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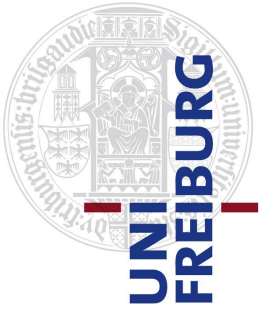
Perceptual linguistic salience: Modelling causes and consequences

FRIAS - Workshop

Organized by Alice Blumenthal-Dramé (University of Freiburg), Adriana Hanulíková (University of Freiburg) and Bernd Kortmann (Director of FRIAS)

October 16-18, 2014
FRIAS, Albertstr. 19, Seminar Room

Website: www.frias.uni-freiburg.de/salience



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Workshop

**Perceptual linguistic salience
Modelling causes and consequences**

October 16th – 17th 2014

Workshop Programme.....	1
Workshop Topic.....	2
Talks.....	5
Posters.....	16
Map of relevant locations.....	23

Workshop Programme

Pre-workshop warm-up: Hausbrauerei Feierling (see map), 6 pm

Thursday (Oct 16): FRIAS, Albertstraße 19 (see map)	
09.00-09.30	Welcome
9.30-10.30	Harald Baayen (Department of Linguistics, University of Tübingen) Saliency and naive discriminative learning
10.30-11.00	Coffee break
11.00-12.00	Dagmar Divjak (Russian and Slavonic Studies, University of Sheffield) Grasping the phenomenon: Could saliency be an epiphenomenon of frequency?
12.00-14.00	Lunch break (Paradies restaurant – see map)
14.00-15.00	T. Florian Jaeger (Brain and Cognitive Sciences, University of Rochester, NY) The role of surprisal in goal-based language processing
15.00-16.00	Ewa Dąbrowska (Department of Humanities, Northumbria University, Newcastle-upon-Tyne) Attention, explicit knowledge and social cues in language acquisition
16.00-16.30	Coffee break
16.30-18.00	Discussion Vera Demberg (Saarland University, Cluster of Excellence: Multimodal Computing and Interaction, Saarbrücken) Evelyn Ferstl (Center for Cognitive Science, University of Freiburg) Hans-Jörg Schmid (Department of English, University of Munich)

Friday (Oct 17): FRIAS, Albertstraße 19 (see map)	
9.00-10.00	Paul Kerswill (Department of Language and Linguistic Science, University of York) Dialect contact and the role of ‘saliency’
10.00-11.00	Lynne C. Nygaard (Department of Psychology, Emory University, Atlanta) The shifting face of saliency: Experience, attention, and context in the perception of systematic variation in speech
11.00-11.30	Coffee break
11.30-12.30	Christian Langstrof (Department of English, University of Freiburg) Saliency in lab-based sociophonetic learning
12.30-13.30	Lunch break (FRIAS)
13.30-14.30	Poster Session
14.30-15.30	Alice Blumenthal-Dramé (Department of English, University of Freiburg) On the non-saliency of morphemes (and the saliency of non-morphemes)
15.30-16.30	Jim Blevins (Department of Theoretical and Applied Linguistics, University of Cambridge) & Michael Ramscar (Department of Linguistics, University of Tübingen) Morphological saliency
16.30-17.00	Coffee break
17.00-18.30	Discussion Peter Auer (Department of German, University of Freiburg) Bernd Kortmann (English Department, University of Freiburg)
19.30	Workshop dinner (Greifeneggsschlössle – see map)

Poster presentations:

Luke Bradley (Research training group *Frequency effects in language*, University of Freiburg): *How salient is inflectional morphology? The role of typology*

Franziska Günther (Department of English, University of Munich): *Linguistic construal and perceptual saliency in cognitive context*

Marten Juskan (Department of English, University of Freiburg): *Identity, Saliency, and Uber-Scouse*

Marie Møller Jensen (Research Group in Languages and Linguistics, Aalborg University): *Localisedness as a predictor of saliency*

Katja Roller (Research training group *Frequency effects in language*, University of Freiburg): *Quantifying Saliency in Dialect Grammar – The Case of Welsh English*

Vanessa Tölke (Research training group *Frequency effects in language*, University of Freiburg): *Interactions between frequency and saliency in the norm development of Valencian*

Workshop Topic

Perceptual linguistic salience: Modelling causes and consequences

Recent years have seen an upsurge of interest in the notion of salience in linguistics and related disciplines. A plethora of studies have investigated salience as a phenomenon that accounts for systematic preferences in interpretation, addressing inter alia its relevance to the interpretation of figurative utterances and the relative accessibility of pronominal antecedents, implicatures, and discursive links (Geeraerts 2000, Giora 2003, Chiarcos, Claus, and Grabski 2011, Jaszczolt and Allan 2011, Landragin 2013). In contrast to this increasing focus on salience as a semantic-pragmatic phenomenon, the perceptual salience of linguistic stimuli has only recently begun to attract scholarly attention (e.g., Hanulíková, van Alphen, van Goch, and Weber 2012, Rácz 2012).

The attention literature distinguishes two broad types of perceptual salience (e.g., Summerfield and Egner 2009, Awh, Belopolsky, and Theeuwes 2012). First, a stimulus can be salient – i.e., foremost in one’s mind – because it is cognitively preactivated. This type of salience, sometimes referred to as top-down salience, occurs, for instance, if a stimulus is expected because it is part of a cognitive routine, if it has recently been mentioned, or due to current intentions of the perceiver. While in top-down salience, perceivers endogenously direct their attention to a certain stimulus, in the second type of salience, bottom-up salience, it is the stimulus itself which attracts attention. In prototypical cases of bottom-up salience, the stimulus stands out because it is incongruous with a given ground by virtue of its intrinsic physical characteristics. But a stimulus may also cause surprise by virtue of deviating from a cognitive ground, e.g. when it violates social or linguistic expectations (e.g., Barto et al. 2013; Clark et al. 2013).

Focusing on linguistic forms and variants, this interdisciplinary workshop aims to address three key issues surrounding the notion of perceptual salience:

(1.) Grasping the phenomenon

How can the perceptual salience of linguistic forms and variants be operationalised? What are predictors of salience, and in relation to which ‘ground’ are they to be defined, respectively? These questions are inextricably linked to the issue of whether and how the above-noted distinctions familiar from the study of perception can be transferred to linguistic accounts of salience (Docherty & Foulkes 2014). For instance, to what extent is salience an intrinsic feature of linguistic forms (e.g. dialectal variants)? To what extent, on the other hand, should it be construed as a product of independent contextual factors or prior experience with language (Balling and Baayen 2012, Jensen and Johansson 2013, Jaeger and Snider 2013)? How precisely do different forms of perceptual salience interact?

(2.) Examining and modelling the effects of perceptual salience on language processing and representation

Although by their very definition, salient percepts are immediately apparent to the perceiver, bottom-up salient stimuli are often claimed to require additional processing effort and to trigger increased neural activity (e.g., Hanulíková et al. 2012). By contrast, top-down salient stimuli usually yield facilitation and lower neural activity (de-Wit, Machilsen, and Putzeys 2010). What types of cognitive processes underlie the differential treatment of salient linguistic percepts, and how can this be modelled in terms of psycholinguistic models (Kuperman, Bertram, and Baayen 2010)? Everything else being equal, bottom-up salient

percepts might be more prone to entrenchment in memory than less salient counterparts (Geraci and Manzano 2010, Hunt and Worthen 2006; Barto, Mirolli, and Baldassarre 2013). In other words, they might shift more easily into the top-down category, implying, among other things, stronger memory representation and enhanced ease of activation (Blumenthal-Dramé 2012, Schmid 2007). Another hypothesis that seems worth exploring is that salient items might function as cognitive reference points that structure and give access to certain cognitive domains (e.g., sociolinguistic stereotypes), thereby influencing the perception and categorisation of less salient items of the same domain (Rosch 1975, Langacker 1993, Hanulíková and Weber 2012). Interestingly, both kinds of effects could in many cases be attributed to the frequency of the respective stimuli, which raises the question whether salience has an effect on representation that is independent of frequency or whether, on the contrary, salience is merely an epiphenomenon of frequency.

