Both linguistic theories and Natural Language Generation (NLG) face similar linearization problems, in addition, NLG has to cope with practical issues of computability. The first question concerns the “quality” of linearization items: are these inflected words or lemmata? This amounts to a temporal ordering between syntax and inflectional morphology. While different models are conceptually possible - syntax comes before morphology [Cho95]; syntax comes after morphology [Bre01], [PS94]; syntax and morphology are synchronous [Cro01], parallel [Bor88] or alternating processes; or even that morphology is distributed among syntax, semantics and phonology [HM93], only those with a clear temporal ordering have been implemented (e.g., LFG or HPSP). The Romanian this-NP shows different marking patterns depending on the relative position of the demonstrative w.r.t. the noun. To obtain all grammatical variants (ex. 1 and 5), both morpho-syntactic specifications and relative positions are required. This fact speaks for linearization before inflectional morphology. HPSP- or LFG-based NLG systems might not be able to generate all grammatical variants of a Romanian this-NP without explicit coding of linearization-relevant information in modules that are not supposed to handle it. Couched in a cross-linguistically motivated, dependency-based linearization model [Ger07], it will be shown that a modular constraint-based processing of the Romanian this-NP is possible. The second question concerns the “size” of linearization items: are these as small as morphemes or as big as lexemes? For this purpose, a linearization test is proposed: assuming two items $\alpha$ and $\beta$ at morpho-syntactic level in a specific language, if the language allows for both $\alpha \prec \beta$ and $\beta \prec \alpha$ then these items are linearization primitives. Applied to Polish person-number markers in past tense (ex. 9-11), weak pronouns in Romanian (ex. 23-24), separable particle verbs in German (ex. 21-22), or phrasal verbs in English (ex. 17-18), the test classifies them as input items for linearization. This is not the case with a genuine suffix (ex. 19-20). The third question concerns the “complexity” of linearization units: are these as complex as a phrase, less or perhaps more complex? Considering the so-called discontinuous constituents as well as the Topological Field Models for Germanic languages, a permutation test for forming complex units is proposed. In terms of Immediate Dominance/Linear Precedence (ID/LP), the linearization task can be formulated as follows: given an ID structure - a dependency tree without explicit linearization information -, find all corresponding LP variants - all grammatical output sequences. Using only horizontal and vertical rules would not allow for a straightforward, flexible linearization of, say, extraposited relative clauses in German (ex. 15 and 16). To this end, a further rule type is proposed: diagonal rules, rules that control the linearization between nodes that relate neither as mother-daughter nor as siblings. Developing flexible NLG systems requires phenomena to be reconsidered.
and theoretical models to be consulted. However, the plausibility of a model and its implementability in an NLG system have to be weighed up against each other.

(1) acest om this man
(2) acesta om this man
(3) *aceyta om this man
(4) *aceyta om this man
(5) onul acesta man this
(6) *omul acesta man this
(7) *onul acest man this
(8) *om acet man this
(9) Nie widzieliśmy tego. we-hat this not see-pst this[We didn’t see this;]
(10) Tegośmy nie widzieli this-tgt not see-pst this
(11) Myszy tego nie widzieli we-hat this not see-pst this
(12) Peter hat gestern ein Buch gekauft. Peter has yesterday a book that nice is bought,
(13) Peter hat ein Buch, das schön ist, gekauft. Peter has a book that nice is
     yesterday bought
(14) *Peter hat ein Buch gestern, das schön ist, gekauft. Peter has a book that nice is
     bought that nice is
(15) Peter hat gestern ein Buch gekauft, das schön ist. Peter has yesterday a book
     bought that nice is
(16) Peter hat ein Buch gestern gekauft, das schön ist. Peter has a book yesterday bought
     that nice is
(17) They call up John. They call John up.
(18) Sie sollten kochen. She should cook.
(19) Sie sollten das Fenster aufmachen. she wants the window open make
     [She wants to open the window.]
(20) *Sie kochten.


William J. Sullivan
wjsii1@uni.wroc.pl
University of Wrocław and Marie Curie University
Linearization in relational network linguistics
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The contradiction between hierarchical syntactic structure and linear phonological structure has been recognized as a problem in minimalist thinking since the 1990s. Neurocognitive stratification theory offers a solution to the problem. The hierarchical cognitive store <= linear phonetics correlation has been recognized in print since the 1970s (Dell & Reich 1977, Sullivan 1978, 1980) and pure relational network (RN) solutions to various problems are available in print. There is neurocognitive evidence for the hierarchical cognitive store and instrumental evidence for linearity in the acoustic stream. Conversely, there is no evidence against either fact, though there is abundant evidence that generative theory in any of its incarnations has severe difficulties in attempting to “reconcile the hypothesis with... strict ordering requirements” or can account for the fact “that coordination operates on linear strings.” The present study deals with a problem of anataxis in Russian,