
ARBEITSGRUPPE 16 | WORKSHOP 16

Raum | Room: S 16, Seminargebäude

Creativity and routine in sentence production

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Sometimes, speakers and writers are creative when producing sentences. Creativity may surface, for example, by choosing non-canonical word orders, by using non-canonical voice, or by producing marked or unexpected referential expressions. More often, however, speakers and writers show routine behavior and do not exploit creative options, but rather stick to canonical and unmarked choices. Priming - the tendency of speakers to reuse items and structures that have been processed recently - is a prominent phenomenon tying together creativity and routine (e.g. MacDonald, 2013; Pickering and Garrod, 2013). On the one hand, researchers are using priming to increase the probability of using creative structures. On the other hand, priming outside of the laboratory may strengthen language routines. The aim of our workshop, which is part of the 45th annual meeting of the German Linguistic Society (DGfS), is to identify, discuss, and compare factors promoting linguistic creativity at different levels of sentence production. These include linguistic factors (e.g., givenness, topic status, thematic roles, phonological weight, rhythm), but also non-linguistic factors (e.g. animacy, perceptual salience). These factors, which often come under the names of prominence, accessibility, or salience, may be at work unconsciously, but can also be put to use voluntarily, for example to avoid repetition in written and spoken production or even to provoke irritation in poetic language use.

Questions to address include:

- How do speakers/writers cope with the tension between boring but simple and creative but complex language use?
- How do particular communicative situations and intentions favor or disfavor creativity and routine?
- What are language-specific and/or cross-linguistic means to realize linguistic creativity?
- What are the cognitive mechanisms underlying creative and routine language use?
- Do individual speakers/writers differ in being linguistically creative?

References: • MacDonald, Maryellen C. 2013. How language production shapes language form and comprehension. *Frontiers in Psychology* 4:226. • Pickering, Martin J. & Simon Garrod. 2013. An integrated theory of language production and comprehension. *Behavioral and Brain Sciences* 36(04). 329–347.

Factors influencing non-canonical word order in German: a corpus study

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Although routine in language often serves to ensure successful communication, creativity is also used by speakers, which raises the question under which circumstances it becomes necessary or at least preferred. In the present paper we present two case studies in which we investigate discourse factors influencing the choice of non-canonical, creative, word order patterns in German by looking at out of the laboratory production data, i.e. corpus data. In the first case study we look at the extraposition of phrasal arguments followed by a relative clause modifier in newspapers texts, as illustrated in (1). We claim that elements in the right sentence periphery not only serve as a discourse-topic reading orientation (Vinckel-Roisin 2011), but also lead to reduced working memory costs. Building on Hawkins' (2004) principle of minimizing domains, extraposition of the entire NP or PP in German reduces both the distance between antecedent and relative clause and the distance between the highly interdependent sentence brackets.

- (1) Es wird jedoch glänzend aufgewogen [PP durch die Rezepte, [RC die von
It will however brilliantly outweighed by the recipes that of
universaler Geschmackssicherheit zeugen]] [...].
universal taste.guaranty attest
'However, it is brilliantly outweighed by the recipes, which are of universal taste [...].' (TüBa-D/Z v11 DU, S. 5708.)

In the second case study we take a closer look at a pattern which is most often found in the spoken language, namely discontinuous infinitival complements, as illustrated in (2).

- (2) dann hab ich halt meiner mutter immer **versucht** klarzumachen dass [...]
then have I PART my.DAT mum always tried to.make.clear that
'Then I tried to make clear to my mum that [...]' (Folk E00048, 0533)

Building on Cook (2001), we propose that discontinuous infinitival complements signal narrow focus on the embedded verb and that arguments of this verb that are already given in the discourse are realized already in the midfield, in accordance with the *Easy First* production bias (MacDonald 2013).

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Effects of individual variation and cue type on the production of non-canonical sentences

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Background: Speakers tend to produce active sentences when asked to describe a visual scene depicting an agent acting on a patient. However, when the patient is made more prominent (e.g. by means of a visual cue preceding the depicted patient), speakers are more likely to produce non-canonical sentences (e.g., Gleitman et al., 2007). Concerning the effect of visual cueing on patient prominence, a number of issues remain unresolved: Are different types of cues equally effective or do they differ in the extent to which they affect speakers' sentence production strategies? Second, are there individual differences concerning speakers' aptitude to produce non-canonical structures?