(3.) Exploring the relationship between perceptual salience and language variation and change

What is the role of perceptual salience in different types of language change (e.g. off-the-shelf and under-the-counter changes, cf. Milroy 2007)? What is the relationship between objective criteria for perceptual salience, subjective awareness and social evaluation (Auer, Barden, and Grosskopf 1998)? To what extent can perceptual salience be taken to motivate cross-linguistic preferences (Hawkins and Cutler, 1988)? To what extent are predictors of salience language- and/or dialect-specific? How does the salience of a form in a specific variety depend on factors such as the availability of competing variants – whether derived from language users’ previous linguistic experience or present in their own speech (e.g., Yaeger-Dror, 1993)? How does the salience of linguistic items impact on their trajectory in situations of language contact?

All in all, we hope to arrive at a more informed and ultimately falsifiable conceptualisation of salience that can provide the basis for precise predictions and non-circular statements in the domains of language cognition, variation and change.

References

- Auer, P., Barden, B., & Grosskopf, B. (1998). Subjective and objective parameters determining ‘salience’ in long-term dialect accommodation. *Journal of Sociolinguistics*, 2(2), 163–187.
- Awh, E., Belopolsky, A. V., & Theeuwes, J. (2012). Top-down versus bottom-up attentional control: a failed theoretical dichotomy. *Trends in Cognitive Sciences*, 16(8), 437–443.
- Balling, L. W., & Baayen, R. H. (2012). Probability and surprisal in auditory comprehension of morphologically complex words. *Cognition*, 125(1), 80–106.
- Barto, A., Mirolli, M., & Baldassarre, G. (2013). Novelty or surprise? *Frontiers in Psychology*, 4, 1–15.
- Blumenthal-Dramé, A. (2012). *Entrenchment in Usage-based Theories: What Corpus Data do and do Not Reveal About the Mind*. Berlin: Walter de Gruyter.
- Chiaros, C., Claus, B., & Grabski, M. (2011). *Salience: Multidisciplinary Perspectives on its Function in Discourse*. Berlin: Walter de Gruyter.
- Clark, A. (2013). Whatever next? Predictive brains, situated agents, and the future of cognitive science. *Behavioral and Brain Sciences*, 36(3), 181–204.
- de-Wit, L., Machilsen, B., & Putzeys, T. (2010). Predictive coding and the neural response to predictable stimuli. *Journal of Neuroscience*, 30(26), 8702–8703.
- Docherty, G. J., & Foulkes, P. (2014). An evaluation of usage-based approaches to the modelling of sociophonetic variability. *Lingua*, 142, 42–56.
- Geeraerts, D. (2000) Salience phenomena in the lexicon: a typology. In: Albertazzi, L. (ed.), *Meaning and Cognition: A Multidisciplinary Approach*. Amsterdam: Benjamins, 79–101.
- Geraci, L., & Manzano, I. (2010). Distinctive items are salient during encoding: Delayed judgements of learning predict the isolation effect. *The Quarterly Journal of Experimental Psychology*, 63(1), 50–64.

- Geraci, L., McDaniel, M. A., Miller, T. M., & Hughes, M. L. (2013). The bizarreness effect: Evidence for the critical influence of retrieval processes. *Memory & Cognition*, 41(8), 1228–1237.
- Giora, R. (2003). *On Our Mind: Salience, Context, and Figurative Language*. Oxford University Press.
- Hanulíková, A., van Alphen, P. M., van Goch, M. M., & Weber, A. (2012). When one person's mistake is another's standard usage: The effect of foreign accent on syntactic processing. *Journal of Cognitive Neuroscience*, 24(4), 878–887.
- Hanulíková, A., & Weber, A. (2012). Sink positive: Linguistic experience with *th* substitutions influences nonnative word recognition. *Attention, Perception, & Psychophysics*, 74(3), 613–629.
- Hawkins, J. A., & Cutler, A. (1988). Psycholinguistic factors in morphological asymmetry. In: Hawkins, J. A. (ed.), *Explaining Language Universals*. Oxford: Blackwell, 280–317.
- Hunt, R. R., & Worthen, J. B. (2006). *Distinctiveness and Memory*. Oxford; New York: Oxford University Press.
- Jaszczolt, K. M., & Allan, K. (2011). *Salience and Defaults in Utterance Processing*. Berlin: Walter de Gruyter.
- Jaeger, T. F., & Snider, N. E. (2013). Alignment as a consequence of expectation adaptation: Syntactic priming is affected by the prime's prediction error given both prior and recent experience. *Cognition*, 127(1), 57–83.
- Järvikivi, J., Bertram, R., & Niemi, J. (2006). Affixal salience and the processing of derivational morphology: The role of suffix allomorphy. *Language and Cognitive Processes*, 21(4), 394–431.
- Jenset, G. B., & Johansson, C. (2013). Lexical fillers influence the dative alternation: Estimating constructional saliency using web document frequencies. *Journal of Quantitative Linguistics*, 20(1), 13–44.
- Kuperman, V., Bertram, R., & Baayen, R. H. (2010). Processing trade-offs in the reading of Dutch derived words. *Journal of Memory and Language*, 62(2), 83–97.
- Landragin, F. (2013). Physical salience and cognitive salience. *Annual Conference of the German Linguistic Society (DGfS)*. From: http://fred.landragin.free.fr/publi/13_DGfS_pres.pdf
- Langacker, R. W. (1993). Reference-point constructions. *Cognitive Linguistics*, 4(1), 1–38.
- Milroy, L. (2007). Off the shelf or under the counter? On the social dynamics of sound changes. In: Cain, C. M. & Russom, G. (eds), *Studies of the History of the English Language III: Managing Chaos: Strategies for Identifying Change in English*. Berlin: Walter de Gruyter, 149–172.
- Rácz, P. (2012). Operationalising salience: definite article reduction in the North of England. *English Language and Linguistics*, 16(01), 57–79.
- Rosch, E. (1975). Cognitive reference points. *Cognitive psychology*, 7(4), 532–547.
- Schmid, H. J. (2007). Entrenchment, salience, and basic levels. Geeraerts, D., & Cuyckens, H. *The Oxford Handbook of Cognitive Linguistics*. New York: OUP, 117–138.
- Summerfield, C., & Egner, T. (2009). Expectation (and attention) in visual cognition. *Trends in Cognitive Sciences*, 13(9), 403–409.
- Yaeger-Dror, M. (1993). Linguistic analysis of dialect 'correction' and its interaction with cognitive salience. *Language Variation And Change*, 5(2), 189–224.

Talks

Salience and naive discriminative learning

Harald Baayen
Department of Linguistics,
University of Tübingen

Naive discriminative learning is a theory of lexical processing that is grounded in the learning equations of Rescorla and Wagner (1972). These equations define a dynamic system in which cues (inputs) become associated with varying strengths to outcomes (outputs). The Rescorla-Wagner equations contain parameters that can be used to weigh cues differentially according to their (bottom-up) salience. Similarly, there are parameters that set the weights for outcomes.

When applying the Rescorla-Wagner equations to corpus data, the question arises of how the parameters for the salience of cues and outcomes should be set. In the absence of independent information about which cues and outcomes were actually especially salient in a given learning event, the salience parameters are best left untouched, at their default values. This, of course, assumes that during learning, the effects of salience average out. However, when probing a trained Rescorla-Wagner comprehension network with a given stimulus composed of cues of varying salience, salience weights can be applied, which as a result the modulation of the activations of the outcomes.

