



UNIVERSITY OF
BIRMINGHAM

SCHOOL OF ENGLISH,
DRAMA AND AMERICAN
& CANADIAN STUDIES

Sign CAFÉ 1

The first international workshop on
cognitive and functional explorations in
sign language linguistics



Monday 30—Tuesday 30 July 2018
University of Birmingham

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Conference Venue

The conference takes place in the Main Lecture Theatre (room 120) on the first floor of the Arts Building. The lecture theatre can be accessed via either stairs or lift and will be signposted throughout the duration of the conference.

Poster presentations will take place during the afternoon refreshment break in Lecture Room 5 on the second floor.

Monday 30 July

8.00-8.50	Registration
8.50-9.00	Welcome
9.00-9.45	<i>Markers of epistemic uncertainty in two unrelated sign languages: Cognitive and functional motivations</i> Elisabeth Engberg-Pedersen
9.45-10.15	<i>When looks count: The function and distribution of LOOK-AT in American Sign Language</i> Lynn Hou, Ryan Lepic and Benjamin Anible
10.15-10.45	<i>The use of constructed action in agent-defocusing constructions in Finnish Sign Language</i> Sanna Nordlund
10.45-11.15	Tea/coffee break
11.15-11.45	<i>Perspective shift in M2/L2 sign language learners: The role of gesture</i> Christian Rathmann
11.45-12.15	<i>Sociolinguistic variation of two-handed signs in French Belgian Sign Language: Weak drop as a stable reduction phenomenon</i> Aurore Paligot and Laurence Meurant
12.15-12.45	<i>Attitudes to age variation and language change in the British Deaf community</i> Katherine Rowley, Jordan Fenlon and Kearsy Cormier
12.45-13.30	Lunch
13.30-14.00	<i>Towards understanding non-manuality: Signers' head movements as semiotic signs</i> Anna Puupponen

14.00-14.30	<i>Signing and showing in the tactile modality</i> Johanna Mesch
14.30-15.00	<i>The role of mouthings in Greek Sign Language: Register and word class variation in mouthing occurrence</i> Ioanna Tsourma
15.00-16.00	Tea/coffee & posters
16.00-16.30	<i>“Cut and Break” descriptions in Swedish Sign Language: Children’s and adults’ depicting verb constructions</i> Pia Simper-Allen
16.30-17.00	<i>Position of the head noun makes a difference: (Varying) marking of relative clauses in Turkish Sign Language</i> Okan Kubus and Derya Nuhbalaoglu
17.00-17.30	<i>Perception and parametrical components in sign languages</i> Emmanuella Martinod

Tuesday 30 July

9.00-9.45	<i>Patterns of variation in a corpus of Indonesian Sign Language varieties</i> Nick Palfreyman
9.45-10.15	<i>The in/visibleness of doing reference in a deaf signed language</i> Gabrielle Hodge, Benjamin Anible and Lindsay Ferrara
10.15-10.45	<i>Spatial relations in Finnish Sign Language</i> Danny De Weerd
10.45-11.15	Tea/coffee break
11.15-11.45	<i>Use of ENTITY, HANDLE and DESCRIPTOR in L2 learners of Swedish Sign Language</i> Johanna Mesch, Krister Schönström and Ylva Larsson
11.45-12.15	<i>The link between iconic sources and conceptual categories in iconic signs in sign languages</i> Oksana Tkachman and Carla Hudson Kam
12.15-12.45	<i>A usage-based alternative to "lexicalization"</i> Ryan Lopic
12.45-13.30	Lunch
13.30-14.00	<i>Indicating verbs and cognition-to-form mapping: Pointing away from 'agreement' and back again?</i> Adam Schembri
14.00-14.30	<i>Question-response sequences in Argentine Sign Language and British Sign Language</i> Elizabeth Manrique and Kearsy Cormier

14.30-15.30	Tea/coffee & posters
15.30-16.00	<i>Iconicity of articulators and locations in 31 sign languages</i> Carl Börstell, Robert Östling and Servane Courtaux
16.00-16.30	<i>Constructed representation of transitive actions in Italian Sign Language: Agent's or patient's perspective?</i> Olga Capirci, Anita Slonimska and Asli Ozyurek
16.30-17.15	<i>Finding meaning in phonology</i> Corrine Occhino
17.15-17.30	Closing

Poster Presentations

- *A method to establish sign frequency based on patterns of articulation*
Aurore Paligot, Maxime Gobert and Laurence Meurant
- *A role and reference grammar characterisation of Irish Sign Language verbs*
Irene Murtagh
- *Grammatization processes in Italian Sign Language: How social action shapes grammar*
Sabina Fontana
- *Historical roots of Czech Sign Language—Etymology of signs*
Lenka Okrouhliková
- *Metaphor in sign languages: Case study of Russian Sign Language*
Maria Kyuseva and Vadim Kimmelman
- *Multi-verb constructions in Spanish Sign Language*
Carmen Cabeza and Jose M. Garcia-Miguel
- *Special signs? Benefits from a functional analysis*
Ulrike Wrobel
- *Teaching sign language through cross-modality development potential*
Luigi Lerosé
- *The one, true native signer*
Rannveig Sverrisdóttir
- *What Is polysemy? What counts as a distinct sense? Metaphors in Japanese Sign Language*
Nozomi Tomita

Signed/Spoken Presentation Abstracts

Lynn Hou, Ryan Lopic and Benjamin Anible

WHEN LOOKS COUNT: THE FUNCTION AND DISTRIBUTION OF LOOK-AT IN AMERICAN SIGN LANGUAGE

Previous cross-linguistic research has shown that cognitive verbs can be grammaticalized from perceptual verbs (e.g. "seeing" or "hearing") (Evans & Wilkins, 2000; Aikhenvald & Storch 2013). Here we examine this grammaticalization pathway as it relates to the American Sign Language (ASL) perceptual verb LOOK-AT. Canonically, this sign is one-handed, with a short path movement near the signer's face. LOOK-AT also participates in a number of morphological patterns marking verbal argument structure, number, and aspect (Klima & Bellugi, 1979; Liddell, 2003), and has been described as signaling an interlocutor's affective response to a perceptual stimulus (Healy, 2015). However, these descriptions have not been corroborated by a large-scale dataset of naturalistic signing. We analyze the function and distribution of 831 LOOK-AT verb tokens in a dataset of 14h 30m of naturalistic ASL from the Internet. We observe morpho-phonological variation among LOOK-AT tokens. To quantify this variation, we coded tokens for their broad grammatical function (vision, reaction, or both), and for their formal properties. From this analysis we identify a polysemous network of constructions associated with visual perception. Verbal tokens with path movement are typically associated with physical acts of looking at a referent; two-handed forms also encode cognitive states such as admiration, and retrospection. Many LOOK-AT tokens functioning as cognitive verbs appear in contexts relating to the signer's subjective experience, reacting to a situation. These cognitive verbs exhibit reduced path movement, are typically one-handed, and are often accompanied by affective facial expressions. These cognitive verb tokens are often followed by a clausal complement functioning as a quotative construction (analogous to subordinating BE-like ["and I was like..."] in colloquial English). This finding is in line with the robust tendency for phonetic reduction and semantic shift to differentially affect high frequency words (Bybee, 2010). We investigated the contribution of the factors coded in our data set using random forests

(cf. Tagliamonte & Baayen, 2012), which showed that the most significant predictors for the realization of grammatical function in order of importance were: type of path movement (reduced, directional, or circular), type of facial expressions (grammatical, affective, or ambiguous), and number of hands (one or two). We subsequently grew a conditional inference tree to uncover the interactions of these predictors. This analysis revealed that vision is associated most strongly with directional or circular path movement, or in the case of reduced movement, the use of two-handed production. Reaction is associated with affective rather than grammatical facial expressions, one-handed production, and reduced path movement. A mixing of vision and reaction grammatical function occurs when the form properties are combined; directional or circular path movement in conjunction with affective facial expression and one-handed production. These facts are consistent with our analysis that the reduced variant of LOOK-AT has been grammaticalized from a perception verb to a cognition verb. This is reflected not only in its specialized semantics and distribution, but also in its reduced and changed form.

Sanna Nordlund

THE USE OF CONSTRUCTED ACTION IN AGENT-DEFOCUSING CONSTRUCTIONS

OF FINNISH SIGN LANGUAGE

The use and the role of constructed action (CA) in agent-defocusing constructions in sign languages is an underresearched issue. A construction that defocuses the agent of a clause by omitting it and represents the event from the perspective of the patient-like participant using non-manual articulators (i.e. CA) has been described in, for example, American Sign Language (ASL) (Janzen et al. 2001), where its use has been found to be rare (Rankin 2013). The most typical strategy for agent defocusing is to omit the agent and tell the event from a neutral perspective, and CA is used more often to represent the agent than the patient, even though the agent is non-referential (Rankin 2013). Barberà and Cabredo Hofherr (2017) have argued that the use of CA is not a significant feature in agent-defocusing constructions in Catalan Sign Language, but only an additional phenomenon used with animate patients. A data-based analysis of video-recorded informational texts including currently 50 agent-

defocusing is omission of the agent, without any CA. Some clauses include non-manual elements that can be analyzed as reduced or subtle CA (Cormier et al. 2015) representing the patient-like participant. All these clauses have the signer as a patient, although the use of CA is not obligatory even then. In addition, some clauses can be analyzed as including reduced or subtle CA representing the omitted, non-referential agent. In addition to omission, the agent can be defocused in FinSL using a non-referential pronominal pointing sign. It seems that the CA representing the patient can be used also when the agent is defocused using a non-referential, non-first-person plural pronominal pointing sign as the A-argument. To date, CA has not been identified in clauses with the first person as the A-argument. The preliminary analysis of the data suggests that in agent-defocusing constructions of FinSL, CA is an optional and gradient phenomenon that can be used not only with omitted agents, but also with a non-referential, non-first-person plural pronominal agent. With omitted agents, the CA can represent either the agent or the patient, but it is more common not to include any CA. Due to the gradient nature of the use of CA, it is difficult to categorize any structure defocusing the agent and including CA as a separate construction. Rather, the use of CA can be represented as a continuum (CA:patient – no CA – CA:agent) spread across different syntactic agent-defocusing strategies.

