Maus Control: Küche / Maus	LAST WEEK POSS <sub>1</sub> <b>HOUSE</b> IX <b>MOUSE</b> HIDE LAST WEEK POSS <sub>1</sub> <b>KITCHEN</b> IX <b>MOUSE</b> HIDE
Prim: Hose / Rose Control: Hemd / Rose	WEDDING-DAY POSS <sub>1</sub> PARTNER POSS <sub>3a</sub> <b>PANTS</b> IX <sub>1</sub> <b>ROSE</b> PUT-IN WEDDING-DAY POSS <sub>1</sub> PARTNER POSS <sub>3a</sub> <b>SHIRT</b> IX <sub>1</sub> <b>ROSE</b> PUT-IN
Prim: Nummer / Kummer Control: Arzt / Kummer	POSS <sub>1</sub> PARTNER IX <sub>3a</sub> SICK. IX <sub>1</sub> <b>NUMBER</b> FOR <b>GRIEF</b> CALL POSS <sub>1</sub> PARTNER IX <sub>3a</sub> SICK. IX <sub>1</sub> <b>DOCTOR</b> FOR <b>GRIEF</b> CALL
Prim: Hund / Mund Control: Katze / Mund	POSS <sub>1</sub> GRANDPA POSS <sub>3</sub> <b>DOG</b> IX <b>MOUTH</b> STINK POSS <sub>1</sub> GRANDPA POSS <sub>3</sub> <b>CAT</b> IX <b>MOUTH</b> STINK
Prim: Mut / Hut Control: Angst / Hut	YESTERDAY IX <sub>1</sub> VERY <b>COURAGE</b> GO <b>HAT</b> STRANGE BUY YESTERDAY IX <sub>1</sub> VERY <b>FEAR</b> GO <b>HAT</b> STRANGE BUY
Prim: Wette / Kette Control: Gespräch / Kette	YESTERDAY WE-DUAL STRANGE <b>BET</b> TOPIC <b>CHAIN</b> IX STABLE OR BREAK YESTERDAY WE-DUAL STRANGE <b>TALK</b> TOPIC <b>CHAIN</b> IX STABLE OR BREAK
Prim: Kind / Wind Control: Bruder / Wind	AUTUMN POSS <sub>1</sub> <b>CHILD</b> IX <b>WIND</b> LOVE AUTUMN POSS <sub>1</sub> <b>BROTHER</b> IX <b>WIND</b> LOVE
Prim: Koch / Loch Control: Mann / Loch	RESTAURANT <b>CHEF</b> IX <b>HOLE</b> STUMBLE-IN <sub>CL</sub> RESTAURANT <b>MAN</b> IX <b>HOLE</b> STUMBLE-IN <sub>CL</sub>
Prim: Topf / Kopf Control: Schüssel / Kopf	CHILD IX <b>POT</b> POSS <sub>3a</sub> <b>HEAD</b> PUT-ON <sub>CL</sub> CHILD IX <b>BOWL</b> POSS <sub>3a</sub> <b>HEAD</b> PUT-ON <sub>CL</sub>
Prim: Liege / Ziege Control: Tisch / Ziege	EGYPT HOTEL IX <b>LOUNGER</b> IX <b>GOAT</b> STAND-ON <sub>CL</sub> EGYPT HOTEL IX <b>TABLE</b> IX <b>GOAT</b> STAND-ON <sub>CL</sub>

Prim: Lupe / Hupe Control: Batterie / Hupe	PLAY CAR IX CHILD <b>MAGNIFIER</b> FOR <b>HORN</b> NEED PLAY CAR IX CHILD <b>BATTERY</b> FOR <b>HORN</b> NEED
Prim: Macht / Nacht Control: Krieg / Nacht	MANY KING POSS <sub>3</sub> <b>POWER</b> OFTEN <b>NIGHT</b> PLAN MANY KING POSS <sub>3</sub> <b>WAR</b> OFTEN <b>NIGHT</b> PLAN
Prim: Nonne / Sonne Control: Mönch / Sonne	CLOISTER IX <b>NUN</b> LOVE <b>SUN</b> LOOK-AT CLOISTER IX <b>MONK</b> LOVE <b>SUN</b> LOOK-AT
Prim: Rost / Post Control: Loch / Post	LETTERBOX MUCH <b>RUST</b> IX <b>POST</b> BAD FOR LETTERBOX MUCH <b>HOLE</b> IX <b>POST</b> BAD FOR
Prim: Regel / Segel Control: Erfahrung / Segel	POSS <sub>1</sub> GRANDPA MANY <b>RULE</b> FOR <b>SAIL</b> SETTING KNOW POSS <sub>1</sub> GRANDPA MANY <b>EXPERIENCE</b> FOR <b>SAIL</b> SETTING HAVE
Prim: Riese / Wiese Control: Mann / Wiese	CHILDREN#TALE <b>GIANT</b> IX <b>GRASSLAND</b> STAMPERS-ACCROSS <sub>CL</sub> CHILDREN#TALE <b>MAN</b> IX <b>GRASSLAND</b> STAMPERS-ACCROSS <sub>CL</sub>
Prim: Kasse / Tasse Control: Theke / Tasse	KITCHEN STORE WOMAN <b>CHECKOUT</b> IX <b>CUP</b> PAY KITCHEN STORE WOMAN <b>COUNTER</b> IX <b>CUP</b> PAY
Prim: Turm / Wurm Control: Schloss / Wurm	FAIRYTALE WOODS <b>TOWER</b> IX <b>WORM</b> CRAWL-UP <sub>CL</sub> FAIRYTALE WOODS <b>CASTLE</b> IX <b>WORM</b> CRAWL-UP <sub>CL</sub>
Prim: Welt / Zelt Control: Europa / Zelt	LAST YEAR POSS <sub>1</sub> FRIEND <b>WORLD</b> WITH <b>TENT</b> TRAVEL LAST YEAR POSS <sub>1</sub> FRIEND <b>EUROPE</b> WITH <b>TENT</b> TRAVEL
Prim: Wolf / Golf Control: Hase / Golf	ANIMAL STORY CONTENT <b>WOLF</b> IX <b>GOLF</b> PLAY WISH ANIMAL STORY CONTENT <b>RABBIT</b> IX <b>GOLF</b> PLAY WISH

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