Allowing for different salience weights of outcomes may be necessary to simulate differences in the intrinsic importance of outcomes for survival. However, at least a subset of effects typically characterized as top-down salience (and attributed to mechanisms such as cognitive pre-activation) may already arise in a Rescorla-Wagner network simply as a consequence of the never-ending process of learning.

In the course of this ongoing process of learning, precisely because it is discriminative in nature, frequency of occurrence exerts an influence that is much more subtle than what would be predicted from straightforward 'counters in the head'. As a consequence, a cue can be highly salient even when seldom used, as long as that cue is not re-used for other outcomes.

In my talk, I will present simulation studies that illustrate how salience can be understood within the computational framework of discriminative learning.

Morphological salience

Jim Blevins

Department of Theoretical and Applied Linguistics,
University of Cambridge

Michael Ramscar

Department of Linguistics,
University of Tübingen

Prevailing conceptions of language structure tend to describe languages in terms of a hierarchy of discrete ‘levels’, related by well-defined ‘interfaces’. This architecture is set out in Bloomfield (1926), elaborated in the descriptivist (Pike 1967) and generativist (Chomsky 1975) traditions and generally adopted without comment in most subsequent formal and descriptive approaches. A key assumption within this conception is that each level encapsulates any variation that is contrastive solely at that level, so that only encapsulated representations are ‘accessible’ to other levels.

In the domain of morphology, this conception is reflected in the idea that morphological units are related (directly or indirectly (cf. Hockett 1961)) to phonemes. On this view, allomorphic alternations, along with other types of sub-phonemic variation, are not only irrelevant but also ‘invisible’ to the morphology. This level of descriptive granularity in turn determines notions of formal ‘identity’ that define the degree of ‘recurrence’ and ‘redundancy’ within a morphological system.

Yet at least two converging lines of research suggest that this idealization is inadequate and misleading. The literature on sub-phonemic contrasts shows that speakers systematically produce and distinguish variants of ‘identical’ forms (Davis et al. 2002; Baayen et al. 2003; Kemps et al. 2005; Gahl 2008). Discriminative models of language learning and use likewise clarify the function of these contrasts (Baayen et al. 2011; Ramscar et al. 2013a,b). In broad terms, phonemic contrasts distinguish distinct lexemes, whereas sub-phonemic contrasts tend to distinguish distinct forms of lexemes. The morphological consequences of these contrasts are noted by Kemps et al. (2005: 441) when they remark that “Plurals are not just singulars with an additional suffix. The precise acoustic realization of the stem provides crucial information to the listener about the morphological context in which the stem appears”.

The role of sub-phonemic contrasts in marking discriminative morphological properties also undermines the assumption that phonological descriptions encapsulate the variation that is relevant to morphology (and other domains). This in turn undermines the general rationale for ‘levels’ and the ‘interfaces’ that control access and interaction across these levels. Instead, familiar ‘levels of analysis’ impose a neat hierarchical structure on a language by isolating single dimensions of variation in a system (lexemic in the case of phonemes) and ignoring orthogonal contrasts that may be no less perceptually salient or linguistically distinctive.

More generally, perceptual salience circumscribes the space of discriminable states which determines language learning and processing. The amount of information in a system is a function of the number of discrete states that can be discriminated within it, along with the way that these states are organized (Shannon 1948). What makes this particularly relevant to human information processing – and to our understanding of cognitive aging – is that by far the best, and most detailed theories of how our minds / brains learn that we currently have available are also couched in discriminative terms. Although it may seem counterintuitive, a range of findings in psychology and neuroscience support the view that way in which we “add” new items to our memories is best characterized in terms of a process that increases the number states that our minds are capable of discriminating (Ramscar et al. 2010). And this number reflects the salience of discriminable contrasts.

References

- Baayen, R. H., McQueen, J. M., Dijkstra, T. & Schreuder, R. (2003). Frequency effects in regular inflectional morphology: Revisiting Dutch plurals. In: Baayen, R. H. & Schreuder, R. (eds), *Morphological Structure in Language Processing*, Berlin: Mouton de Gruyter, 355–370.
- Baayen, R. H., Milin, P., Filipović Đurđević, D., Hendrix, P. & Marelli, M. (2011). An amorphous model for morphological processing in visual comprehension based on naive discriminative learning. *Psychological Review*, 118, 438–481.
- Bloomfield, L. (1926). A set of postulates for the science of language. *Language*, 2, 153–164. Reprinted in Joos (1957), 26–37.
- Chomsky, N. (1975). *The Logical Structure of Linguistic Theory*. Chicago: University of Chicago Press.
- Davis, M., Marslen-Wilson, W. D. & Gaskell, M. (2002). Leading up the lexical garden-path: Segmentation and ambiguity in spoken word recognition. *Journal of Experimental Psychology: Human Perception & Performance*, 28, 218–244.
- Gahl, S. (2008). “Thyme” and “Time” are not homophones. The effect of lemma frequency on word durations in spontaneous speech. *Language*, 84(3), 474–496.
- Hockett, C. F. (1961). Linguistic elements and their relation. *Language*, 37, 29–53.
- Joos, M. (ed.). (1957). *Readings in Linguistics I*. Chicago: University of Chicago Press.
- Kemps, J. J. K., Rachèl, Ernestus, M., Schreuder, R. & Baayen, R. H. (2005). Prosodic cues for morphological complexity: The case of Dutch plural nouns. *Memory & Cognition*, 33(3), 430–446.
- Pike, K. L. (1967). *Language in Relation to a Unified Theory of Human Behaviour*. The Hague: Mouton.
- Ramscar, M., Dye, M. & McCauley, S. M. (2013a). Error and expectation in language learning: The curious absence of *mouses* in adult speech. *Language*, 89(4), 760–793.
- Ramscar, M., Hendrix, P., Love, B. & Baayen, R. H. (2013b). Learning is not decline: The mental lexicon as a window into cognition across the lifespan. *The Mental Lexicon*, 3, 450–481.
- Ramscar, M., Yarlett, D., Dye, M., Denny, K. & Thorpe, K. (2010). The effects of feature-label-order and their implications for symbolic learning. *Cognitive Science*, 34, 909–957.
- Shannon, C. (1948). A mathematical theory of communication. *The Bell System Technical Journal*, 27, 379–423, 623–656.

On the non-salience of morphemes (and the salience of non-morphemes)

Alice Blumenthal-Dramé
Department of English,
University of Freiburg

This talk will argue that ‘pseudo-morphemes’ (such as *iron* in *irony* or *mist* in *mister*) are perceptually more salient than ‘real’ morphemes (*greed* in *greedy* or *teach* in *teacher*), thereby challenging the prevailing conception that both kinds of sub-lexical strings receive the same amount of automatic attention during the first word processing stages.

I will start by presenting a critical review of the morphological processing literature which claims that all potential morphemes contained in a word are transiently activated independently of whole-word semantics, and discuss the larger perceptual processing framework in which this assumption is embedded.

This view will then be contrasted with the more recent hierarchical predictive coding perspective, which assumes that high-level representations associated with stimuli on the basis of prior experience (e.g., probabilistic knowledge and semantics) do exert top-down effects on the way sensory information is decoded in the very first processing stages. This view predicts an advantage for transparent over pseudo-complex words in (pseudo-)stem priming tasks, if both stimulus groups are matched for a number of properties which have not always been considered in the literature so far.

Against this background, I will present a masked priming fMRI study which confirms that both stimulus groups are assigned to different routes from the very first stages of processing and highlights the influence of semantic top-down support on brain areas traditionally assumed to be purely stimulus-driven.

