The issue:

(1) Does knowledge of language (grammar) include paradigms (or paradigm structures)?
    [i.e., above and beyond constituent morphemes & rules / constraints for combining them]

Why is this interesting?

Morphological theory has largely converged on the answer “no” (though with important exceptions—see below). (For a recent OT expression of this view, see Müller 2002.)

This is particularly true of Distributed Morphology, which is incompatible with Word-and-Paradigm approaches to morphology.

If paradigms are not a part of grammar
then properties of paradigms cannot determine other aspects of grammatical behaviour.

Müller: “the notion paradigm emerges as an epiphenomenon without theoretical significance”

but…

Work which interfaces with morphology (in syntax and phonology) frequently makes crucial reference to paradigms.

“Morphology-Driven Syntax”: Cross-linguistic differences in verb-raising are explained by differences in the languages’ inflectional paradigms (influential in acquisition). (Rohrbacher 1999, see also Vikner 1997)


How is this tension to be resolved?

(a) The patterns that motivate paradigms have been misanalysed or are spurious.

(b) The patterns are real, but they don’t necessarily argue for paradigms (i.e., they don’t distinguish among competing theories)

(c) Paradigms are real; D.M. and other paradigm-free theories are wrong.

Where we’re headed:

The available evidence falls under (a) or (b). Where the theories are distinct, current proposals for paradigms make the wrong predictions.

Since most theories that use paradigms don’t actually motivate them, this will take some work to get to.

Today:

Part I - Williams’s 1994 theory of paradigms / syncretism

Part II - Paradigm Uniformity in Morphology

(2) a. PARADIGM-BASED THEORY

<table>
<thead>
<tr>
<th>Present</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 psn</td>
<td>play</td>
<td>played</td>
</tr>
<tr>
<td>2 psn</td>
<td>play</td>
<td>played</td>
</tr>
<tr>
<td>3 psn</td>
<td>plays</td>
<td>played</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Past</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense (2)</td>
<td>-d</td>
<td>PAST</td>
</tr>
<tr>
<td>Number (2)</td>
<td>-z</td>
<td>3 SG</td>
</tr>
<tr>
<td>Person (3)</td>
<td>-ø</td>
<td>default / elsewhere</td>
</tr>
</tbody>
</table>

Abstractions: this is part of a larger system, incl. phonology, etc… (see below)

b. VOCABULARY/MORPHEME-BASED THEORY

ACTIVE FEATURES = VOCABULARY ITEMS = RULES OF EXPONENTE

The paradigm in (2a) will be generated/deduced from (2b), with the logic of disjunctivity:

Paradigms
1.2 Meta-paradigms, or systematic patterns of syncretism

One answer: “the pattern of syncretism is a quite abstract structure, standing above particular words, particular rules, particular suppletive relationships.” (Williams 1994:26)

(3) The fact that (past) tense blocks agreement in English is not a property of the individual vocabulary item “-ed” as the notation in (2b) would suggest. Rather, it is a general property of English (ignoring be) regardless of the past tense and participial affixes (of which there are four: -n, “-en” ={ -d, -t, -d}, -t, and Ø)¹:

- n PAST, PARTICIPLE / {list of verbs}
- t PAST / {dwell____}
-Ø PAST / {beat____}
- ed PAST
- s 3 SG
-Ø = default / elsewhere

(4) The past tense of dwell, which takes a phonologically unexpected -t, nevertheless respects the general syncretism pattern of English in that the tense marker is (a) unspecified for person/number, and (b) bleeds/blocks the 3sg agreement.

(5) Irregular verbs are regular. We don’t find (in English, excluding be):

a. -t PAST, 3PL. {dwell____}
- ed PAST
- s 3 SG
-Ø = default / elsewhere

a yielding… They dwelt, We dwelled, … (special form only in 3pl, past)

The claim amounts to saying that part of the grammar of English is the structure in (6) in addition to the various pieces that will fill the cells. Williams claims (in effect) that this structure is learned.