Methods: We report the results of three sentence production studies that employed eye-tracking. German-speaking participants (total $n = 136$) were asked to describe scenes depicting an agent acting on a patient. Prior to scene onset, three different types of cues were examined: A meaningless red dot was either presented very briefly (70 ms) or for a longer duration (700 ms) at the location where the patient was about to appear. Alternatively, a preview of the patient character was presented in the center of the screen (referential cue).

Results: Whereas the short cue did not affect speakers' rate of passive production compared to baseline, the other two cue types led to an increase in participants' aptitude to produce passives. There were also significant differences between the referential cue and the short cue, and the referential cue vs. the long cue, but no difference between the short and the long cue concerning the likelihood of passive production. Furthermore, we observed remarkable individual variation regarding speakers' propensity to produce passives. A substantial number of participants did not produce passive sentences at all (short cue: 30/44, long cue: 26/45, referential cue: 16/47 participants).

Conclusions: We find that different types of cues are differently effective in modulating speakers' tendencies to produce non-canonical structures. Furthermore, the overall propensity to produce passives also varies by individual. Rather than being a general linguistic phenomenon, prominence appears to be modulated by the specifics of the stimuli (i.e., cue type) and also seems subject to individual variation.

References: Gleitman, L. R., January, D., Nappa, R., & Trueswell, J. C. (2007). On the give and take between event apprehension and utterance formulation. *Journal of Memory and Language*, 57, 544–569. <https://doi.org/10.1016/j.jml.2007.01.007>

Constructionist approaches to creativity
From routine constructions to creative constructs

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Creative language use has recently attracted considerable attention in constructionist research (Hoffmann ed. 2018; Hoffmann ed. 2020). Goldberg (2006: 22) already claimed that '[c]onstructional approaches share with mainstream generative grammar the goal of accounting for the creative potential of language (Chomsky 1957: 1965).' Yet, a closer look reveals that most linguists, including Chomsky and Goldberg, only have a very narrow definition of verbal creativity that, essentially, boils down to productivity. In these cases, speakers make 'original use of the established possibilities of the language' (Leech 1969: 24; Sampson 2016 calls this 'F(ixed)-creativity'). In contrast to this, too little attention has been paid to 'E(nlarging/extending)-creativity' (Sampson 2016), i.e., when a speaker 'creates new communicative possibilities which are not already in the language' (Leech 1969: 24).

The present talk will explore the cognitive mechanisms that underly F-/E-creative and routine language use and will show how constructionist approaches can further our understanding of all types of linguistic creativity. In addition to this, it will adopt a sociocultural psychological perspective (Glăveanu 2013) that does not just focus on the new artifact (the novel construct) or the creative speaker/writer, but also takes into account the socio-cultural affordances (constructions, context and cotext), the creative processes in the working memory as well as the audience/addressees. Such a holistic view can then explain how utterances such as *Not the shiniest penny in the piggy bank*.¹ or *The Dalai Farmer*!² can be primed and licensed by their specific discourse contexts.

References: • Chomsky, N. (1965). *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press. • Goldberg, A.E. (2006). *Constructions at Work: The Nature of Generalization in Language*. Oxford: Oxford University Press. • Hoffmann, Th. (ed.) (2018). Linguistic creativity. *Zeitschrift für Anglistik und Amerikanistik* 66(3). • Hoffmann, Th. (ed.) (2020). Construction grammar and creativity: Evolution, psychology and cognitive science. *Cognitive Semiotics* 13(1). • Leech, G.N. (1969). *A Linguistic Guide to English Poetry*. London / New York: Longman. • Sampson, G. (2016). Two ideas of creativity. In M. Hinton, (ed.), *Evidence, Experiment and Argument in Linguistics and Philosophy of Language*. Bern: Peter Lang, 15–26.

¹ Source: http://news.bbc.co.uk/sport2/hi/funny_old_game/2912483.stm

² Source: <https://youtu.be/gpSot6Dda3o?t=791> | mins 13:11-13.21

Balancing habit and control in language production

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Sentence production requires a balance between creativity and routine. On the one hand, lexical selection needs to match the listener's expectations and be consistent with previous contexts where similar meanings have been expressed. On the other hand, to express new information, the sentence must be somewhat novel, requiring creativity. We introduce a model of language production that addresses how speakers balance novelty and consistency (Harmon & Kapatsinski, 2021). In the model, the selection of a word depends on both the sentential context and top-down cues from the intended message. We discuss how reliance on these cues account for two types of errors in sentence production: habit slips, and over-extensions. We further extend the model by discussing how it can be combined with a novel inhibitory mechanism, the Negative Feedback Cycle (Kapatsinski, 2022).