My results are in line with the hierarchical predictive coding assumption that units which are disruptive to smooth top-down processing (e.g., pseudo-morphemes) are perceptually more salient than those which can be exhaustively ‘explained away’ by higher-level representations (e.g., descriptively real morphemes). However, while predictive coding accounts of perceptual salience so far have mostly focused on deviations from sequential expectations, my study highlights the role of inconsistencies between different hierarchical levels.

References

- Bar, M. & Bubic, A. 2013. Top-down Effects in Visual Perception. In *The Oxford Handbook of Cognitive Neuroscience*, pp. 60-73. Oxford: Oxford University Press.
- Carreiras, M., Armstrong, B. C., Perea, M., & Frost, R. (2014). The what, when, where, and how of visual word recognition. *Trends in Cognitive Sciences*, 18(2), 90–98. doi:10.1016/j.tics.2013.11.005
- Clark, A. (2013). Whatever next? Predictive brains, situated agents, and the future of cognitive science. *Behavioral and Brain Sciences*, 36(03), 181–204. doi:10.1017/S0140525X12000477
- Davis, M. H., & Rastle, K. (2010). Form and meaning in early morphological processing: Comment on Feldman, O’Connor, and Moscoso del Prado Martín (2009). *Psychonomic Bulletin & Review*, 17(5), 749–755. doi:10.3758/PBR.17.5.749
- de-Wit, L., Machilsen, B., & Putzeys, T. (2010). Predictive Coding and the Neural Response to Predictable Stimuli. *Journal of Neuroscience*, 30(26), 8702–8703. doi:10.1523/JNEUROSCI.2248-10.2010

Attention, explicit knowledge and social cues in language acquisition

Ewa Dąbrowska
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Several recent studies (Chipere 2001, 2003, Dąbrowska 1997, 2008, Dąbrowska and Street 2006, Street and Dąbrowska 2010, 2014) suggest that some apparently normal adult native speakers do not always master all the core grammatical constructions of their language. Intriguingly, several of these studies also showed that the very same adults are able to learn the construction when given appropriate training. For instance, Street and Dąbrowska (2010) tested adult native speakers' comprehension of two constructions: the passive (*The boy was hugged by the girl*) and two types of locative sentences with the universal quantifier every (*Every bird is in a nest, Every nest has a bird in it*). Adult participants who showed incomplete mastery of both the passive and the universal quantifier construction (as revealed by a pretest) were given a brief explanation of one of the constructions, followed by a practice session with feedback (comprising six items in total). This resulted in a dramatic improvement on the trained construction, and no change in performance on the untrained construction. Moreover, the effects were long lasting - even after a 12 week interval, performance was still at ceiling. This is surprising, since the participants must have experienced considerably more than six exemplars of the relevant constructions before the experiment, and yet had not acquired the construction. I argue that the learning occurred as a result of the experimenter explicitly drawing the participants' attention to form and meaning during training. I discuss this suggestion in the context of research on the role of social cues and attention in language acquisition, and conclude that explicit learning and metalinguistic awareness play a more important role in language acquisition than is usually believed.

Grasping the phenomenon: Could salience be an epiphenomenon of frequency?

Dagmar Divjak
Russian and Slavonic Studies,
University of Sheffield

This contribution focuses on the relation between salience and frequency, and explores the hypothesis that the salience of an item is due to the low probability of its occurrence: an infrequent combination is salient/stands out when it does occur. The discussion is situated in a wider framework of memory and attention studies. As pointed out by Pierrehumbert (2006:525) “Exemplar models are not sensitive to frequencies of ambient events per se, but rather to frequencies of memories. In between physical experience and memory lies a process of attention, recognition, and coding which is not crudely reflective of frequency”. At present, we lack a full understanding of how the various dimensions of this process fit together to generate and maintain an individual’s linguistic knowledge.

Within cognitive neuroscience, a strong trend is emerging to view cognitive brain systems as relying on memory-based predictions (Bar 2007, 2011). The brain extracts repeating patterns and statistical regularities from its environment, and stores them in memory. On the basis of these stored experiences, the brain makes predictions about the future, i.e. it predicts best actions in response to challenges. This process is guided by the statistical history of events in our environment: past experiences set the priors for predicting aspects of our present and future (Bar 2007: 281, 283, 285). The statistical history of events is built on information on frequency of co-occurrence. Human beings appear to be highly sensitive to the frequency with which elements (co-)occur in their environment (Hasher & Zacks 1984) and extract this information automatically, including for linguistic events. Since frequency effects are memory effects, and memory is affected by how items are presented over time, the passage of linguistic elements over time should be a crucial consideration. The nearest linguistic equivalent of a time window is a contextual frame. Contextual frames are available at all levels of linguistic analysis, from the way in which sounds are distributed over words to the way in which words are arranged in a sentence and distributed over texts.

Per definition, salience refers to any (aspect of a) stimulus that makes it apparent to the perceiver. Research on attention distinguishes two causes for this, i.e. top-down salience captures things that are salient because they are expected, while bottom-up salience refers to things that are salient because they are unexpected. The degree to which an item is expected given a specific context can be operationalized in its most simple form by using (the logarithm of) probabilities conditioned on the context. This is similar to a well-known measure from information theory, i.e. the surprise ratio (Barlow 1990) or surprisal (Cover & Thomas 2006). The surprise to encounter an item is given by the negative logarithm (base 2) of the probability of an event.

Probabilities of (co-)occurrence at any level, which are likely to be stored in memory (Tily et al. 2009, Blumenthal-Dramé 2012), are higher for more frequent/typical combinations, i.e. items that can be considered expected given the context, and lower for (relatively) less frequent/atypical combinations that are unexpected in a particular context. This division maps onto the distinction that is made in attention literature: when attention deployment is driven top-down, it is considered to be guided by memory-dependent or anticipatory mechanisms. This contrasts with attention deployment that is bottom-up, memory-free, and reactive. On this line of reasoning, the low probability of occurrence of infrequent combinations is what makes them salient/stand out when they do occur.

Selected references

- Bar, M. (ed.). (2011). *Predictions in the Brain: Using our Past to Generate a Future*. Oxford: OUP.
- Barlow, H. B. (1990). Conditions for versatile learning, Helmholtz's unconscious inference, and the task of perception. *Vision Research*, 30, 1561–1571.
- Blumenthal-Dramé, A. (2012). Entrenchment in usage-based theories. *What Corpus Data do and do Not Reveal About the Mind*. Berlin: Walter de Gruyter.
- Cover, T. & Thomas, J. (2006). *Elements of Information Theory. Second Edition*. Hoboken, NJ: John Wiley.
- Hasher, L. & Zacks, R.T. (1984). Automatic processing of fundamental information: The case of frequency of occurrence. *American Psychologist*, 39, 1372–1388.
- Tily, H., Gahl, S., Arnon, I., Snider, N., Kothari, A., & Bresnan, J. (2009). Syntactic probabilities affect pronunciation variation in spontaneous speech. *Language and Cognition*, 1(2), 147–165.

The role of surprisal in goal-based language processing

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I'll pursue two goals in this talk. The first goal is to lay out some a priori consideration about 'salience' from the perspective of ideal observers and rational decision making. Specifically, I entertain the possibility that the 'salience' of a percept is determined by its utility with regard to the (mixture of) current goal(s). This utility would depend both on how much information a percept adds given prior expectations (i.e. the percept's surprisal) and on its relevance to the current goals. The latter component might explain why some stimulus properties are seemingly attended to more than one would a priori expect given their surprisal: some percepts are on average of very high utility for decision making because they are informative with regard to important goals (e.g., survival). One possibility is thus that 'salience' is reducible to adaptation of our processing systems based on a percept's utility, possible at multiple time-scales (e.g., over evolutionary time, such as the salience of certain colors, or over seconds and minutes, depending on the current communicative goals).