(6)

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
<th>Present</th>
<th>Past</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 psn</td>
<td>2 psn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

¹ All four affixes occur with and without triggering vowel (or other stem) changes, hence the two are logically distinct; see Halle & Marantz 1993, Noyer 1997; but see Burzio 2002.

Accepting that such static (non-predictive) patterns are to be explained by the theory, does the (descriptive) existence of meta-paradigms provide the right kind of evidence to distinguish among the competing theories?

No.

(7) a. The effects of meta-paradigms can be captured/stated on either (kind of) theory.

b. The existence of meta-paradigms does not follow from the basic properties of either theory.

Nevertheless, if there are UG restrictions that must be stated on meta-paradigms; these do have the potential to distinguish among the theory types; a paradigm-free theory such as DM has no way to state such restrictions.

1.2.1 Meta-paradigms without paradigms.

The same argument can be replicated in many other domains. For example, in Russian (and German, and French), gender distinctions are lost in the plural.

(8) Nominative pronouns: M. on on-i F. on-a on-i N. on-o on-i

(9) a. ACTIVE FEATURES
b. VOCABULARY ITEMS:  

Halle 1997:428

<table>
<thead>
<tr>
<th>3 genders</th>
<th>plural (or /y/)</th>
<th>masculine</th>
<th>feminine</th>
<th>neuter</th>
</tr>
</thead>
<tbody>
<tr>
<td>-/i/</td>
<td>-/a/</td>
<td>-/o/</td>
<td>elsewhere (“O” = yer)</td>
<td></td>
</tr>
</tbody>
</table>

At face value Halle’s treatment, it is a property of the vocabulary item -/i/, specifically, it’s position in the disjunctively ordered list, that blocks gender suffixes from surfacing in the plural.

But, it is a general property of Russian inflectional morphology that no matter how irregular the form gender is never distinguished in the plural.

(10) Accusative pronouns: M. jego ix F. jejo ix N. jegio ix

(11) Adjectives (nominative): M. -yj -yje F. -aja -yje N. -oje -yje etc…

(12) The Russian Meta-Paradigm:

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masc</td>
<td>A</td>
</tr>
<tr>
<td>Fem</td>
<td>B</td>
</tr>
<tr>
<td>Neut</td>
<td>C / A</td>
</tr>
</tbody>
</table>
Williams 1981, 1994 proposes a particular theory of paradigms, sketched below (his 1994: (35), p.24). In the interests of time, I will try to extract the key properties of the system out of the notation.

```
V^A
finite    infinitive

pres  past^A  perf^B  inf

sg: 1° 2 3° 1° 2 3° 1 2 3
pl: 1 2 3 1 2 3 1 2 3
```

“The terminal nodes are the actual cells of the paradigm. The starred nodes [=nodes with superscripted letters -JDB] are the nodes to which actual forms are assigned. By convention, a cell is filled by the nearest specified [i.e., marked -JDB] form above it.”

(14) $V^A = \text{write}$  $\text{past}^A = \text{wrote} - \emptyset$  $3^b = \text{writes}$  $\text{perf}^B = \text{written}$

$V^A = \text{prove}$  $\text{past}^A = \text{proved} - d$  $3^b = \text{proves}$  $\text{perf}^B = \text{proven}$

(15) Degree of syncretism may vary from sub-paradigm to sub-paradigm. For example, the English verb *be* marks more distinctions than do the regular verbs, which in turn mark more distinctions than the modals (some of which arguably mark something like non-past vs. “past” -subjunctive).

a. *be* — *is* - am - are — was (was) - were — been  = $C, B, A$

b. *write* — *writes* — *wrote* — (written) = $B, A$

c. *may* — *might* — *o* = $A$

Williams’ approach to Meta-Paradigms has two components:

- Hierarchical organization of the features that define the paradigm space.
- Diacritic, language particular marking of nodes, as points of insertion.

Each of these has analogues in paradigm free theories, hence, to the extent the theories can be made to do the same things, there is no argument either way.

