

1 Bobaljik (2002): Syncretism without Paradigms

→ What can a theory with paradigms do that a theory without paradigms can't?

→ Williams (1994) says that a language can have a *meta-paradigm*, a sort of maximal feature-space that captures patterns of syncretism across different paradigms of the same lg. Consider:

1. Russian meta-paradigms for nominative & dative pronouns, and nominative adjectival inflection:

3rd person NOM pronouns			3rd person DAT pronouns		
	Sg	Pl		Sg	Pl
Masc	on	on-i	Masc	emu	im
Fem	on-a	on-i	Fem	ej	im
Neut	on-o	on-i	Neut	emu	im

NOM adjectival endings:

	Sg	Pl
Masc	-yj	-ye
Fem	-aja	-ye
Neut	-oe	-ye

Notice that no matter what the actual vocabulary items are, there's a generalization about the paradigms: gender distinctions are neutralized in the pl. Williams' idea is that there is such a thing as a *meta-paradigm*, which Russian stores as a constraint on its inflectional structure for nominal agreement:

2. Russian nominal agreement Meta-Paradigm

	sg	pl
masc		
fem		
neut		

(aside: unlike theories we discussed yesterday, including his own of 6 years earlier, Williams 1994 is also an 'interpretive' morphologist, in this instantiation—his vocab items realize syntactic feature structures, they don't provide them).

→ Williams thinks this is a problem for Vocabulary-Based theories of inflection, because all the vocab items that are being spelled out in the different paradigms are distinct. Consequently, the fact that the lists of vocab items which are suitable for realizing a

particular slot all have exactly the same structure is just a coincidence. Below is the analysis given in Halle 1997:

3. Russian nom. agreement VIs:

3rd person NOM pronouns		3rd person DAT pronouns	
/i/	[+pl]	/im/	[+pl]
/a/	[+Fem]	/ej/	[+Fem]
/o/	[+Neut]	/emu/	Elsewhere
/ /	Elsewhere		

NOM adjectival endings

/ye/	[+pl]
/aja/	[+Fem]
/oe/	[+Neut]
/yj/	Elsewhere

Here there are two big questions.

(A) First, it's crucially the ordering of [+pl] before the gender-specific affixes that leads to the syncretism of gender in the plural, but according to the usual feature-counting metric for deciding ordering, the non-elsewhere forms have identical numbers of features.

(B) Second, William's question: it really looks like a non-accidental property of Russian that *in general*, gender is gone in the plural. But here it's an accident. Any one of these groups of forms could either re-order some of these VIs, or introduce a new one with no consequences for the other forms. Is there any equivalent of a Meta-Paradigm in DM?

It could be the case that the ordering of VIs realizing [+pl] features before VIs realizing gender features could arise from either a feature hierarchy à la Noyer (1997), or from a feature geometry like Harley&Ritter (2002). That would answer both of the above questions at once, with no paradigms necessary. But that won't help with some more complicated cases. Consider Macedonian verbal agreement:

4. Macedonian paradigm for *padn-*, 'fall' (from Stump 1993):

	present	past(impf)	past (aorist)
1sg	padn -am	padn-e-v	padn-a-v
2sg	padn-e-S	padn-e -Se	padn-a
3sg	padn-e	padn-e -Se	padn-a
1pl	padn-e-me	padn-e-v-me	padn-a-v-me
2pl	padn-e-te	padn-e-v-te	padn-a-v-te
3pl	padn -at	padn-e-a	padn-a -a

Here, across multiple suffixes, 2nd and 3rd person sg—distinct in the present—become syncretized in the past. So for two separate suffix positions in a single paradigm, this syncretism holds. Further, it's not clear that a feature hierarchy could help here.

5. The DM equivalent to Williams' Meta-Paradigm: Impoverishment Rules

→ if the morpho-syntactic terminal nodes are subject to language-wide Impoverishment rules prior to vocabulary item insertion, then we expect syncretism of this type to be in effect language-wide.

Russian Impoverishment:

Gender → / [____, +pl, +NOM]

Macedonian Impoverishment:

2 → / [+sg, +past]

This will have exactly the same effect as the postulation of a Meta-Paradigm. Adding Meta-Paradigms to your theory vs. adding Impoverishment Rules to your theory is really six of one, 1/2 dozen of the other. Same gain in explanatory adequacy, same degree of additional complication.

6. Any arguments for paradigms *qua* paradigms out there?

Williams: the Basic Paradigm Requirement

When there are multiple related paradigms, there will be one instantiated paradigm, and all others will have its syncretic structure, and perhaps some more. But no other related paradigm will have a contrary syncretic structure, making distinctions where that one does not. We will call that one paradigm the **basic** paradigm.

In essence, this says that all the related paradigms of a lg. will be modelled on one paradigm which makes the most distinctions. No other paradigm will make more or different distinctions than the basic one.