The model suggests that production errors can arise either from a misleading influence of the preceding context, or from misleading top-down input from the production plan. When the speaker relies too much on the preceding context, they can produce a habit slip. Habit slips favor words that are predictable from context and rare in other contexts. For example, Benjamin Netanyahu once referred to Boris Johnson as Boris Yeltzin. Boris is expected to be an exceptionally good cue to Yeltzin in Netanyahu's experience, because Boris frequently co-occurred with Yeltzin, and because Yeltzin rarely occurred in any other context. Habit slips provide crucial evidence for contextual cueing of upcoming words. The second type of error that the model accounts for is errors involving overextension. These errors arise from the fact that semantic representations are distributed. Therefore, any intended message activates unintended words whose meanings overlap with the intended meaning. When the intended word is infrequent and shares much of its meaning with a frequent word, the shared semantic cues can activate the frequent competitor more than the intended word, leading to its production.

Still, in the absence of impairment, most of the time the intended message is produced in a conventional way. We describe an activation-based mechanism which suppresses the production of forms that would strongly activate unintended semantics (Kapatsinski, 2022). Applications of this Negative Feedback Cycle mechanism are illustrated.

References: • Harmon, Z., & Kapatsinski, V. (2021). A theory of repetition and retrieval in language production. *Psychological Review* 128(6), 1112-1144. • Kapatsinski, V. (2022). Morphology in a parallel, distributed, interactive architecture of language production. *Frontiers in Artificial Intelligence* 5.

Utterance repetition in other-initiated self-repair as a form of creativity in interaction

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Other-initiated self-repair is a phenomenon of spontaneous speech that ensures intelligibility in interaction and is to be regarded as a routine in which the speakers have to find creative solutions to a problem of understanding. From a phonetic-prosodic perspective, this area has so far been under-researched. This contribution aims to show the prosodic features used to clarify an utterance after an acoustic intelligibility problem in spoken German.

In an acoustic analysis using the Praat software, repair sequences consisting of a trouble source turn and a repetition separated by the next-turn repair initiation (NTRI), such as *wie bitte*, *was* or *hä*, were analyzed for prosodic contrast. In addition, the intonation contours were annotated according to GToBI (Grice et al. 2005). Following Curl 2004 and Drew 1997, repair sequences were classified into categories according to sequential organization (fitted or disjunct) and whether NTRIs are open class or specifying. While repetitions of fitted trouble source turns are realized with longer duration, greater intensity, and wider pitch range, the prosodic contrasts between disjunct trouble source turns and their repetitions tend to be reduced. Moreover, the contour L+H* L-% seems to be characteristic for repetitions of fitted trouble sources. However, prosodic intensification affects the entire utterance when preceded by an open class NTRI, but is mainly limited to the accented syllable when the repetition is preceded by a specifying NTRI.

The results of the acoustic analysis, in terms of the relationship between sequence organization and prosody, are quite consistent with Curl's study of self-repair in English. The prosodic features found for repairs of fitted trouble sources may be associated with resumption or emphasis of information and an increase in prominence of the accented syllable (Gussenhoven 2004), as well as, regarding intonation, with new information or a contrastive focus (Grice et al. 2005). The reduced prosodic pattern of repetitions preceded by disjunct trouble sources could be due to problems of sequence organization.

References: • Curl, T. S. (2004). 'Repetition' repairs: The relationship of phonetic structure and sequence organization. In E. Couper-Kuhlen, Elizabeth & C. E. Ford (eds.), *Sound Patterns in Interaction. Cross-linguistic studies from conversation*. Amsterdam/Philadelphia: John Benjamins, 273-298. • Drew, P. (1997). "Open" class repair initiators in response to sequential sources of troubles in conversation. *Journal of Pragmatics* 28(1), 69-102. • Grice, M., S. Baumann & R. Benzmüller (2005). German Intonation in Autosegmental-Metrical Phonology. In S. Jun (ed.), *Prosodic Typology: The Phonology of Intonation and Phrasing*. Oxford: Oxford University Press, 430-458. • Gussenhoven, C. (2004). *The Phonology of Tone and Intonation*. Cambridge: Cambridge University Press.

**The role of phonological factors in the positioning of a sub-class of
French attributive adjectives**

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French speakers are permitted creativity when it comes to the positioning of a sub-class of attributive adjectives. This sub-class is characterized by the fact that the adjectives can occur in pre- and postnominal position with no apparent change of interpretation, as shown in (1).