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Christian Rathmann

PERSPECTIVE SHIFT IN M2/L2 SIGN LANGUAGE LEARNERS: ROLE OF GESTURE

The perspective of multiple characters in sign language discourse chunks can be expressed through a mechanism called perspective

(Padden 1986, Engberg-Pedersen 1995, Lillo-Martin 1995). The term covers a similar phenomenon called constructed action, as described by Liddell (1998), Liddell and Metzger (1998), Liddell (2003), and Cormier et al (2013) among others. As for M2/L2 learning, Taub et al (2006/2008)'s findings reveal that (i) first person shift in American Sign Language (ASL) is acquired early with some errors (e.g. correct use of eye gaze), (ii) third person discourse is developed early with transfer from gesture to ASL, and (iii) classifier-like shapes in gesture has some predictability for the development of some location variables in ASL. Chen Pichler & Koulidoborova (2015) argues that co-speech gestures and emblems can be exploited to facilitate M2/L2 acquisition of sign language. The paper addresses two core questions: (i) are there differences between M2/L2 learners and native signers in terms of the production of perspective shift, and (ii) is there a learning progression in mastering narrative competency with special respect to gestural transfer, spatio-temporal aspects and perspective shift in German Sign Language. Forty hearing learners of German Sign Language (DGS) participated in the study, ranging in age from 19 to 27 years. Participants were classified into two groups according to the year of sign language exposure (L2) and exposure to the visual-gestural modality (M2) in the classroom at a university: (a) first-year learners and (b) second-year learners. Three Deaf native signers of DGS served a control group. Participants were asked to watch a short video clip (with up to three characters) and to look at illustrations of a story and asked to produce signed narratives. Utterances were annotated using ELAN software. The following information was recorded: (i) types of perspective shifts, (ii) frequency of perspective shifts, (iii) length of perspective shifts (v) prosodic cues and (vi) use of first and third person. With regard to the number of utterances with observer perspective, there are no significant differences between first-year learners and native signers. Second-year learners produced a higher number of utterances with observer perspective. This finding also applies to utterances with character perspective. On the other hand, the number of utterances with mixed perspective produced by native signers is significantly higher than first-year learners and second-year learners. The length of utterances with perspective shifts in native signers is significantly lower than those in first-year learners and second-year learners. Furthermore, there is a correlation between prosodic cues and the length of utterances with perspective shifts. Based on the above findings, two

research questions will be addressed with the special attention to (i) the role of spatio-temporal skills and gestural transfer, (ii) issues of fluency and (iii) the role of structural iconicity of perspective shift in L2 learning.

Aurore Paligot and Laurence Meurant

SOCIOLINGUISTIC VARIATION OF TWO-HANDED SIGNS IN FRENCH BELGIAN SIGN LANGUAGE: WEAK DROP AS A STABLE REDUCTION PHENOMENON

We investigate the assumption that there is a “growing observation across unrelated sign languages that a phonological shift is occurring over time from two- to one-handed signs” (Stamp et al. 2015: 168). Recent works on sociolinguistic variation in two-handed signs show evidence of change towards the one-handed variants in all subgroups of signs under focus (symmetrical signs in (A)ASL (McCaskill et al. 2011); number signs in NZSL (McKee et al. 2011) and BSL (Stamp et al. 2015)). A large-scale corpus study of NGT (Paligot et al. 2016) highlights that, contrary to previous hypothesis about weak drop (Battison 1974), there is no significant difference between symmetrical and asymmetrical signs regarding their rates of weak hand deletion. In the light of these results, we consider whether the change towards one-handed forms affects the realization of all two-handed signs in a given sign language. We analyzed all one-handed (9,5%) and two-handed variants (90,5%) of two-handed signs (N=33,762) in the Corpus LSFb (Meurant 2015) in relation with several (socio)linguistic factors: discourse genre, preparedness, interactivity, age, sex, linguistic profile and sign frequency. Results of a mixed-effects model indicate that one-handed variants are favored in conversations and explanations, spontaneous discourses, male signers and frequent signs. No difference between the generations of signers was observed, which, by virtue of the apparent time construct (Bailey 2002), suggests that there is no global change towards one-handed variants in LSFb. Instead, we argue that weak drop is a stable reduction phenomenon in the language, an argument strengthened by the men’s preference for the reduced forms. This was shown to be an indicator of stable variation pattern in several vocal languages (Labov 1990). We do not exclude that subgroups of signs might be undergoing change in LSFb and we call for further comparison between global and local variation phenomena as well as between unrelated sign languages.

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Katherine Rowley, Jordan Fenlon and Kearsy Cormier
 ATTITUDES TO AGE VARIATION AND LANGUAGE CHANGE IN
 THE BRITISH DEAF COMMUNITY

To date, there has been little information about language attitudes in deaf communities. Claims about the language attitudes of BSL (British Sign Language) users have been largely anecdotal (e.g. Sutton Spence & Woll, 1999). Here we describe language attitudes in the British Deaf community towards age variation and language change using data from the interview component of the BSL Corpus (Schembri et al., 2011). Signers were asked questions covering two areas: 1. 'Are there differences between how younger or older people sign? If so, what are the differences?' and 2. 'Is sign language changing? If so, how? Why do you think it is changing?' All of the data was translated from BSL to English and a thematic analysis about age variation and language change was carried out using ELAN. Thematic

'emerge' from the data and reflect the perspectives of those who responded. Themes were not predetermined. The data from ELAN was then exported to Excel and themes were grouped together in order to identify what respondents said about each theme collectively. Results so far, based on 40 respondents from the Manchester and Belfast regions, indicate that signers do think there are differences in how younger and older people sign. There also seems to be specific language ideologies in relation to language change. Respondents commented that there are lexical and style differences in older and younger signers, especially with regards to fingerspelling, which signers believe to be more prevalent amongst older signers. For example, in Belfast, respondents commented that some words that were previously fingerspelt in full are now signed as compounds involving fingerspelled letters and signs – e.g. Portrush now signed as -P- and then the sign RUSH. Respondents also reported that they noticed BSL is changing as a result of new technologies; for example, signs for 'telephone' and 'toast' have changed due to changes in the shape of telephones and how toast is cooked. Other changes respondents commented are due to political correctness, such as signs for 'India' (which used to depict the red dot on the forehead and now depicts the shape of the country) and for 'China' (which used to depict slanted eyes and now depicts traditional Chinese dress). The traditional signs for India and China were deemed to be offensive, hence respondents claim, the change of signs. Some of these changes were deemed acceptable (e.g. signs for new technologies) and other changes less acceptable (e.g. changes due to political correctness). Overall, findings suggest that there are clear language ideologies within the British Deaf community in relation to age variation and language change. Some variation and change are considered to be a part of the normal course of language evolution and other changes are considered to be unacceptable amongst some signers. Where possible, we will also relate these findings of signers' attitudes with previous studies on linguistic behaviour – e.g. evidence of language change in BSL documented by Stamp et al. (2014).

Anna Puupponen

TOWARDS UNDERSTANDING NONMANUALITY: SIGNERS' HEAD MOVEMENTS AS SEMIOTIC SIGNS

Signers' head movements, body movements and facial expressions –

traditionally referred to as nonmanuality – can be approached from several different perspectives. Nonmanuality has been compared, for example, to suprasegmentals of spoken languages (e.g. Wilbur 2000; Sandler 2012). On the other hand, the functions of certain nonmanual elements have been seen as parallel to grammatical units such as words and affixes (e.g. Herrman & Pendzich 2014). Nonmanuality can also be approached in the same way as speakers' bodily gestures in multimodal interaction (e.g. Schoonjans 2017). However, none of these perspectives alone seems to suffice when we try to describe exhaustively the role of nonmanuals in a sign language. The current presentation discusses one specific area of nonmanual expression, signers' head movements, from a wide semiotic perspective. More specifically, it presents an application of C.S. Peirce's semiotic theory to the description and classification of signers' head movements. Peirce's semiotics is a framework which does not have its origins in a particular system of signs, such as a natural language, and therefore does not differentiate between "linguistic" and "non-linguistic" signs. Head movements are seen simply as semiotic signs that differ in how they are connected to their objects and in what types of interpretations they engender. Interpretation emerges situationally and variation is seen as a default. Drawing evidence from a variety of data sources, including corpus narratives and dialogue motion capture recordings, the study classifies head movements as iconic, indexical and symbolic signs on the basis of their form-function connections. The study argues for a view of head movements as primarily indexical signs which may have iconic and symbolic features. The indexicality of head movements may indicate a referent (pointing), the discourse structure (parsing, separating and emphasizing) or information behind a reaction (nodding, shaking). Symbolic features emerge when indexical head movements become more conventional or schematized, as has happened with headshake and head nodding. The iconicity of head movements is primarily pantomimic (constructed action). In the discussion I will present a semiotic typology of different types of head movements along with examples from the data. Finally, I will discuss in a general way the semiotic versatility in the actions of different parts of a signer's body.