In the other part of the talk, I focus on the idea that the informativity of linguistic stimuli with regard to a common goal of comprehension – namely the successful decoding of the intended message – affects subsequent language processing. I describe in conceptual terms the mathematics behind the ideal observer reasoning about language processing. I then draw on studies from our lab on sentence processing, sentence production, and phonetic perception to illustrate that comprehenders and talkers indeed seems to continuously adjust their expectations based on the prediction error (i.e., informativity or surprisal) experienced in previously processed stimuli.

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Selected relevant readings from the Human Language Processing Lab

- Kleinschmidt, D., & Jaeger, T. F. (submitted). Robust Speech Perception: Recognizing the familiar, generalizing to the similar, and adapting to the novel. [pdf]
- Fine, A. B., Jaeger, T. F., Farmer, T., & Qian, T. (2013). Rapid expectation adaptation during syntactic comprehension. *PLOS One*. [pdf]
- Fine, A. B. & Jaeger, T. F. (2013). Evidence for implicit learning in syntactic comprehension. *Cognitive Science*, 37(3), 578–591. [doi: 10.1111/cogs.12022, IF: 2.376]. [pdf]
- Jaeger, T. F. & Snider, N. (2013). Alignment as a consequence of expectation adaptation: syntactic priming is affected by the prime's prediction error given both prior and recent experience. *Cognition*, 127(1), 57–83. [doi: 10.1016/j.cognition.2012.10.013]. [pdf]
- Qian, T., Jaeger, T. F., & Aslin, R. (2012). Learning to represent a multi-context environment: More than detecting changes. *Frontiers in Psychology*, 3, 228. [doi: 10.3389/fpsyg.2012.00228]. [pdf]

Dialect contact and the role of ‘salience’

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In Kerswill and Williams (2002), we defined salience rather simply as some property of a linguistic item or feature which made it perceptually and cognitively prominent. On the phonological level, salience depended on a threshold of noticeability being reached, while the property of discreteness promoted salience though it was not a condition for salience. Frequency, both high and low, seemed to promote it, but in unpredictable ways. Our review and analysis suggested, however, that it was mainly extralinguistic factors that were linked to salience, and that it was not possible to find a language-internal rationale for Labov’s indicator–marker–stereotype cline. Relatedly, the same feature was not equally salient for demographically different types of speaker, and the type of salience depended on social evaluation.

That paper, however, did not take account of either acquisition or broader sets of sociodemographic factors in its modeling of salience. In my presentation I will build on Docherty and Foulkes’s (2014) claims that acquisition simultaneously incorporates both structural and sociolinguistic facts, that frequency of exposure interacts with the age of the acquirer, reflecting maturation, and that frequency itself is complex, since it is ‘skewed’ by a listener’s pre-existing social constructs which are imposed on the perception mechanism.

In order to operationalise aspects of this exemplar-based model, I will focus on dialect contact. My assumption is that what is taken up and what is discarded in dialect contact results directly from the interaction between salience as a sociolinguistic phenomenon and structural linguistic factors. As Trudgill (2011) shows, speech communities differ in the degree to which they experience dialect contact. The critical parameters are the proportion of incomers at any one time, and the time period over which a community has that proportion of incomers. This proportion determines the degree of change, and it needs to be high (perhaps a minimum of between 35 and 50 percent) to overcome the ‘founder principle’ and to effect change. A further parameter is the nature of the dialect contact: does it involve adult learners, or are the language groups involved socially integrated? On the linguistic side, structural features are important in predicting what changes take place. Usually these result in simplification, but in cases where children acquire the language in a linguistically mixed environment complexification can occur.

My examples will come from three sources: dialect contact and dialect levelling in England (based on our work in Milton Keynes and David Britain’s in southern England), our work on Multicultural London English (not dialect contact *sensu stricto*, but contact between different learner varieties of English), recent work by Llamas and Watt along the England/Scotland border, and recent comparative work on contact between Norwegian dialects by Bugge and Neteland which has compared changes in inflectional morphology in different speech community types, following Trudgill’s (2011) typology.

The main thrust of all of this work is that the relative frequency of occurrence of linguistic features is the overriding predictive factor. But, from childhood on, people have different degrees and types of linguistic experience, and arrive at increasingly entrenched linguistic ideologies. As Docherty and Foulkes point out, in contact situations, particularly following relocation, the desire to fit in with admired new peer groups can motivate an individual’s language change even though the frequency of those contacts may be low.

Saliency in lab-based sociophonetic learning

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This paper reports on a range of lab-based studies on the learnability of sociolinguistic variation in blank-slate scenarios. Participants were trained on data pools consisting of non-random associations of linguistic variants with hypothetical social categories, and subsequently tested on whether and to what extent they have managed to internalize said associations (Docherty et al. 2013, Langstrof 2014). Since the experiments focussed on variation in the linguistic signal rather than any potential patterns of variation in terms of the extralinguistic correlates, the social categories bore maximally abstract and non-informative labels such as group 1 vs. group 2. In other words, this set-up essentially eclipses any potential pre-existing associations of linguistic variants with categories in the real-world.

It will be argued that the results as obtained from these experiments allow us to isolate and evaluate one specific aspect of saliency, namely variable-intrinsic saliency, whereas prior attempts at measuring saliency (cf. Elmenthaler et. al 2010, Lenz 2010) failed to elucidate which aspects of a given variable's saliency can rightfully be attributed to the contingencies of the variables and their variants, or whether and to what extent "social knowledge" also figures.

If we accept these sociolinguistic pattern detection tasks as an appropriate measure to assess the saliency of variables and their associated variants relative to each other, a clear saliency hierarchy can be shown to emerge: Specifically, the propensity towards successful learning is largely a function of phonetic contingencies, such as the phonetic distance between variants. Differences in terms of variant frequencies and their distributions can be shown to play a much less prominent role. Additionally, it will be shown that the degree to which listeners pick up on variability in the input data hinges on the presence of additional variables in the data pool. Hence, variables can be shown to eclipse each other in one and the same input data pool, which in turn implies that a given variable's saliency can only be understood in terms of the overall variational "biotope" it occurs in.

References

- Docherty, G.J., Langstrof, C., & Foulkes, P. (2013). Listener evaluation of sociophonetic variability: probing constraints and capabilities. *Linguistics*, 51(2), 355–380.
- Elmenthaler, M., Gessinger, J. & Wirrer, J. (2010). Qualitative und quantitative Verfahren in der Ethnodialektologie am Beispiel von Saliency. In: Anders, C., Hundt, M., & Lasch, A. (eds), *Perceptual Dialectology – Neue Wege der Dialektologie*. Berlin/New York: de Gruyter, 111–149.
- Langstrof, C. (2014). Sociophonetic Learning in L1 and L2. Unpublished manuscript, preliminary version at <http://christianlangstrof.org/publications/Langstrof2014.pdf>.
- Lenz, A. (2010). Zum Saliencybegriff und zum Nachweis salienter Merkmale. In: Anders, C., Hundt, M., & Lasch, A. (eds), *Perceptual Dialectology – Neue Wege der Dialektologie*. Berlin/New York: de Gruyter, 89–110.

The shifting face of salience: Experience, attention, and context in the perception of systematic variation in speech

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The acoustic speech signal is characterized by enormous variability. Specific characteristics of individual speakers and groups of speakers, for example, can profoundly change the way in which linguistic structure is realized. How listeners contend with this variation to achieve consistent linguistic interpretations is a signature problem in the study of speech and language processing. A substantial body of research suggests that language users track, retain, and use systematic variation to restructure linguistic representation and processing in order to maximize intelligibility of spoken language. Less clear is the extent to which sources of variation differ in salience or relevance during speech processing and how relevance changes as a function of experience and context.