- (1) a. un charmant garçon b. un garçon charmant
 a charming boy *a boy charming*
 ‘a charming boy’

This study investigates whether the placement of these adjectives is affected by phonological factors. First, we will examine the role of length/ phonological weight, that has previously been claimed to affect the positioning of words (Thuilier, 2012; Yao, 2018, a.o.). Our hypothesis is that adjective-noun pairs preferably appear in order of increasing weight (Hawkins, 2000, a.o.). Second, we will investigate the impact of rhythmic alternation in the presence of a monosyllabic noun or adjective. Interestingly, when the noun is monosyllabic only one order (N A) tends to be acceptable (see example (2)).

- (2) a. ?/*un agréable homme b. un homme agréable
 a nice man *a man nice*
 ‘a nice man’

At the same time, it has been previously stated that monosyllabic adjectives are inclined to occur in prenominal position (Thuilier, 2012; Wilmet, 1981). We hypothesize that the inadmissibility of some monosyllabic elements in the second position of the A-N pair is due to the so-called *Principle of Rhythmic Alternation* (Schlüter, 2005). Reporting on frequency counts on adjective position in NPs, this talk will present the results of an acceptability judgment task designed to test the impact of both factors.

References: • Hawkins, J. A. (2000). The relative order of prepositional phrases in English: Going beyond Manner–Place–Time. *Language Variation and Change*, 11(3), 231–266. Schlüter, J. (2005). *Rhythmic grammar: The influence of rhythm on grammatical variation and change in English*. Mouton de Gruyter. Thuilier, J. (2012). *Contraintes préférentielles et ordre des mots en français*. Université Paris-Diderot-Paris VII. Wilmet, M. (1981). La place de l'épithète qualificative en français contemporain: Étude grammaticale et stylistique. *Revue de Linguistique Romane*, 45, 17–73. Yao, Y. (2018). NP weight effects in word order variation in Mandarin Chinese. *Lingua Sinica*, 4(1), 5.

Rhyme as reason: Experimental evidence and implications for creative sentence production in verbal art

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Rhyme is a euphonic ornament of verbal art and song. Perhaps counterintuitively, the sound correspondence of rhyme may have quasi-semantic effects, e.g., making statements appear more accurate and convincing. Such rhyme-as-reason effects have been related to processing events during sentence comprehension. Specifically, it has been argued that “rhyme [...] affords statements an enhancement in processing fluency that can be misattributed to heightened conviction about their truthfulness” (McGlone & Tofighbakhsh, 2000). Here, we report evidence from a study of verse comprehension in Dutch that lends support to the key claim of the *fluency-misattribution* account: that rhyme facilitation during online sentence comprehension is systematically related to rhyme-induced semantic effects; we discuss the implications of our findings for creative sentence production and composition.

Summary: Combining eye-tracking during reading with intuitive semantic judgments allowed us to test the hypotheses that 1) rhyme leads comprehenders to perceive a “deeper meaning” in statements, that 2) rhyme facilitates word processing, and that 3) rhyme-induced facilitation predicts rhyme-dependent meaningfulness effects. We selected 48 couplets of Dutch verse – typically corresponding to a single sentence – and created non-rhyming versions by replacing the first rhyme word (pre-rhyme) with a synonym as in example (1).

- (1) wat niemand kan **weten/kennen** || kan ik niet **meten**
 what nobody can know can I not measure
 ‘I cannot measure what nobody can know’

Participants ($n=54$) read each couplet in either the original or the modified version while their eye movements were recorded; they rated the aesthetic appeal, comprehensibility, and perceived meaningfulness of each couplet on a quasi-continuous scale (0-100). Linear mixed-effects regression analyses of ratings and of several gaze-time measures confirmed that rhyming couplets were perceived as more meaningful than non-rhyming versions (rhyme-as-reason effect; H1; $p = .019$) but failed to reveal a general facilitation effect of rhyme (fluency effect; H2; all $ps > .18$). Crucially, results of multiple linear regression showed that rhyme-induced differences in total reading times of critical rhyme words partly accounted ($\Delta R^2 = 0.11$) for the observed meaningfulness effect of rhyme (H3; $p = .023$).

References: • McGlone, M. S., & Tofighbakhsh, J. (2000). Birds of a feather flock conjointly (?): Rhyme as reason in aphorisms. *Psychological Science*, 11(5), 424–428.