Prediction: In a language where a paradigm-specific syncretism creates a pattern of forms as in (a), there will *always be some other paradigm* as in (b) that makes the full three-way distinction—there will always be a 'basic' paradigm.

a)

	F4	F5
F1	A	C
F2		D
F3	B	

Here, the morphological evidence for an F2 distinction is an intersection of the patterns in F4 and F5 — there is no form which realizes F2 unambiguously.

b)

	F6
F1	A
F2	B
F3	C

Here there is an unambiguous form which realizes F2 unambiguously

7. Bobaljik's Counterexample: Russian Nominal Declension:

	m.sg.N anim	m.sg.N inan	pl anim	pl inan	pl.Adj anim	pl.Adj inan	f.N	f.poss. pron.	f.Adj
NOM	-	-	-y	-y	-yje	-yje	-a	-a	-aja
ACC	-	-a	-y	-	-yje	-yx	-u	-u	-uju
GEN	-a	-a	-	-	-yx	-yx	-y	-ej	-oj
INST	-om	-om	-ami	-ami	-ymi	-ymi	-oj	-ej	-oj
DAT	-u	-u	-am	-am	-ym	-ym	-e	-ej	-oj
PREP	-e	-e	-ax	-ax	-yx	-yx	-e	-ej	-oj

→ Notice: there's no Basic Paradigm: in the f paradigms, where Nom and Acc are unambiguously distinguished, the Dat and Prep distinction is neutralized. In the m. paradigms, where Dat and Prep is distinguished, Nom and Acc are cross-classified.

Conclusion:

Meta-paradigms and Impoverishment rules accomplish the same thing with the same degree of additional cost to the theory

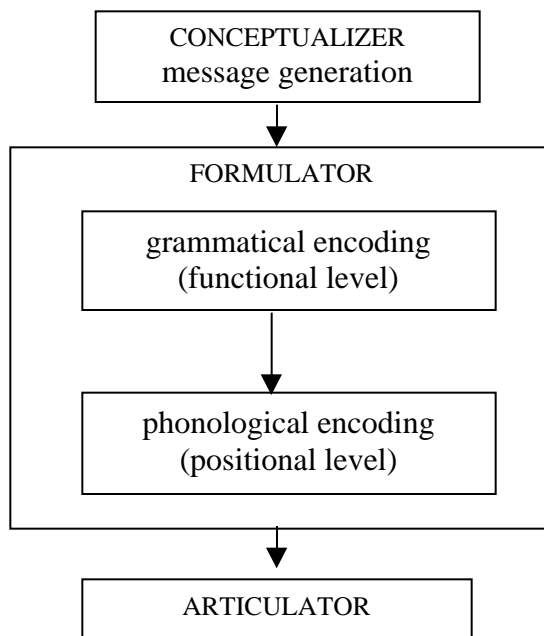
One independent argument for the presence of paradigms, the Basic Paradigm Requirement, can be directly falsified.

2 Pfau 2000: DM as a psychologically real model

Extant models of language production: Garrett (1975), Levelt (1989): phonological encoding is the last step of the production process.

Production proceeds by selection of lemmas — abstract morphosyntactic features & concepts, computation with them, and then 'phonological encoding' —spell-out.

8. Levelt 1989:



→ Motivation for Garrett, Levelt: errors in the production process can occur at the pre-phonological level (the ‘lemma’ level of grammatical encoding), implicating syntactic and semantic features, and at the phonological level, implicating phonological features.

Lemmas: units which are only semantically and syntactically specified

9. Original motivation: different kinds of substitution speech errors:

semantic:

- | | | | |
|----|---------|-----|----------|
| a. | Alkohol | for | Kalorien |
| | alcohol | | calories |
| b. | belt | for | collar |

phonological:

- | | | | |
|----|-----------|-----|-------------|
| c. | Urwald | for | Urlaub |
| | jungle | | holiday |
| d. | apartment | for | appointment |

Errors at the lemma level were like a-b, errors at the phonology level were ‘lookup’ errors, like c-d.

Look familiar?

DM Prediction 1: Errors at the lemma level should result in ‘accomodation’, i.e. spell-out of the terminal nodes by vocabulary items appropriate for the environment created by the error, rather than for the intended environment.

10. Zillions of cases of this:

number

- | | | | | | | |
|----|-----|-----------|-----|------|----------------|------|
| a. | ein | Buchstabe | ist | vier | Wört-er | lang |
| | a | letter | is | four | word-PL | long |

for

- | | | | | | | |
|--|-----|-------------|-----|------|--------------------|------|
| | ein | Wort | ist | vier | Buchstabe-n | long |
| | a | word | is | four | letter-PL | long |

- | | | |
|----|---------------|------------------|
| b. | ge-monat-ete | Arbeit-en |
| | PRT-month-PRT | work-PL |

for

- | | | |
|--|---------------|----------|
| | ge-arbeit-ete | monat-e |
| | PRT-work-PRT | month-PL |

gender

- c. irgendwie habe ich heute eine Zunge **im** Knoten
somehow have I today a.FEM tongue.FEM in.the.MASC knot.MASC

for

...einen Knoten **in der** Zunge
...a.MASC knot.MASC in the.FEM tongue.FEM

'negation'

- d. er hat **nicht** gesagt, dass es möglich ist, ich meine,
he has not said, that it possible is, I mean,

er hat gesagt dass es **unmöglich** ist.
he has said that it impossible is.