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Johanna Mesch

SIGNING AND SHOWING IN TACTUAL MODALITY

Tactile sign languages are described as sign language variants for DeafBlind (DB) signers. When losing their sight, they sign in the tactile modality, while holding each other's hand/s (Edwards, 2015; Mesch, 2001, 2016). Presence of constructed action through eye gaze, and also other articulators such as head and body, requires modification of indicating verbs or depicting verbs (Cormier, Smith, & Sevcikova-Sehyr, 2015). DB signers can be a part of the event and imagine themselves as other referents when producing indicating verbs, or tend to imagine themselves as other referents during production of these verbs in a motivated way (cf. surrogate space of Liddell (2003)). An earlier study (Mesch, Raanes, & Ferrara, 2015) shows that the signer can use her/his own or the other interlocutor's hand or body part as part of the utterance to create joint attention/meaning.

The Tactile Sign Language Corpus currently features one long and 60 short video files (total 4:30 hours) with accompanying annotation files created in the multimodal annotation tool ELAN. Annotation work with glosses and translation is ongoing. Only two of the video files are selected, with two DB male signers, to highlight the study on referring people and constructing events without gaze directions and head movements. The elicitation method for data collection differs from other sign language corpora because of limited possibilities to use a picture book, cartoons or video. In this presentation, we will describe tactual elicitation methods. In general, the results show that the use of constructed action by DB signers differs from the one by sighted signers. The DB signers use different strategies to show what the referents are doing in the narratives. The results also show that they

create fewer surrogate and token spaces, but they are able to complete them tactually through placing signs in different directions and distances, and also using the other interlocutor's hand or arm as part of the mental space

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Ioanna Tsourma

THE ROLE OF MOUTHINGS IN GSL: REGISTER AND WORD CLASS VARIATION IN MOUTHING OCCURRENCE

Mouth actions constitute a key component of all sign languages (SLs). A general consensus has been reached dividing mouth actions into at least two subcategories: (1) 'mouth gestures', which are those

actions perceived as an inherent part of sign language production, and (2) 'mouthings', which originate from words in the surrounding predominant spoken language (SpL) (Boyes Braem & Sutton Spence, 2001; Crasborn et al. 2008; Bank et al. 2011). The present study is the first to focus on the phenomenon of mouthings for Greek Sign Language (GSL). I used logistic regression (Rbrul statistical analysis) to examine the distribution of mouthings across different registers and word classes for GSL. For the linguistic variable of register, I examined the distribution of mouthings across two types of registers: informative and narrative text types. Additionally, I investigated the variation in the use of mouthings in reference to the manual sign's grammatical class. Data consist of a small dataset of video recordings (resulting in a total of 3000 glosses) of six native and near-native signers transcribed using a software tool for annotating multimedia video (ELAN). In an effort to gain some control over the influence of individual variation, I used data provided by a single signer for each register. For the factor of word class, I attempted to form a concise way to identify the grammatical class of each sign provisionally in order to examine mouthing occurrence with different classes. Both factors of "register" and "word class" were significant ($p < 0.001$) regarding their influence on mouthing occurrence rates, results that echo similar findings from most SLs studied to date (Nadolske & Rosenstock, 2007; Johnston, van Roekel & Schembri, 2015). Having observed considerable variation in mouthing rates across different registers and various word classes, I aim to identify specific patterns of mouthing occurrence and shed more light on the heated debate regarding the lexical status of mouthings.

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Pia Simper-Allen

“CUT AND BREAK”: DESCRIPTIONS IN SWEDISH SIGN LANGUAGE. CHILDREN’S AND ADULTS’ DEPICTING VERB CONSTRUCTIONS”.

The present study focuses on depicting verb constructions in Swedish Sign Language. The study describe both adults’ and children’s verb constructions in descriptions of cutting and breaking events in Swedish Sign Language (SSL), specifically focusing on the number of hands used in signing, handshape category and hand activity. 14 deaf adults (ages 20–72) and 11 deaf children (2;1–6;6) of deaf parents, all native-users of SSL, performed a task that involved describing 53 video clips of cutting and breaking events. The clips show an event in which an actor separates material, either with the aid of a tool or without. Additionally, some clips show an entity separating by itself without an actor being involved. The adults described the events with depicting verb constructions that are produced with two hands. The analysis of the handshapes produced three categories: substitutor, manipulator and descriptor. The most frequent construction in the description of events without a tool was two acting manipulators (depicting a hand handling an object), whereas in descriptions of events with a tool the combinations were acting substitutor or manipulator with a non-acting manipulator. The acting hand referred to the tool and the non-acting manipulator to the affected entity. In descriptions of events without an actor, either two substitutors or two manipulators were used. In addition to depicting verb constructions, the descriptions also contained resultative complements, i.e. signs carrying information about the result of the activity being carried out. The complements were either lexical signs or some form of depicting verb construction. Similar observations have not been noted for any other signed language.

In the manner of the adults, the children used depicting verb

constructions in descriptions of cutting and breaking events (681 tokens). Nearly half of the verb constructions that were used by the children corresponded to the adult target forms. The majority of the constructions describing events *without* a tool corresponded to the adult target forms using two acting manipulators, even among the youngest informants. In events *with* a tool, only a third of the constructions corresponded to the adult target forms (emerging at 4;8–5;0); the remaining two-thirds were deviating constructions in terms of number of hands, handshape category and hand activity. Pervasive features of children's constructions were the addition of contact between the hands and a preference for substitutors, something not found in adults' constructions. These features were elucidated within the framework of Real Space blending theory, with the study showing that children first use visible blended entities and that invisible blended entities do not emerge until 4;8–5;0. Moreover, if children did imitate the activities in cutting and breaking events, they would use constructions with two manipulators imitating the actor manipulating an object. But that's not the case!

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Okan Kubus and Derya Nuhbalaoglu

POSITION OF THE HEAD NOUN MAKES A DIFFERENCE:
(VARYING) MARKING OF RELATIVE CLAUSES IN TURKISH SIGN LANGUAGE

Relative Clause Constructions (RCCs) in sign languages are observed to have similar marking preferences, e.g. raised eyebrows and/or squint as grammatical non-manuals (inter alia Wilbur 2017). However, little is known about the functions, the variation in occurrences of such clauses and their interaction with textual structures in sign languages. Previously we have investigated RCCs in Turkish Sign Language (TID) (looking at 119 occurrences in various narrative texts), for which several strategies have been defined with different frequencies and distributions. Among those are: presence/absence of a head noun (HN) (free or headed), position of a HN (HN before modifying clause,

HN within modifying clause and double HN), use of various non-manual markers (brow raise, tensed eyes/squint and/or slight head-shake) and use of relative elements (e.g. no overt manual marker, use of INDEX, AYNI ‘the same’). In this paper, we examine the textual positions of HN in the above-mentioned data pool to determine reasons for the presence of competing relative (non-)manual markers by looking at information status of the HN following Fox & Thompson (1990). We also analyze the sentential position of the HN (i.e. as subject and object) regarding the relative and main clauses. The relevant findings are: (i) the occurrence of HN doubling (44% of all doubling cases) and brow raise (40% of all relevant cases) are slightly higher in contexts where HN is introduced to the context; (ii) head-shake and AYNI (each 87% of all relevant cases) are used most frequently when the HN is reintroduced; (iii) HN is preferred to be marked by squint when it is a subject of RC (64 %) and is reintroduced (in the 74% of cases); (iv) HN is less likely to be marked with any manual marker (69% of relevant cases) when it is subject of the main clause and is reintroduced (in the 64% of cases). The findings suggest that position of the HN at the utterance as well as at the sentence level can explain the varying distribution of the relative markers. We propose that information status and accessibility of the HN determines realization of a particular (non-)manual marker of RCCs. We further discuss to what extent these markers should be considered prosodic and/or pragmatic in TID.

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Emmanuella Martinod

PERCEPTION AND PARAMETRICAL COMPONENTS IN SIGN LANGUAGES

Within the framework of cognitive grammar (Lakoff & Johnson [1980] 2008, Langacker 1987), the Semiological Model (Cuxac 1999, Cuxac

and Sallandre 2007, Garcia and Sallandre 2014, Fusellier-Souza 2006) assumes that each SL would follow a similar semiogenetic scenario: an isolated deaf person communicates with hearing people by iconicising his sensorial and practical experience. On one hand, this hypothesis emphasises the role of interaction in the structuration of SLs. On the other hand, it highlights the theoretical link between perception, cognition and the parametrical components in SLs given that these components are considered the representation of minimal units of perception. Indeed, according to Arnheim (1969), a percept is a genuine concept. We propose to analyse some of these parametrical components — the handshape — from a cross- SL point of view. In this study based on a review of the literature on meaningful handshapes inventories, we tried to interpret the proposed form-meaning mappings by using generic shape concepts instead of cultural specific referents. This first analysis shows that a large part of meaningful handshapes are shared across seven SLs with the exact same semantic value. These results suggest that deaf signers have very few different solutions to express a given shape concept: this point has important consequences on the issue of variation between SLs. Then, we focus our study on some SLs used in a rural area by a recent and rather unstable community of signers. These SLs can be seen as an original stage where several familiolects are coming together and are giving rise to a micro-community SL. Our analysis of parametrical components of these SLs leads to the same conclusions: (i) a core of meaningful handshapes is common with the seven SLs previously analysed and (ii) since the same salient characteristic of an entity is selected, the expression of the concept will be identical. Finally, the simple fact that the same shapes are represented across SLs may suggest the existence of cognitive primes reflecting percepts anchored in human experience.