For the particular cases at hand, a simple hierarchy ordering tense morphemes prior to agreement morphemes across the board will suffice (mutatis mutandis, number before gender). Such hierarchies appear to be independently necessary (i.e., when the elsewhere/subset principle does not determine order, see Lumsden 1987, Noyer 1997), may have cross-linguistic validity, and are part and parcel of the theory of paradigms in Williams 1981, 1994 hence not contended here.

More subtle, the point of insertion. What exactly do these achieve?

- In essence, the points of insertion define underspecification relative to the morphosyntactic feature structure, i.e., prior to vocabulary insertion.

For example, node “perf^B” dominates 6 person/number combinations, none of which has its own superscript:

Result: Regardless of the particular exponent of “perfect participle” perfect participles will not bear agreement

Compare:


[ person, # ] Ø / [ perfect ]

Result: Regardless of the particular exponent of “perfect participle” perfect participles will not bear agreement

(17) Russian Impoverishment (hypothetical)

[ gender ] Ø / [ plural ]

Result: Meta-Paradigm in (12)

- Impoverishment Rules constitute manipulations of the morphosyntactic representation, after the syntax but _prior_ to the vocabulary insertion rules (e.g., plural subjects are still plural in the past tense). They _effect constraints on what is a possible vocabulary item in a given language._

- Williams’ insertion points constitute constraints on what parts of the morphosyntactic representation may feed the vocabulary insertion rules. They _effect constraints on what is a possible vocabulary item in a given language._

- Note: Impoverishment removes the reliance on extrinsic rule ordering implicit in the presentations above. See Bobaljik 2002.

(18) Recap: Meta-paradigms do not come for free on any type of theory. Meta-paradigms can be added in to either type of theory.

Therefore: the existence of meta-paradigms alone does not bear on the choice among theories.

- What does bear on the choice is purported generalizations over meta-paradigms Williams 1981, 1994

---

2 Even though the noun *sheep* does not morphologically distinguish singular and plural, it would be wrong to consider it underspecified for number in the syntax:

_The sheep have seen themselves / has seen itself_

*The sheep has seen themselves, *The sheep have seen itself._
1.3 Subsumption / The Basic Paradigm Hypothesis

“The empirical content of the theory outlined thus far consists in this: the structure of this tree is independent of particular nouns, of particular genders, and of particular declensions. This predicts that the possibilities of syncretism will be the same in each declension, in each gender, and in each noun. It also predicts that the same possibilities of syncretism exist within the singular and the plural.” Williams 1981:268

(19) Williams notes that the degree of syncretism in a language may vary from sub-paradigm to sub-paradigm. For example, the English verb *be* marks more distinctions than do the regular verbs, which in turn mark more distinctions than the modals (some of which arguably mark something like non-past vs. “past” <subjunctive).

a. be — is - am - are — was (was)- were — been =C,B,A

b. write — writes — wrote — (written) =B,A

c. may — might — * =A

(20) The annotations in the tree above describe this:

<table>
<thead>
<tr>
<th></th>
<th>finite</th>
<th>infinitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>pres</td>
<td>past</td>
<td>perf</td>
</tr>
<tr>
<td>sg: 1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>pl: 1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

(21) Williams 1994:27 proposes a condition on meta-paradigms such that there is one instantiated basic paradigm, such that all other paradigms mark a subset of the distinctions of the basic paradigm. E.g., for English, “the verb to be is the basic paradigm.”

(22) In brief: (F1, F2, F3 are morphological categories or features or whatever)

if for some class F1=F2=F3, and for another class F1[F2=F3
then for some other class F1[F2=F3

(23) The Basic Paradigm Requirement:

<table>
<thead>
<tr>
<th>feat 1</th>
<th>feat 2</th>
<th>feat 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>C</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

(24) Russian Nominal Declension (regular endings shown: this holds for “irregular” nouns as well, cf. ‘mother’ NOM.PL: *materi, ACC,GEND.GEN materej*.)