- e. I **dis**regard this as precise for I regard this as **im**precise

- f. The bonsai **didn't** die because I watered it
for
The bonsai died because I **didn't** water it.

tense

- g. I don't know that I'd **hear** one if I **knew** it
for
I don't know that I'd **know** one if I **heard** it.

- h. you're too good for that
for
that's too good for you

- i. they're just clouds that are **been** diverting
for
...that are **being** diverted

nominalizing, adjectivalizing, verbalizing affixes:

- j. er war nur darauf aus, seine Befriedig-**ung** zu bedürf-en
he was only interested in his satisfy-NOM to need-INF

for

... sein bedürf-**nis** zu befriedig-en
...his need-NOM to satisfy-INF

- k. I think it's care**ful** to measure with reason.
for
I think it's reason**able** to measure with care.

count-mass substitutions

- l. Soll ich schon **die Brötchen** aufsetzen?
Shall I already the roll.PL put-on?
for
....**den Kaffee**...
.....the coffee
- m. ...viele **Briefkästen** in meiner **Post**
...a lot of mailbox-PL in my mail
for
....viel **Post** in meinem **Briefkasten**
a lot of mail in my mailbox.SG

All of the above arise when two stems are switched. Crucially, in all cases, the stems in question trigger different kinds of allomorphy on surrounding VIs. That is, this type of error accommodation falls out naturally in a DM framework—the stems/roots are exchanged in the morphosyntax, and the attendant effects on vocabulary item insertion fall out.

Lexicalist architectures can't explain these effects in a natural way (not that most of them would try to). In particular, if you're dealing with actual phonological pieces all the way through, you either a) can't imagine dissecting a word in the above ways b) wrongly predict that it should be affixes which are stranded, not features c) have to put all the error-generation in the morphological component or d) have to account for these effects via a fairly complicated process of uncreating a non-accommodated wrong form and replacing it with an accommodated, but still wrong form. This latter very unlikely, though, for the agreement-type errors as in, e.g., (c) above.

→ In fact, DM makes a very strong prediction about phonological speech errors as opposed to semantic speech errors. In cases where an error is clearly a 'lookup' problem — triggered by phonological similarity rather than semantic similarity — the vocabulary items around the element should *not* accommodate, since the features which they care about have not changed with the lookup of the wrong phonological string. Pfau has 33 cases of noun substitution in his corpus where a) accommodation would be possible, i.e. the nouns differ in some agreement-triggering feature and b) it's possible to be sure whether the substitution was phonological or semantic. Here's how the accommodation breaks down:

11.

Noun Error Type	Accommodation?	
	Yes	No
meaning-based	21	0
form-based	1	11

In other words, the facts are exactly as DM would predict.

→ Other aspects of DM which Pfau takes as making good predictions for errors:
 Agreement in DM accounted for (sometimes) by insertion of Agr nodes in the MS component. Subj-Verb-Agreement errors seem to depend heavily on linear adjacency/closeness: linear adjacency is relevant at MS but not in the syntax. So, e.g., you get errors like this in German (where the object immediately precedes the verb, rather than the subject):

12. das **es** hier konzeptuelle **Einflüsse** geb-**en** for ...gib-**t**
 that it.**sg** here conceptual influence.**pl** give-**PL** ...give-**SG**

→ this result directly contradicts the predictions of ‘feature percolation’ theories of subject-verb-agreement errors, according to which the wrong features ‘percolate’ up in their containing clause and are then copied onto the verb via regular agreement processes. Only in a linear sense, not in a structural sense, are the features of the object close to the verb in ex. like (12). Pfau’s pattern of errors in German is markedly diff. from that in English, where the subject precedes the verb almost invariably. The linear order account makes diff. predictions for German and English, but the percolation account does not; the linear order account is closer to the facts.

All of that is great but -- one small hitch. In order to get, e.g, semantic errors of the type listed in 9 above at all, the roots which are being misjuggled by the syntax must be specified in the syntax. (also makes for a more plausible notion of production, much more like Levelt’s model -- possibly). But the notion of ‘cat as a phrasal idiom’ makes this idea taboo in DM.

Pfau’s suggestion: the place-holding roots enter the derivation with a little index on them to show what concept they belong with (although he insists that this index is just a diacritic, not associated with any semantics). Then Vocab Insertion of the roots will be deterministic as well.

Alternative: dual-route spreading activation for roots?

Anyway, given the index convention, we can see a nice prediction of the categorilessness of DM roots come through in the production errors: errors where a noun & verb exchange places, or a noun & adj, or v & adj, etc. , should be possible. In fact, they turn up:

13. a. schreib-t man das mit Binde-**schrift** ...Binde-**strich**
 write-3sg one that with connect-writing...connect-line

b. Rauch-**züg**-e for Rauch-wolk-en .. **zieh-en**
 smoke-drifting-PL smoke-cloud-PL drift-3plpres

c. The gardener has to **die** the **pulled up** flowers ...pull up the dead fl