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Gabrielle Hodge, Benjamin Anible and Lindsay Ferrara

THE IN/VISIBLENESS OF DOING REFERENCE IN A DEAF SIGNED LANGUAGE

Research suggests signer's choice of referring expression is primarily motivated by information management, i.e., lexicalised nouns and noun phrases are typically used to introduce new referents, whereas maintained and reintroduced referents are often indexed and/or depicted via pointing signs, indicating verbs, depicting signs and/or enactment (e.g. Morgan, 2006; Frederiksen & Mayberry, 2016). Signers may also create 'invisible surrogates', whereby a confluence of indexing actions enables interactants to conceptualize an entity as located in the signing space and behave as if it were present (Engberg-Pedersen, 1993; Liddell, 2003). For example, in our data, an Auslan signer introduces agent frog into her retelling by: (a) fingerspelling and mouthing the English word "frog"; (b) signing the Auslan sign FROG while again mouthing the English word "frog"; (c) pointing with her right hand to an imagined frog located inside an imagined jar in front of her body, which she 'holds' by depicting this action with her left hand. In this way, the signer simultaneously depicts the visible actions of the boy holding the jar, while indexing the invisible frog and jar referents to the space in front of her body. However, the interaction of diverse in/visible semiotic strategies for doing reference, along with additional factors potentially influencing

signer choices, have not yet been investigated using a signed language corpus. Using twenty retellings of Frog, Where Are You? and twenty retellings of The Boy Who Cried Wolf archived in the [Auslan Corpus](#), we analysed 4,699 tokens of referring expressions with respect to: (a) the semiotic strategies used, (b) referent accessibility (introduced, maintained or reintroduced), and (c) animacy (humans, animals or inanimate objects). Exploratory analysis using hierarchical clustering on principal components confirmed choice of strategy was most strongly motivated by accessibility: new referents were expressed with more conventionalised forms (especially English mouthing and lexicalised Auslan signs), whereas maintained and reintroduced referents typically involved fewer and less conventionalised semiotics. However, animacy was also a motivating factor. In particular, signers used enactment and invisible surrogates differently depending on whether the referent was human, animal or inanimate object. We describe these patterns and suggest they may be explained by discourse topicality and signer preferences for embodying specific referents. These findings demonstrate the 'pretend world' indexicality of signed language use and the pluralistic complexity of face-to-face communication.

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Danny De Weerd

SPATIAL RELATIONSHIPS IN FINNISH SIGN LANGUAGE

My research focuses on how spatial relationships are expressed in

Finnish Sign Language. Many sign language researchers have previously investigated expressions of spatial relationships in different sign languages, as in example (1)

TABLE BOOK cl:book

cl:table

In the sign language linguistics literature, we can see differences in how these constructions have been analysed. In the field of spoken language research, especially from a typological point of view, two types of spatial relationships have been described: existentials and locatives. An existential sentence might be expressed in a sentence such as TABLE BOOK ON in sign languages, while a locative sentence might have a structure such as BOOK ON TABLE. Both sentence types are semantically related but it might be that syntactically they differ, for example, in word order. My hypothesis is that for existential constructions, signers might first produce the sign TABLE and then mention what is located on the table. In locative constructions, signers might mention BOOK first and then express where it is located. There are different theories exploring the reasons for this difference in word order between these two sentence types. Two of these concern 1) information structure, such as whether 'book' in the above example is new or known information for the interlocutor and 2) perspectival structure, i.e. which perspective the signer would like to emphasize in their production: with a focus on the perspective of BOOK as Figure or on the perspective of TABLE as Ground. As context is important for understanding these different structures, my research is intended to create a methodology to take into account the specific context in which these sentences may differ, using a functionalist framework .

In this paper, I present my work on Finnish Sign Language, using videotaped data collected in a professional audio-visual studio at the University of Jyväskylä and involving twelve Finnish Sign Language signers, formed into six pairs. Two different spaces were created in the studio: an interaction space and a room space. In the interaction space, the participants conducted conversations, while the room space functioned as the main part of the experiment and underwent transformations during the experiment. In the initial phase, the room space consisted of four large objects, all the objects being somehow spatially related to each other. After that, the researcher added four smaller objects to the room space. Each small object was spatially

related to one of the large objects. In the final phase, no new objects were added but the smaller objects were relocated in relation to a different large object (e.g. laptop in front of table, book behind chair). One participant of each pair was asked to describe the room to the interlocutor after each phase. Once the three phases were completed, the interlocutors were allowed to talk freely about the changes they had observed throughout the experiment. A total of four different video cameras were used to collect data in the studio: three cameras in the interaction space and one in the room space. The collected data were transcribed using ELAN annotation tools.

Analysis of the data during the first phase shows that all the signers use similar ways to express spatial relationships. For the second phase, the descriptions were also similar and there was a strong tendency to use the existential type of spatial relation for describing the added small objects in relation to the large objects with the order of Ground preceding Figure and the use of the verb "have". During the third phase, the order of Ground preceding Figure remains and the use of "have" is much less as the presence of all the objects in the room are known but relocated.

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Johanna Mesch, Krister Schonstrom and Ylva Larsson
USE OF ENTITY, HANDLE AND DESCRIPTOR OF L2 LEARNERS
OF SWEDISH SIGN LANGUAGE (SSL)

In our paper, we describe the acquisition of classifier constructions of L2 learners of SSL. Previous studies show that learning a sign language, contributes a high degree of iconically motivated lexicon and enable L2 learners to gesturally imitate the tasks or events from stimulus in an elicited narrative task. However, despite of this “gestural advantage”, L2 learners have been reported to differ in the phonological structure of iconically motivated lexical signs (e.g. Ortega & Morgan, 2015). In addition, regarding the L2 acquisition of the classifier constructions, it has been shown that the location seems to be acquired before the handshape parameter (e.g. Marshall & Morgan, 2015). However, research on this area is limited, especially on authentic data, i.e. corpus-based studies on L2 acquisition. In our study, the use of classifier constructions by L2 learners at different developmental stages using SSL was investigated. The corpus consists of a set of longitudinal data of adult L2-learners’ signed production. In total, the corpus consists of 20:38 hours of data from 38 learners, along with a control cohort consisting of 9 L1 signers (01:22 hours).

For this study, a sampled annotated data, consists of 05:55 hours of a video retelling of a movie clip “The plank” from 23 learners, at two phases i.e. six months after course onset (N=14), and 1.5 years after onset (N=9), was analyzed. Comparisons to an L1 cohort (9 fluent signers) was made. Specifically, three broad types of classifier constructions were analyzed: ENTITY (entity handshapes), HANDLE (handle handshapes), and DESCRIPTOR (size and shape descriptive handshapes) (c.f. Schembri, 2003). A total of 779 tokens were identified and analyzed.

The results show that the L2 learners tend to differ in the use in comparison with the L1 signers. First, L1 signers use classifier constructions to a greater extent (Table 1). Second, there were some qualitative differences with the regard of use. For example, in respect of HANDLE, simultaneous use of two separate handshape units were more common in L1 signers. Concerning ENTITY, the handshapes were more identically used across the groups, apart from the handshape unit representing ‘human being’. The third type: DESCRIPTOR, was more identically used within the L1 group, whereas the use of handshapes and movements varied in the L2 group. The study

assumes that this finding can be explained by the way L2 learners imitate task events in comparison to L1 signers. Implications for the acquisition of classifier constructions in terms of conventionalism and L2 acquisition will be discussed.

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Oksana Tkachman and Carla Hudson Kam

THE LINK BETWEEN ICONIC SOURCES AND CONCEPTUAL CATEGORIES IN ICONIC SIGNS.

Iconic signs are very common in sign language lexicons (Perniss et al. 2010), and research suggests the existence of patterns in iconic elements of signs belonging to different conceptual categories. For example, Padden et al. (2013) noted that man-made objects are often depicted by iconic handling handshapes representing how agents typically handle these objects. What factors drive such patterns in iconic representation is unclear, however. The patterns could result from constraints on comprehension, for instance, and so be interactive in nature, or they could have their source in conceptualization, and so emerge from a more individual-level source. Our project explores whether patterns in iconic representations can emerge from individual-level processes alone. Specifically, we examine whether conceptual categories influence the nature of iconic representations in nominal forms.