I will present data from a series of memory and perceptual learning studies examining talker-, task-, and listener-related factors that mediate memory and learning of systematic variation in spoken language. In particular, I will focus on 1) differences in memory for disparate sources of variation in spoken utterances; 2) the contribution of relatively short-term task-related changes in attention and expectation to perceptual learning of systematic variation; and 3) the role of individual listener's expectations on vocal accommodation and perceptual sensitivity.

The outcome of this research suggests that although listeners dynamically adapt to systematic changes in linguistic structure as a function of experience, this adaptation depends on the characteristics and frequency of particular sources of variations, the modulation of attention driven by the structure of the learning environment, and expectations and subsequent sensitivity to socially relevant variation. The considerable behavioral and representational plasticity that is characteristic of speech perception and spoken language processing may depend in part on the social, linguistic, and contextual relevance of talker-specific variation.

Posters

How salient is inflectional morphology? The role of typology

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Does entrenchment of inflectional morphology vary cross-linguistically as a function of language type and input frequency? Psycholinguists have claimed that strings of morphemes may be perceived either as holistic units or serially, broken up into their constituent parts (Blumenthal-Dramé 2012). In the first case, we can speak of ‘entrenched’ strings; in the second case, we can speak of ‘decomposition’. Furthermore, we note a relation between salience and inflection. For example, in the case of the French verb form:

- (1) Nous finîmes
We
finish-1PL.PST

we can designate *-îmes* as salient, due to its unexpected nature – a function of its low frequency relative to other inflectional morphemes. We therefore expect the French hearer to decompose such a word into its component morphemes during perception, although the root itself is relatively frequent. Conversely, with a form like *finit* (3SG.PRS), we expect holistic perception, given the relatively high frequency of this inflected form. In this case, we can speak of the salience of the full form. Now, different languages have wildly varying inflectional palettes, from almost no inflection (e.g. Vietnamese) to extremely rich inflection (e.g. Russian). Could it therefore be the case that speakers of inflectionally rich languages take a decompositional approach to processing a much larger proportion of their linguistic input, relying much less on full-form storage than speakers of inflectionally impoverished languages?

We pursue an alternative view, hypothesizing that speakers of inflectionally rich languages instead require *lower input frequencies* of multimorphemic strings before entrenchment, or holistic representation, occurs. This is tantamount to claiming that Russian speakers, say, require less input instances of a given complex string before perception shifts from relying on procedural memory (decomposition) to declarative memory (holistic representation) (see Baayen et al. 1997; Ullman 2004 on the declarative / procedural distinction). It is possible to test such a claim by extracting frequencies of both inflected and base forms from corpora, comparing these with the total complexity of the inflectional system for a given language, and then performing behavioural experiments using familiar priming paradigms. For example, if lexical decision is speeded when using root primes and inflected targets at a certain frequency level for Russian speakers, but not for English speakers, all other parameters being equal, our hypothesis gains support. Russian speakers would be ‘abandoning’ the decompositional approach at an earlier input stage, with a stronger attraction to the declarative memory substrate in lexical perception.

References

- Baayen, R. H., Dijkstra, T., & Schreuder, R. (1997). Singulars and plurals in Dutch: Evidence for a parallel dual-route model. *Journal of Memory and Language*, 37(1), 94-117.
- Blumenthal-Dramé, A. (2012). *Entrenchment in usage-based theories: what corpus data do and do not reveal about the mind*. Berlin: Walter De Gruyter.
- Ullman, M. T. (2004). Contributions of memory circuits to language: The declarative/procedural model. *Cognition*, 92(1), 231-270.

Linguistic construal and perceptual salience in cognitive context

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A considerable range of theories from the field of language-and-thought/linguistic relativity research (e.g., Wolff and Holmes 2011) assume that language can function as a source of perceptual salience. This assumption is also implied in the cognitive linguistic claim that *construal* in general, and attentional construal patterns in particular, constitute a central facet of linguistic meaning (e.g., Talmy 2000; Langacker 2008, 55–89; Verhagen 2007).

The project presented builds on these claims in two related respects: Firstly, it proposes a model of relations between language and cognition/perception, the FEEDBACK LOOP MODEL, which allows for particular associations of forms and construal meanings to potentially induce particular patterns of visual attention allocation in language users. And, secondly, it tests whether and, in particular, under which contextual conditions the predictions yielded by this model indeed apply.

The linguistic structures used as a test case are complex German spatial expressions of the type illustrated in examples (1) and (2).

- (1) *Die Flasche ist in der vorderen rechten Ecke (auf dem Tisch).*
'the bottle is in the front right-hand corner (on the table)'
- (2) *Die Flasche ist vorne rechts (auf dem Tisch).*
'the bottle is front_{ADV} right_{ADV} (on the table)'

These constructions were predicted to selectively assign high cognitive salience to either the object-level (*object-focused construal*, example 1) or the space-level of the referent scene (*space-focused construal*, example 2), and thus to induce speakers to allocate either a very high or a very low degree of visual attention to object-specific information (e.g., the shape of the table) (cf., e.g., Carroll 1993).

These predictions were tested using a combination of a visual world eye-tracking task and a recognition memory test (cf., e.g., Papafragou, Hulbert and Trueswell 2008). Within this scope, variation in internal/cognitive contexts, i.e., differences in the relative degrees of entrenchment and thus accessibility of one particular linguistic structure relative to its potential competitors, was taken into account as a possible determinant of language-use associated attentional effects.

To realize this, possible correlations between linguistic and non-linguistic behaviour were investigated in two different types of speakers:

- (a) speakers who display a strong preference for using either highly object-focused constructions (example 1) or highly space-focused constructions (example 2) (*consistent speakers*);
- (b) speakers who do not display such preferences but switch between using either of these construction types, and in whom these construction types can therefore be assumed to compete for use (*variable speakers*).

A comparison of the findings for these two groups reveals that the predicted perceptual and memory effects did occur in the group of *variable speakers*, whereas the behaviour of *consistent speakers* was obviously led by salience-inducing factors other than language.

These findings identify language as *one* possible source of salience which, however, interacts and competes with other potential salience-inducing factors in directing speakers' attention.

They furthermore indicate that *variable*, conflict- or differentiability-inducing patterns of entrenched linguistic knowledge might constitute particularly favourable cognitive environments for language to function as a source of perceptual salience.

References

- Carroll, M. (1993). Deictic and intrinsic orientation in spatial descriptions: A comparison between English and German. In: Altarriba, J. (ed.), *Cognition and Culture: A Cross-cultural Approach to Cognitive Psychology*. Amsterdam: Elsevier, 23–44.
- Langacker, R. W. 2008. *Cognitive Grammar: A Basic Introduction*. Oxford: Oxford University Press.
- Papafragou, A., Hulbert, J., & Trueswell, J. (2008). Does language guide event perception? Evidence from eye movements. *Cognition*, 108, 155–184.
- Talmy, L. (2000). *Toward a Cognitive Semantics*. Vol. 1, *Concept Structuring Systems*. Cambridge/Mass: MIT Press.
- Verhagen, A. (2007). Construal and Perspectivization. In: Geeraerts, D., & Cuyckens, H. (eds), *The Oxford Handbook of Cognitive Linguistics*. New York: OUP, 48–81.
- Wolff, P., & Holmes, K. J. (2011). Linguistic relativity. *Wiley Interdisciplinary Reviews: Cognitive Science*, 2(3), 253–265.

Localisedness as a predictor of salience

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While salience can be (and has been) defined in many different ways and from many different perspectives, predictors of salience seems to be a common theme.