To examine this, we asked 50 sign-naïve hearing speakers of English (ages 19-72) to create signs for 100 familiar objects. Sign-naïve participants are not influenced by language-specific iconicity (Occhino et al. 2017), which allows us to more clearly access conceptual forces behind their choices. The objects belonged to different conceptual categories: man-made vs. natural, moving vs. nonmoving, animate vs. inanimate, living vs. nonliving, with equal numbers of big and small

referents. Participants were instructed to create signs for an artificial sign language. Responses were videotaped and coded (by two independent coders) for the source of iconic representations in each sign. The iconic sources we coded for were: shape, action, agent's action, functional action, feature, featural action, location, and size. The results show that each conceptual category has a clear tendency towards specific sources of iconic representation. For example, whereas shape was a frequent source for most categories (22.6%-37.2% of all responses per category), it was rare in animates (12%). However, other factors such as size also influenced iconic choices; e.g., agent's action was common for small but not big man-made nonmoving objects (46% vs. 7.2%). The data suggest that both the conceptual features of categories and the salient features of the referent matter, and salient features differ both across different categories and within a category.

Admittedly, the particular forms we elicited, though sign-like, are not actual signs (they are not part of a shared communicative system that has been subject to processes of language evolution). Nevertheless, our study suggests that systematic mappings between iconicity sources and sets of signs can emerge from individual-level processes, and that by studying these linkages we can learn something about the interaction between language and cognition.

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Ryan Lopic

A USAGE-BASED ALTERNATIVE TO "LEXICALIZATION"

Usage-based approaches to language analysis, whether addressing development (Lieven 2016), processing (Christiansen and Chater 2016), or change (Bybee 2010), consider grammatical structure to be emergent from language experience. Usage-based analyses characterize linguistic phenomena as constructions, which are

learned pairings of function and form (Croft 2001, Goldberg 2006, Wilcox and Occhino 2016), and highlight the general cognitive and functional considerations that shape how constructions are learned. These considerations include frequency of occurrence, processing speed, prototype categorization, real-world knowledge, and the dynamics of memory. One domain-general process that has been implicated in language processing and change is chunking. Chunking refers to the process by which complex motor routines or co-occurring sequences become packaged together as a single unit in memory and action (Bybee 2010:19,34, Christiansen and Chater 2016:7).). In the domain of language, chunking subsumes several interrelated phenomena, including formal reduction, changes in meaning or function, and changes in processing and retrieval speeds. In sign language linguistics, many of these phenomena have been previously explained through reference to the process of lexicalization (cf. Battison 1978, Liddell and Johnson 1986, Brentari 1998, Johnston and Schembri 1999, Sandler and Lillo-Martin 2006, Johnston and Ferrara 2012). However, usage-based approaches dispense with the notion of the lexicon: linguistic knowledge is analyzed as part of a structured network of constructions sometimes referred to as the "constructicon". This renders lexicalization, commonly defined as the process of adopting an item into the lexicon, theoretically obsolete. In this talk, I instead present a usage-based analysis of three sign types in American Sign Language (ASL) which are often discussed together under the label of "lexicalization": fingerspelled words, multi-sign collocations, and morphologically complex "classifier constructions". The usage-based analysis of these phenomena starts from the observation that a linguistic chunk's internal structure is emergent from associations between the chunk and the more general constructions from which it arose. In fingerspelled words, chunking describes the gradual shift from a linear sequence of more-or-less independent alphabetic handshapes to a phonetically coherent unit. I demonstrate, through analysis of a small corpus of fingerspelled tokens extracted from internet news reporting, that fingerspelled words reduce in length within a single discourse context. Like the sequences of handshapes in fingerspelled words, individual signs occurring together in ASL discourse can also chunk together, with repeated use, to form prefabricated sequences, such as the greeting NICE MEET-YOU and the predicate NOT-UNDERSTAND (Wilkinson 2016). In ASL as in English, knowledge of these "prefab" items is a prerequisite for accurate and idiomatic language use. Finally, the case

of morphologically complex "classifier construction" signs is particularly interesting for discussions of chunking in ASL: Though they do not undergo dramatic phonetic reduction in terms of overall length or segmental content, morphologically complex signs nevertheless fuel the formation of increasingly autonomous chunks with repeated use. In this way, the analysis of ASL signs from a usage-based perspective provides a new lens through which to assess phenomena which have been previously subsumed under the structuralist notions of "the lexicon" and "lexicalization".

Adam Schembri

INDICATING VERBS AND COGNITION-TO-FORM MAPPING: POINTING AWAY FROM 'AGREEMENT' AND BACK AGAIN?

Recently, there has been much discussion in the literature about the application of a form-to-form based approach, such as canonical typology (e.g., Corbett, 2006), to an understanding of indicating verbs in sign languages. In this account, agreement originates in one linguistic form, a controller, and is copied to another form, a target. Researchers have variously interpreted this approach as suggesting that indicating verbs represent a canonical type of agreement system (e.g., Costello, 2016), a non-canonical agreement system (e.g., Lillo-Martin & Meier, 2011) or a system that shares properties with, but is ultimately distinct from, agreement systems (Cormier et al., 2015; Fenlon et al., 2018; Schembri et al., in press). There appears to be good reason for such a range of views, at least for British Sign Language (BSL). Recent empirical evidence drawing from a large-scale study of indicating verbs in the BSL Corpus (Fenlon et al., 2018) provides results which present a mixed picture. On the one hand, features predicted by a form-to-form agreement account, such as the role of animacy and the importance of syntactic effects, were found to be significant in a quantitative analysis of the data. On the other hand, features not necessarily predicted by such an account, including the significant role of constructed action, and the preference for motivated uses of space and the body, were also found. The use of indicating verbs for reference-tracking was a significant factor (possibly) predicted by both accounts.

In this paper, I would like to discuss indicating verb constructions and agreement marking in signed and spoken languages in the light of recent developments in cognitive/functional linguistics, including the

notion of 'cognition to form' mapping (Kibrik, in press), and the related notion of 'targeting systems' (Talmy, 2017). In the former proposal, cognition-to-form mapping attempts to explain how a range of agreement marking phenomena in spoken languages, such as the marking of person, number and gender features on targets, are not primarily driven by matching to a controller, but are associated with referents in the cognitive representation. Such referential features are mapped onto various sites in the structure of different spoken languages, and the form-to-form mapping we often see in agreement systems is 'a side effect' of cognition-to-form mappings (in effect, canonical form-to-form agreement represents a grammaticalisation of the cognition-to-form mapping). Kibrik (in press) argues that the origin of agreement systems can be found in cognitively motivated discourse processes such as reference-tracking. Such reference-tracking, or 'targeting' systems, Talmy (2017) explains, rest on a coordination of the speaker's and addressee's joint attention and cognitive processing. He proposes that language engages the same cognitive system to single out referents whether they are language-internal (i.e., anaphoric) or language-external (i.e., deictic) and whether speech and/or gesture are used. I will explore how these recently developed cognitive/functional accounts of reference-tracking phenomena in general, and agreement systems in particular, may help us better understand the mixed results of quantitative investigation of BSL indicating verb constructions. Ultimately, such approaches may work to reconcile the range of views in the literature on indicating verbs and agreement systems in sign languages.

Elizabeth Manrique and Kearsy Cormier

QUESTION-RESPONSE SEQUENCES IN ARGENTINE SIGN LANGUAGE (LSA) AND BRITISH SIGN LANGUAGE (BSL)

The study of situated social interaction is moving towards a broader cross-linguistic data base and video-based methods of analysis. However, the main focus is still on spoken language, and surprisingly little is known about how everyday conversation works in sign language. This presentation focuses on question-response sequences comparing two sign languages: Argentine Sign Language (Lengua de Señas Argentina or LSA) and British Sign Language (BSL), and investigates understanding (and not-understanding) practices when producing and perceiving question-response sequences in

conversation. The data are videotaped spontaneous naturally occurring interactions involving dyadic and multi-party conversation among deaf native and near-native signers in both languages. 200 question response sequences per language were coded for different type of questions asked (e.g. content, polar, alternative and so-called rhetorical), type of social actions performed by these questions (e.g. request for confirmation or clarification, other-initiated repair, etc.), type of responses (e.g. “fitted” answer, not fitted answer and no response), and their uptake. This project has also focused on detailed linguistic information about the grammatical structure of questions (e.g. word-order, intonational patterns, use of mouthing and finger-spelling, and use of specific bodily articulators including, hands, head, torso, face, etc.). This presentation focuses particularly on the results drawn comparing lookingbackwards type of question-response (other-initiated repair, OIR) to looking-forward type of question-response sequences (e.g. asking for information or confirmation). Preliminary findings suggest a systematic use of turn-final hold across both languages when asking and responding to questions. Overall these findings contribute to research on human understanding in everyday turn-by-turn conversation by looking at an understudied modality of language in terms of social interaction, with possible implications for our understanding of visual bodily communication in spoken languages as well.

Carl Börstell, Robert Östling and Servane Courtaux

ICONICITY OF ARTICULATORS AND LOCATIONS IN 31 SIGN LANGUAGES

Iconicity has been proven an integral part of language (Dingemanse et al., 2015; Perniss et al., 2010). For signed languages, iconicity is important in sign formation (Brennan, 1990; Taub, 2001), but this has never been investigated across signed languages as it has for spoken languages (cf. Blasi et al., 2016). In this paper, we use a large-scale parallel sign language dictionary (Spread the Sign, 2012) and analyze +100,000 signs from 31 sign languages with regard to two formational parameters. We make use of an automated body-pose estimation model (Cao et al., 2016) to analyze hand activity in sign videos, and extract information about the number of hands in a sign (one or two-handed) and the location of the hands relative to the body. First, two-handed signs have been argued to be associated with inherently

plural concepts across sign languages (Borstell et al., 2016; Lepic et al., 2016). We use the list of 50 lexical plurals from Borstell et al. (2016) together with 50 frequency-matched filler items, and show that there is a cross-linguistic pattern of plurality being associated with two-handed signs. We let 23 hearing non-signers (10 female, mean age 29) rate the plurality of our 100 items. There is a statistically significant correlation between the plurality ratings and the number of hands used in a sign, across sign languages { i.e., plurals are more likely to be encoded by two-handed signs. Thus, we conclude that there is a cross-linguistically valid iconic association between plurality and two-handed signs. Second, we look at sign locations to see to what extent the iconicity of this parameter can be quantified. Borstell and Ostling (2017) showed that it could be quantified in a single sign language, looking at the distribution of signs across different semantic domains in Swedish Sign Language { e.g., 'think' is located around the (fore)head, and 'say' around the mouth. Here, we let 10 hearing non-signers (6 female, mean age 41) mark the area on a body silhouette they associate with the concepts 'think', 'hear', 'say', 'food', 'love', and 'hungry'. We use these responses to evaluate the cross-linguistic iconicity of the same concepts. We find that these meanings conform to form-meaning associations, across languages, by being articulated at the locations pointed out by the hearing non-signers with statistical significance. We visualize sign locations of concepts across sign languages, and see the expected patterns of iconic locations { 'think' around the head, 'hear' around the ears, and 'hungry' around the belly area. In this study, we use automated video analysis in order to investigate a massive dataset of sign language data (+100,000 signs), across a large sample of sign languages (n = 31). By doing so, we are able to quantify lexical iconicity to an extent never before possible. We are able to support two previous claims, namely that two-handed signs are associated with plurality and sign locations can be iconically motivated. We also show that automated methods are useful for large-scale studies of signed language data.

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Olga Capirci, Anita Slonimska and Asli Ozyurek

CONSTRUCTED REPRESENTATION OF TRANSITIVE ACTIONS IN ITALIAN SIGN LANGUAGE: AGENT'S OR PATIENT'S PERSPECTIVE?

Previous studies in vocal languages literature have observed biases in sentence structure depicting transitive actions as a function of attentional focus, with the use of active/passive forms in spoken language being influenced by whether the speaker's attention is

focused on the agent or the patient (Tomlin, 1995). While a strict equivalence between passive/active sentences and linguistic structures in sign language would be misleading, in this experiment we aimed at investigating the interplay between attention of the signer on the main character or on action and the choice of specific strategies for depicting representations of transitive actions in Italian Sign Language. We were interested in looking at which of the two characters' perspective signers take in constructing the action when depicting the transitive action (which corresponds to topicalization strategy rather than mapping onto active/passive forms in spoken language). In relation to whether the signer takes the agent's or the patient's perspective, motoric features of actions vary: if the signer takes the agent's perspective, the action is signed starting from the body outwards (i.e., role shift), thus taking the character perspective of the referent doing an action. If she takes the patient's perspective, then the action is signed as directed inwards (i.e. towards the body of the signer), thus taking the character perspective of the referent that undergoes an action.

Research questions:

1. In the context of constructed action, do participants tend to impersonate the character who is globally more prominent at the discourse-level?
2. Does presence of action affect the signer's decision on which perspective to take? The material for the experiment consists of 6 sets of 5 images (2 pictures for levels 1 and 2 and 3 GIFs for levels 3, 4, and 5) in each set in which each image represents an information level from low information to very dense information. For the present study we concentrated on level 4 (representation of 2 referents, one static action of referent 1 and one active action of referent 2) and level 5 (representation of 2 referents, one static action of referent 1, one active action of referent 1 and one active action of referent 2). The task of the participants (n=24) was to describe each image to another deaf adult in a game of director-matcher. A matcher (a confederate) had to choose an appropriate image on their laptop after have watched production of the director (the participant). Production of the director was videotaped and analyzed in ELAN. We expected that signers can solve the competition for choosing the encoding strategy in two ways. If importance of topicalization of the main referent is preferred, then the referent 1 will be represented as patient through CA when active action is performed by referent 2. If importance of

action is preferred, then referent doing an action will be represented through CA as agent, thus leading to role shift. Our preliminary results indicate that both strategies are available to signers and both of them are being used for information encoding. However, we also found that signers were more likely to choose topicalization of the referent 1 and thus constructing complex structures in which referent 1 was encoded through CA as the patient of the action while action of referent 2 was encoded through another CA or lexical unit directed towards referent 1. This is the first study to assess the focus of topicalization in Italian Sign language based on experimentally collected data and provides first quantitative insights in regard to the choice of linguistic strategies in encoding.

Poster Presentation Abstracts

Aurore Paligot, Maxime Gobert and Laurence Meurant

A METHOD TO ESTABLISH SIGN FREQUENCY BASED ON THE PATTERNS OF ARTICULATION

As stated by Bank (2014 :73), “determining the number of signs” in a corpus is a “non-trivial task” given that “signers may deviate from citation forms (by articulating one-handed signs as two-handed and vice versa), use their non-dominant hands as a buoy, or articulate two one-handed signs simultaneously”. We propose a semi-automatized method to establish sign frequency that specifically addresses these difficulties. This method is replicable for any annotation dataset that draws on the principles of ID-glossing (Johnston 2016), has two independent annotation tiers for the hands and does not segment the buoys as separate annotations (Crasborn et al. 2015).

The main steps are (1) the extraction of the “annotation overlaps information” from ELAN to Excel, (2) the enrichment of the Excel file with (a) a unique tag for each annotation and with (b) information about the handedness of the signs (one-handed and two-handed signs), (3) the classification of the annotations in three articulatory categories (one-handed articulations, two-handed articulations, complex articulations), (4) the frequency count based on the crossing between handedness information and articulatory pattern information. The table below shows the ten most frequent signs that were extracted from the annotations of the Corpus LSF (Meurant 2015) with this method.

It allows (1) to tackle the difficulties pointed by Bank (2014) and thus reduce the sources of noise to the minimum; (2) to revise prior information about handedness based on usage data (Johnston 2016); (3) to avoid manual annotation of one-handed and two-handed variants (Johnston 2016).

Irene Murtagh

A ROLE AND REFERENCE GRAMMAR CHARACTERISATION OF IRISH SIGN LANGUAGE VERBS

This paper is concerned with a Role and Reference Grammar (RRG) (Van Valin 2005) characterisation of Irish Sign Language (ISL) verbs. We provide a definition of lexicon entries that are sufficiently rich and universal in nature to represent ISL verbs. This work is part of research work in progress in the development of a linguistically

motivated computational framework for ISL. We use RRG (Van Valin and LaPolla 1997) as the theoretical framework of this study. RRG is a theory of grammar that is concerned with the interaction of syntax, semantics and pragmatics across grammatical systems. RRG takes language to be a system of communicative social action, and accordingly, analysing the communicative functions of grammatical structures plays a vital role in grammatical description and theory from this perspective (Van Valin 2005). Using RRG provides significant theoretical and technical challenges within both RRG and software. We provide an account of the morphological and grammatical information that can be found within ISL verbs. We utilise event visibility hypothesis (EVH) (Wilbur 2008) in the development of our proposed lexicon architecture. We refer to articulatory structure level (Murtagh 2018a) in the development of a linguistically motivated computational definition of lexicon entries that are sufficiently robust in nature to represent ISL verbs within the RRG lexicon. We utilise this new level of lexical representation (Pustejovsky 1995), which describes the essential (computational) phonological parameters of an object as defined by the lexical item to cater specifically for the computational linguistic phenomena consistent with signed languages, in particular to this research ISL, enabling us to adequately represent ISL verbs within the RRG lexicon.

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Sabina Fontana

GRAMMATIZATION PROCESSES IN ITALIAN SIGN LANGUAGE: HOW SOCIAL ACTION SHAPES GRAMMAR

Starting from recent research on social determinants of morphological complexity (Schembri et al., 2018) and on sign language perception (Fontana et al., 2015), the present study will explore the interpenetration of sociolinguistic actions and grammar by focusing on the development of metalinguistic awareness in the Italian Deaf Community. Metalinguistic Awareness is the capacity of distancing oneself from language and recognize it as a communicative device, as an object to be analyzed, to be looked at, to be explored (Auroux 1994 Fontana, 2017).

The present perspective stand in contrast with Auroux's (1994) views who argues that metalinguistic awareness can develop only after a language has been represented by a writing system. Drawing from data collected in various public contexts in the last 30 years, we will show that as a result of metalinguistic activity, grammatical categories and tools are created to analyse the language and give accessibility to a corpus of forms and rules that users may not know or master. This process, named "grammatization" (Auroux, 1994), influences communication and usage, even in the absence of a shared writing system. By making the characteristics of languages explicit, this process innovates the way users perceive them because new linguistic tools are created and, in turn, it promotes new metalinguistic knowledge. Similar processes have occurred also in spoken languages (Richardson, 2014), for example in Italian, where grammar descriptions resulted from a selection process stemming from the fifteenth century printing revolution. Therefore, norms can be considered as cultural tools (Slobin, 2013) that consist of communicative patterns legitimated by the community. Consequently, language internal change may result from a shift in the attitudes towards language and a selection process of certain features among the many forms sign language can have in a community.