Within the sociolinguistic field, Trudgill (1986) and Kerswill and Williams (2002) are possibly some of the most cited works. Kerswill and Williams suggest that salience (in their definition) is ultimately caused by social factors. This raises further questions, though, such as: which social factors are involved in salience? Why and how are linguistic forms and social meanings linked? And how does this affect language perception and processing? Taking a socio-cognitive approach to language study can help us merge the insights from sociolinguistics with those from cognitive linguistics and perceptual psychology to perhaps bring us closer to a few answers.

Research into Tyneside English (Jensen 2013) suggests that the perception of the localisedness of a feature might be a likely social factor in the salience of morphosyntactic forms. Similar results are reported for Liverpool English (Scouse) phonology in Honeybone and Watson (2013).

The Tyneside study consisted of three empirical studies: a corpus study (based on the NECTE corpus patterning frequency of use over time), a questionnaire study (investigating participants' awareness of features) and a popular dialect literature study (which linked the two other studies).

Among the 12 variables investigated (pronouns, sentential negation, verbal morphology), in particular the unique local variables *divn't*, *wor*, *telt*, and *hoy* proved particularly salient to the questionnaire participants. Suggestions for the interpretation of these patterns include social indexicality (Silverstein 2003, Johnstone 2009) and enregisterment (Agha 2003, Beal 2009) to account for how the variables come to carry social meaning in the local community and exemplar theory (Pierrehumbert 2001; Hay, Warren and Drager 2006) to account for how the link between the social and the cognitive aspects of language might be combined in the mind. Overall, the results of the three studies indicated that social factors such as perceptions of uniqueness and indexical value in the form of localness influence the level of salience of forms.

References

- Agha, A. (2003). The social life of cultural value. *Language and Communication*, 23, 213–273.
- Beal, J. (2009). Enregisterment, commodification, and historical context: “Geordie” versus “Sheffieldish”. *American Speech*, 84(2), 138–156.
- Hay, J., Warren, P. & Drager, K.. (2006). Factors influencing speech perception in the context of a merger-in-progress. *Journal of Phonetics*, 34(4). 458–484.
- Honeybone, P. & Watson, K.. 2013. Salience and the sociolinguistics of Scouse spelling: exploring the contemporary, humorous, localised dialect literature of Liverpool. *English World-Wide*, 34(3). 305–340.
- Jensen, M. M. (2013). *Salience in Language Change: A Socio-cognitive Study of Tyneside English*. Newcastle upon Tyne: University of Northumbria PhD thesis.
- Johnstone, B. (2009). Pittsburghese shirts: Commodification and the enregisterment of an urban dialect. *American Speech*, 84(2). 157–175.
- Kerswill, P. & Williams, A. (2002). “Salience” as an explanatory factor in language change: Evidence from dialect levelling in urban England. In: Jones, M. C. & Esch, E. (eds), *Language Change: The Interplay of Internal, External and Extra-linguistic Factors*. Berlin: Mouton de Gruyter, 81–110.
- Pierrehumbert, J. B. (2001). Exemplar dynamics: word frequency, lenition and contrast. In Bybee, J. L., & Hopper, P. J. (eds), *Frequency Effects and the Emergence of Linguistic Structure*. Amsterdam: John Benjamins, 137–157.
- Silverstein, M. (2003). Indexical order and the dialectics of sociolinguistic life. *Language and Communication*, 23. 193–229.
- Trudgill, P. (1986). *Dialects in Contact*. Oxford: Blackwell Publishers.

Identity, Saliency, and Uber-Scouse

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This paper presents an apparent time study investigating the use of four phonological variables in Liverpool English: happy-tensing, the nurse-square-merger, velar nasal plus and lenition of /k/. Since Scouse (as the local variety is called) seems to be “getting Scouser” (Watson 2007) we would expect to see the social saliency of Scouse features drop in the younger generations. Saliency is here operationalised following the traditional Labovian paradigm which divides variables into indicators, markers, and stereotypes.

Liverpool English is widely known and highly stigmatised in the United Kingdom (Trudgill 1999). Like many other Northern English cities, Liverpool has experienced quite dramatic economic and social change in the second half of the 20th century. In the 70s and 80s, the city became associated primarily with unemployment, poverty, and crime (Belchem 2006).

In light of the general trend found in Britain (Kerswill 2003) and elsewhere, and helped by the stigmatisation of the accent, we would expect Scouse to level out and become more similar to the standard or the surrounding non-standard varieties.

From the 1990s onwards, however, both economic conditions and the national image of the city have been improving as Liverpool has started to focus on (local) culture and tourism.

Data collected in three different age groups suggest that language behaviour mirrors recent social history. The youngest speakers in the sample generally (except for happy) prefer local variants most. Presence/absence of style-shifting and explicit comment indicates that for some variables there is a drop in saliency, while the saliency of others is actually increasing. Happy seems to go against the general trend, possibly because younger speakers are using this feature to associate themselves with the North of England more generally.

Phonetic change in Liverpool thus seems to be governed by a combination of saliency, social factors, and questions of local identity.

References

- Belchem, J. (ed.). (2006). *Liverpool 800: Culture, Character and History*. Liverpool: Liverpool University Press.
- Kerswill, P. (2003). Dialect levelling and geographical diffusion in British English. In: Britain, D., & Cheshire, J. (eds), *Social Dialectology*. Amsterdam: Benjamins, 223–243.
- Trudgill, P. (1999). *The Dialects of England*. Oxford: Blackwell.
- Watson, K. (2007). Is Scouse getting Scouser? Phonological change in contemporary Liverpool English. In: Grant, A., & Grey, C. (eds), *The Mersey Sound: Liverpool's Language, People and Places*. Liverpool: Open House Press. 215–240.

Quantifying Saliency in Dialect Grammar: The Case of Welsh English

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This project investigates sociolinguistic saliency in dialect grammar, defining a salient feature as being “consciously or unconsciously used for social indexation” (Rácz 2013). Using the example of Welsh English, I explore to what extent saliency can be related to speakers’ experiences with language instead of being merely an intrinsic feature of linguistic constructions. I take Rácz’s study as a starting point, which found that the saliency of phonological features can, to a certain extent, be predicted by their (un)likeliness of occurrence in language use, and try to apply it to the area of morphosyntax. I hypothesise that high (absolute or relational) token frequencies of grammatical forms, to a certain degree, correlate with high saliencies. The following methodological steps are undertaken: (1) determining the token frequencies of several non-standard features in corpora, both in Welsh English (Radio Wales Corpus, 270,000 words) and in the reference variety London English (Linguistic Innovators Corpus, 1,1 million words); (2) testing the features’ saliencies in a questionnaire-based study in Wales and London; (3) comparing the findings regarding frequency and saliency. First results suggest a positive correlation between absolute frequencies in Welsh English and the saliencies of the constructions – both as judged by Welsh speakers and by Londoners. For example, focus fronting (*A student he was*) occurs frequently in the Welsh corpus and appears to be very salient. As for the Londoners, however, it seems that relational frequencies play a role, too. If a feature is relatively unlikely to occur in London English in comparison with Welsh English, this might evoke *surprisal* (cf. Hume & Mailhot 2013; Rácz 2013) and, thus, saliency. Furthermore, it is thinkable that the saliency of some features gets boosted through stereotyping them on the media. An analysis of the language of Welsh TV presenters is currently being conducted to, hopefully, contribute to the complex picture of people’s perceptions of language structures.

References:

- Hume, E. & Mailhot, F. (2013). The role of entropy and surprisal in phonologization and language change. In: Yu, A. C. L. (ed.), *Origins of Sound Change: Approaches to Phonologization*. Oxford: Oxford University Press.
- Rácz, P. (2013). *Saliency in Sociolinguistics: A Quantitative Approach*. Berlin & Boston: Mouton de Gruyter.