Lenka Okrouhlíková

HISTORICAL ROOTS OF CZECH SIGN LANGUAGE – ETYMOLOGY OF SIGNS

The beginnings of the use of Czech Sign Language were closely associated with the establishment of the first Institute for the Deaf and Dumb in Prague in 1786. The education in this institute was inspired by the French and especially the Viennese schools and their manual methods. But then the original Prague method using the sign language was created by Wenzel Frost and Czech Sign Language evolved naturally and more or less independently (we assume mutual interference and contacts between Wien and Prague, which will be illustrated in detail). The Prague method was very influential throughout the Austrian Empire.

Probably the oldest and also the most extensive historical source of Czech signs is the book published in 1834 by the head teacher Johann Mücke. The book contains a dictionary with written descriptions (in German which was the only language of instruction until 1936) of 263 signs, divided into thematic groups: Food and Drink, Clothing and Associated Objects, Household Fittings and Dishes, Writing Requisites and Toys, Miscellaneous frequent subjects Animals, People, Verbs and Colours.

Another interesting source is the book published in 1851 by Hieronymus Anton Jarisch, born in the territory of Bohemia, disciple of Frost, future teacher in Vienna. One part of the book is the first illustrated sign language dictionary with 170 pictures of signs and 230 descriptions of signs, which, at least partly, can be considered as signs of the Czech Sign Language.

The important source of information are also six books and one manuscript from the years 1890–1907, which contain chapters devoted to sign language and describe several then used signs, or rather their motivation. In actual fact, they demonstrate different possibilities of iconic representation of visual reality.

Thanks to the preserved data of the period we can look at current signs from the diachronic perspective, identify their original motivation (and compare it with folk etymology), which has become obscure with the passage of time, and historical change, and trace their origin. We can also analyse the trends in changes of phonological/morphological structures of the signs, but only to certain extent. In addition, we can examine possible relationship among the sign languages that had

been used in deaf education at the end of the 18th and 19th centuries according to preserved source.

We will present it on an example of signs for animals – signs of iconic nature, directly motivated by reality (particularly appearance, typical behavior) and signs for colours – signs motivated indirectly by the typical object of the particular colour.

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Maria Kyuseva and Vadim Kimmelman

METAPHOR IN SIGN LANGUAGES: CASE STUDY OF RUSSIAN SIGN LANGUAGE (RSL) VERBS OF COGNITION AND EMOTIONS

Sign languages of the world make extensive use of metaphors (see Taub, 2004; Wilcox, 2004; Brennan, 2005; Meir, 2010, among others).

Conceptually, these metaphors are at least partly parallel to those found in spoken languages. Structurally, however, they are claimed to be quite different. Thus, in a spoken language metaphor, the linguistic expression has an abstract meaning in a given context, but can also be used literally and have a more basic meaning in other contexts (compare *Our marriage is on the rocks* vs. *Our boat is on the rocks*, examples from Lakoff & Johnson, 2008:141). In sign languages, this is often not the case. As is argued in (Taub, 2004), the same sign rarely expresses both literal and metaphorical meanings. More often, the metaphorical sign is built on an iconic concept or is creatively modified. This talk will focus on the latter phenomenon.

The situation when a linguistic expression changes its form in a metaphorical context occurs in spoken languages as well. Consider the pair of Russian verbs *vy-pitj* vs. *is-pitj* (examples from Rakhilina, 2010:151). These words have the same root 'drink'. While the former verb is used in concrete situations (*vypitj vody* 'to drink water'), the latter one expresses a metaphorical meaning (*ispitj chashu gorechi* 'to drain the bitter cup of sorrow'). This type of linguistic disambiguation

seems to be much more widespread in sign languages. Moreover, while in spoken languages the change of the word form is arbitrary, in sign languages it is often iconically motivated. This study analyses the ways in which RSL signs are modified when used metaphorically. For this project, we analysed 27 verbs of emotions and 25 verbs of cognition in RSL (overall, 52 signs). We selected these fields because they have been shown to be highly metaphorical in other sign languages (Brennan, 2005; Grushkin, 1998). With the help of two native signers, we delimited the set of 41 signs that have a clear source domain; 34 signs out of 41 change their form when used in metaphorical contexts.

At least, three strategies of the sign modification can be identified. The first strategy is compounding: 10 signs in the sample are compounds “MIND + X”, where X is a sign with a basic meaning (DOUBT1 < MIND+SCALES; THINK < MIND+MECHANISM). As we will illustrate in our presentation, the second strategy is handshape modification. The initial handshape changes to the configuration which denotes internal organs. Finally, we also explore how the third strategy is location fixation. It is mainly applied to signs which originate from classifier constructions. While in a classifier construction location depends on the referent, in a metaphorical sign derived from it location is fixed at a certain point of the signer’s body. All these modifications are motivated by the conceptual metaphor BODY is a CONTAINER FOR THE EMOTIONS/THOUGHTS. By adding the compound part MIND (index finger points at the temple, strategy 1), changing the handshape so that it indicates an internal organ (strategy 2), or changing the location to a body part (strategy 3), the sign “signals” that it should be interpreted not literally, but metaphorically and that the meaning should be applied to an emotion or mind. Although this conceptual metaphor is present in spoken languages as well, in sign languages it is iconically motivated and, therefore, much more illustrative.

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Carmen Cabeza and Jose M. Garcia-Miguel

MULTI-VERB CONSTRUCTIONS AND ARGUMENT STRUCTURE IN SPANISH SIGN LANGUAGE (LSE)

Two types of multi-verb constructions (MVCs) have been described in sign languages for the expression of a single event situation: verb sandwich constructions (VSC) and serial verb constructions (SVC) (Fisher & Janis 1990; Benedicto et al 2008). Both have in common that constitute monoclausal units and that the verbs inside them share -at least- one argument. In the first type (verb sandwich) the same verb occurs twice, or two verbs “with highly similar roots” occur (Fisher & Janis 1990: 281). Regarding the second type (serial verb), we assume that it fits the research in Aikhenvald (2006), although that work has not included any example of sign language. Several studies have assumed the hypothesis that these multi-verb constructions –it has been particularly stated for verb sandwich constructions- fulfil the purpose of distributing the informative weight associated to the verbs (see Fisher & Janis 1990, for example). Meaning that the verb appears two or more times in the same or different forms whenever there is a lot of information (inflectional marks or number of arguments) present, in order to distribute the “load” borne by each of them.

This presentation will focus on the presence of overt arguments in MVCs. A corpus of Spanish Sign Language data consisting of 13 video recordings registered in ELAN and pertaining to different discourse types (narratives, interviews, and elicited verbal expressions) was analysed. 1707 clauses were sampled, of which almost 10% contain examples of one of the two types of MVC constructions.

Attention is paid to the number of overt arguments, their position and relation to each of the two verbs: V1 and V2. Our data seem to support the hypothesis that MVCs are motivated by the tendency to express just one overt argument per V. Additionally, an attempt is made to elucidate whether there are different degrees of integration between the verbs forming the series by observing examples with a higher number of overt arguments.

Finally, although these constructions have been defined as pertaining to just the one clause, representing just the one event, they may also express a complex event, such as in the combination of more than one type of MVC (verb sandwich + serial verb), or with the presence of a secondary predication.

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Ulrike Wrobel

SPECIAL SIGNS? BENEFITS FROM A FUNCTIONAL ANALYSIS

The deaf linguist Mally (1993) offers a compilation of signs, which seem to be special in respect to their use in DGS: She characterizes them as most typical means for signed communication (the same judgement is made in Schütte 2014). Their functional benefit for pragmatic use of language is by no means reflected in grammatical descriptions. Quite the contrary, these signs are often omitted in the grammar. To give an example, Mally's book lists signs as WORTE-IGNORIEREN (IGNORE-WORDS, Mally 1993:138). These kind of signs seem to be an essential part of many sign languages: They are not restricted to DGS, but also appear in ASL, BSL, SSL, and SDGS. Signs like this seem to be special. They seem to behave somehow strange with regard to their phonologic, lexical, semantic, pragmatic and syntactic behavior as well as to their position in

discourse. Their peculiarity is represented in the different terms linguists use to call them. They are addressed as the ten's class of language (Ahlgren 1999), special signs (König/ Konrad/ Langer 2012), multi-channel-signs (Brennan 1992, Johnston/ Schembri 1999), idioms or collocations (Schütte 2014). A functional approach to these signs based on their usage shows that they can be analyzed as language means by which the partners in discourse fulfill a mutual purpose in communication: These signs have the function to establish a common appreciation. They are applied to produce a communicational solidarity. If this analysis can be taken for granted, it becomes clear that there is no need to characterize these signs as modality specific elements, since some non-indoeuropean spoken languages, for example Hausa or Ewe, also offer specific words to establish a common appreciation called ideophones. Different definitions of ideophones emphasize different aspects of their function, among them a „[...] particle, which holistically denotes a situation as a type.“ (Lehmann without year). To sum up, the so-called special signs seem to have a parallel in the so-called ideophones. Both elements seem to have the function to establish a common appreciation.

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Luigi Lerosé

TEACHING SIGN LANGUAGE THROUGH CROSS-MODALITY DEVELOPMENT POTENTIAL

This presentation is focused upon the process of teaching language to L2 learners, specifically in the domain of sign language, which comprises a different modality to spoken language. The paper aims to explore the extent to which teaching modality differences to sign language learners, particularly those who have not had prior exposure to sign language or to non-verbal communication during childhood, enhances the potential to achieve in a cross-modal environment. In addition, the study aims to discuss the effectiveness of teaching materials that highlight modality differences for teachers of sign languages.

Having taught sign language to L2 students for several years, it is evidential that learners appear to have difficulties with the visual nuances of the language. In particular, this involves difficulty in the ability to identify differences at the phonological level. For example, learners exhibit difficulty in producing precise handshapes and movements, and they therefore lack the ability to make corrections. Having looked into this issue in depth, reoccurrence of errors shows that the difficulties appear to stem from the fact that the learners are being taught in a different modality, which therefore becomes their M2. This is a new approach to language learning for the learner. Therefore, the more time a teacher devotes to developing the learner's M2, the easier it will become to acquire L2. Examples of activities to help learners to develop their M2 include ones that help them to expand their field of vision, and to identify slight variations in handshapes and differences in the movement of signs. The most beneficial exercises are ones that develop the learner's linguistic knowledge on a phonological level. This, in turn, will help to develop their use of sign language in practice. It is particularly crucial that the teacher introduces strategies to develop M2 from beginner level and onwards so that the learner can progress through higher levels of learning with a solid basis in the new modality. In conclusion, the study identifies M2 learning as a crucial aspect of L2 sign language

teaching and learning. People who want to learn a sign language as a second language, therefore, need to be prepared to learn a new modality alongside.

Rannveig Sverrisdóttir

THE ONE, TRUE NATIVE SIGNER

Linguists often rely on the judgement of those who are native users of the research language and trust their instinct and sense of what is proper language and what is less so. A linguist who researches his own native language can also use his or her own linguistic sense as a reference point. The majority of those doing research in the field of sign language are studying a language that is not their native language and thus, the opinion of the native signer are of considerable importance. In academic research of ASL, only those users who have grown up as native signers, i.e. have used the language from birth, are considered reliable informants (Neidle et al. 2000), that is to say Deaf signers who have Deaf parents (deaf-of-deaf). These amount to less than 10% of sign language users, which makes the group of “true native signers” very small indeed. Costello et al. (2008) have argued that in very small sign language groups, this percentage is even smaller and that the argument that only those from Deaf families can be considered “reliable” informants thus becomes moot. In the sign language community in the Basque provinces of Spain, a methodology has been created using sociolinguistic factors to assess whether a signer can be deemed a “native signer”. The Icelandic sign language community could implement this methodology as far as the population of signers goes, but if reliable informants can only be the children of Deaf parents, it becomes all but impossible to locate informants that meet such criteria. Immigrants are a fast-growing part of the Icelandic sign language community and many of those immigrants come from Deaf families. The fact that the Deaf consider themselves a diaspora nation begs the question whether belonging to the “right” cultural community or group may be a factor when the reliability of an informant is assessed (see Kramsch 1998). This paper examines how the sign language users as a community view its signers, with particular emphasis on the methods Icelandic linguists might employ when locating reliable sign language informants.

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Nozomi Tomita

WHAT IS POLYSEMY? WHAT COUNTS AS A DISTINCT SENSE? METAPHORS IN JAPANESE SIGN LANGUAGE

In previous studies of examples of polysemy in signed languages, there is Shimada's work (e.g. CRY vs SAD in JSL) and Johnston & Schembri's work (e.g. TEA vs COFFEE in Australian Sign Language). Their analysis indeed finds that the phonological forms look similar. However, the issue of those discussion is the lack of specific analysis on how those examples are considered polysemy, which is known as polysemy fallacy from the cognitive linguistics approach: a lack of principled criteria for determining what counts as a distinct sense. Traditionally, polysemy is understood and explained as any linguistic form that has similar phonological forms and has more than one meaning. However, from a Cognitive Linguistic perspective, the approach toward polysemy is that polysemy gives rise to lexical ambiguity as a conceptual phenomenon. In the Semantic field, Polysemy is unlike homonymy, a category of distinct polysemous sense that represents lexical organization at the mental level which determines polysemy as it is manifested in language use (Sandra 1998; Tuggy 1993; Tyler & Evan 2003). From this perspective, this study aims to provide the application of linguistics analysis on the ARGUMENT IS WAR metaphor in Japanese Sign Language through the conceptual metaphor with double mapping (see selected linguistic examples of the Metaphor: ARGUMENT IS WAR); however, a

question is exists of what is polysemy specifically related to a sense of decision. There are issues with distinguishing between polysemy and vagueness. To answer this, the first claim for this study is to find lexical ambiguity thought lexical iconicity is a key (Lepic & Padden: Lakoff 1987). Secondly, by using Evan & Tyler's theory of principled polysemy and semantic network analysis, polysemy of concept metaphor in signed languages has similarities of phonological forms, iconic mapping from source and target, but those similar forms must satisfy the two goals of the theory with a category of distinct polysemous sense. This focus on the analysis of iconic mapping for the sign lexical iconicity is where we will see the sign FIGHT and ARGUINGone to one, both signs with the same handshape, however, FIGHT is based on visual images of two fighters who are holding a long thin object and crossing weapons while ARGUING is based on two disputers and they are engaged in disagreed conversation. Not only the handshape but the relationship of hands in spatial relationship within a language provides a distinct sense. This would be the initial evidence for distinguishing between sense stored in semantic memory. Further evidence can be seen where there would be a rough radical network for the category index-finger as a long thin object is the central sense. As long as the radical category represent lexical concepts which has the same structure, with the range of lexical concepts (or sense) organized with respect to a prototypical lexical concept or sense.

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KEY



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Deli sandwiches
and salads



Mexican



Paninis



World cuisine



Chinese noodles



Restaurant dining



Coffee



Hotdogs



Home cooking



Pizzas



Jacket potatoes



Soups

Edgbaston Campus Map

Index to buildings by zone

Red Zone

- R1 Law Building
- R2 Frankland Building
- R3 Hills Building
- R4 Aston Webb – Lapworth Museum
- R5 Aston Webb – B Block
- R6 Aston Webb – Great Hall
- R7 Aston Webb – Student Hub
- R8 Physics West
- R9 Nuffield
- R10 Physics East
- R11 Medical Physics
- R12 Brannall Music Building
- R13 Poynting Building
- R14 Barber Institute of Fine Arts
- R15 Watson Building
- R16 Arts Building
- R17 Ashley Building
- R18 Strathcona Building
- R19 Education Building
- R20 J G Smith Building
- R21 Muirhead Tower
- R22 University Centre
- R23 University Centre
- R24 Staff House
- R26 Geography
- R27 Biosciences Building
- R28 Murray Learning Centre
- R29 The Alan Walters Building
- R30 Main Library
- R31 Collaborative Teaching Laboratory – in development

Blue Zone

- B1 Medical School
- B2 Institute of Biomedical Research including IBR West
- B3 Wellcome Clinical Research Facility
- B4 Robert Aitken Institute for Clinical Research
- B5 CRUK Institute for Cancer Studies and Denis Howell Building
- B6 Research Park
- B7 90 Vincent Drive
- B8 Henry Wellcome Building for Biomedical NMR Spectroscopy
- B9 Medical Practice and Dental Centre
- B10 Advanced Therapies Facility
- B11 BioHub Birmingham
- B12 Health Sciences Research Centre (HSRC)

Orange Zone

- O1 The Guild of Students
- O2 St Francis Hall
- O3 University House
- O4 Ash House
- O5 Beech House
- O6 Cedar House
- O7 Sport & Fitness

Green Zone

- G1 32 Pritchatts Road
- G2 31 Pritchatts Road
- G3 European Research Institute
- G4 3 Elms Road
- G5 Computer Centre
- G6 Metallurgy and Materials
- G7 IRC Net Shape Laboratory
- G8 Gisbert Kapp Building
- G9 52 Pritchatts Road
- G10 54 Pritchatts Road
- G11 Nicolson Building
- G12 Winterbourne House and Garden
- G15 Westmere
- G18 Priorsfield
- G19 Park House
- G20 Elms Plant
- G22 Elms Day Nursery
- G23 Murray Learning Centre
- G13 Hornton Garage
- G14 Garth House
- G16 Lucas House
- G17 Peter Scott House

Yellow Zone

- Y1 Old Gymnasium – in development
- Y2 Haworth Building
- Y3 Mechanical and Civil Engineering Building
- Y4 Terrace Huts
- Y5 Estates West
- Y6 Maintenance Building
- Y7 Grounds and Gardens
- Y8 Chemistry West
- Y9 Computer Science
- Y10 Alta Bioscience
- Y11 Chemical Engineering
- Y12 Biochemical Engineering
- Y13 Chemical Engineering Workshop
- Y14 Sport, Exercise and Rehabilitation Sciences
- Y15 Civil Engineering Laboratories
- Y16 Occupational Health
- Y17 Public Health
- Y18 Bournbrook Student Accommodation
- Y19 Buried infrastructure facility