Interactions between frequency and salience in the norm development of Valencian

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The linguistic and political situation in the autonomous community of Valencia contains a double conflict: a linguistic conflict based on the diglossic situation of Valencian and Castilian plus the rivalry of Valencian and Catalan, which in turn leads to an ideological conflict regarding the unity of Catalan and linguistic secessionism. My project, situated in the field of language change and perception and following the usage-based approach, investigates how frequency effects influence the process of norm development of Valencian. My hypothesis is that frequency in this process, in interaction with salience, is strongly influenced by ideological factors.

Salience is understood as sociolinguistic salience and salient forms are therefore considered to be characteristic for a limited geographical area (cf. Kerswill 2002). Using quantitative and qualitative research methods, I aim to show that there are various forms which are accepted by language planners and included in norm documents, and thus accepted and used by the norm recipients.

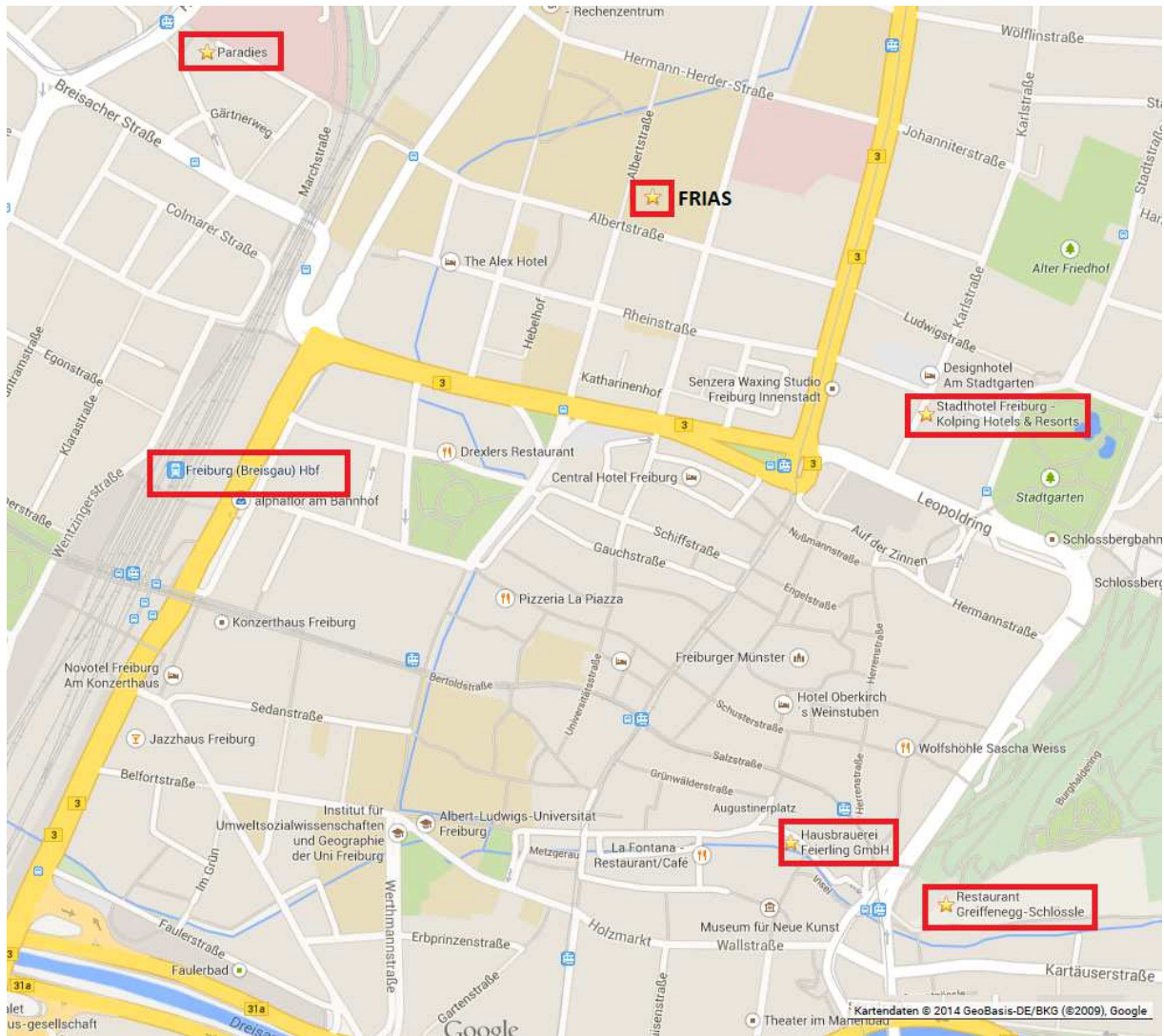
The inclusion of highly frequent forms in the norm can result in diminution of less used forms. I consider this circumstance to be a typical frequency effect.

When frequently used forms considered to be salient are included in the norm and are accepted and used by the speakers, the frequency effect is enforced by salience. When less frequent but salient forms of everyday speech are included because of negative borrowing (cf. Kailuweit 2014), this represents a conscious differentiation from the model languages Spanish and, in particular, Catalan by the language planners and speakers in order to create linguistic independence. Primarily less frequent forms can gradually become frequent when they are accepted and used, while once frequent, non-salient forms are eliminated because they are no longer used. Language change is thus strongly influenced by use and ideology, and the relation between norm and real usage is essential.

References

- Kailuweit, R. (2014). Avoiding typological affinity: negative borrowing as a strategy of Corsican norm finding. In: Besters-Dilger, J., Dermarkar, C., Pfänder, S., & Rabus, A. (eds.), *Congruence in Contact-induced Language change: Language Families, Typological Resemblance, and Perceived Similarity*. Berlin: de Gruyter, 368–389.
- Kerswill, P. & Williams, A. (2002). “Salience” as an explanatory factor in language change: Evidence from dialect levelling in urban England. In: Jones, M. C. & Esch, E. (eds), *Language Change: The Interplay of Internal, External and Extra-linguistic Factors*. Berlin: Mouton de Gruyter, 81–110.

Map of relevant locations



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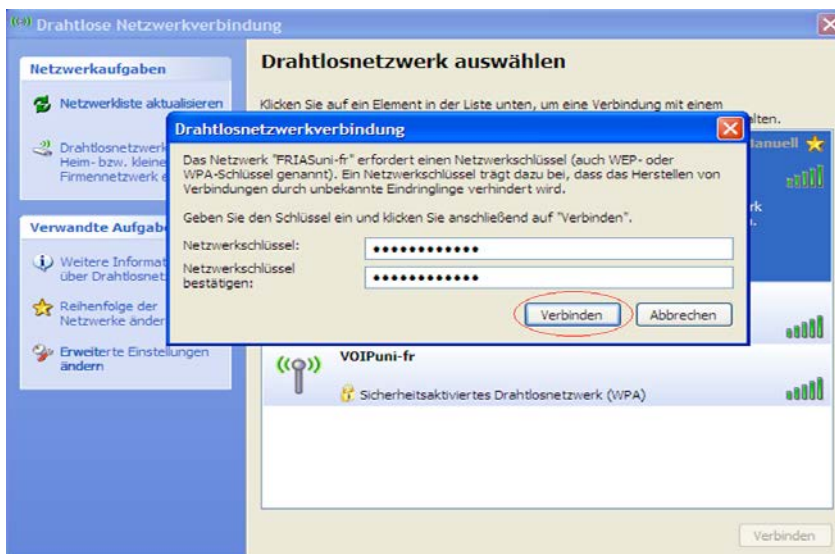
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