<table>
<thead>
<tr>
<th></th>
<th>Masc</th>
<th>Masc</th>
<th>Feminine</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>-Ø</td>
<td>-y</td>
<td>-Ø</td>
<td>-y</td>
</tr>
<tr>
<td>ACC</td>
<td>-a</td>
<td>-ov/Ø...</td>
<td>-Ø</td>
<td>-y</td>
</tr>
<tr>
<td>GEN</td>
<td>-a</td>
<td>-ov/Ø...</td>
<td>-a</td>
<td>-ov/Ø...</td>
</tr>
</tbody>
</table>

(25) Russian Adjectival Declension - same meta-paradigms

<table>
<thead>
<tr>
<th></th>
<th>Masc</th>
<th>Masc</th>
<th>Feminine</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>-yj</td>
<td>-yje</td>
<td>-yj</td>
<td>-yje</td>
</tr>
<tr>
<td>ACC</td>
<td>-ogo</td>
<td>-yx</td>
<td>-yj</td>
<td>-yje</td>
</tr>
<tr>
<td>GEN</td>
<td>-ogo</td>
<td>-yx</td>
<td>-ogo</td>
<td>-yx</td>
</tr>
</tbody>
</table>

This is true of all aspects of Russian nominal declension, including “irregular” nouns, pronouns, proper names, derivational suffixes with “weird” paradigms (-onok, -anin, etc.)

(26) Russian Nominal / Adjectival Declension (Fem. sg.)

<table>
<thead>
<tr>
<th></th>
<th>Feminine Noun</th>
<th>Feminine poss. pron</th>
<th>Feminine Adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>-a</td>
<td>moj-a</td>
<td>-aja</td>
</tr>
<tr>
<td>ACC</td>
<td>-u</td>
<td>moj-u</td>
<td>-uju</td>
</tr>
<tr>
<td>GEN</td>
<td>-y</td>
<td>moj-ej</td>
<td>-oj</td>
</tr>
</tbody>
</table>
• But, when we look at the full paradigm, there’s another exceptionless generalization to be made:

**All** (sub-)paradigms that distinguish all three of nominative, accusative and genitive systematically fail to distinguish Dative from Prepositional.

The feminine singular (even the most irregular, idiosyncratic of feminine nouns) cannot constitute the basic paradigm for Russian, as defined above.

(27) **Russian Nominal / Adjectival Declension (Fem. sg.)** [expanded]

<table>
<thead>
<tr>
<th>Feminine Noun</th>
<th>Feminine poss. pron</th>
<th>Feminine Adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>-a</td>
<td>-aja</td>
</tr>
<tr>
<td>ACC</td>
<td>-u</td>
<td>-uju</td>
</tr>
<tr>
<td>GEN</td>
<td>-y</td>
<td>-o(j)</td>
</tr>
<tr>
<td>INSTR</td>
<td>-o(j)</td>
<td>-o(j)</td>
</tr>
<tr>
<td>DAT</td>
<td>-e</td>
<td>-o(j)</td>
</tr>
<tr>
<td>PREP</td>
<td>-e</td>
<td>-o(j)</td>
</tr>
</tbody>
</table>

Conversely:

**All** (sub-)paradigms that distinguish Dative from Prepositional systematically fail to distinguish Accusative from either Nominative or Genitive.

(28) **Russian Nominal / Adjectival Declension** [expanded]

<table>
<thead>
<tr>
<th>Masc Sg Noun</th>
<th>Fem. Pl.</th>
<th>Plural Adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>-Ø</td>
<td>-y</td>
</tr>
<tr>
<td>ACC</td>
<td>-a</td>
<td>-(y)</td>
</tr>
<tr>
<td>GEN</td>
<td>-y</td>
<td>-(y)</td>
</tr>
<tr>
<td>INSTR</td>
<td>-o(m)</td>
<td>-y(m)</td>
</tr>
<tr>
<td>DAT</td>
<td>-o</td>
<td>-y(m)</td>
</tr>
<tr>
<td>PREP</td>
<td>-e</td>
<td>-y(x) (=gen)</td>
</tr>
</tbody>
</table>

1.4 **Interim Conclusions (Part 1)**

There is no “basic paradigm” in Russian.
(There is also no “basic paradigm” in Latin.)

- It does not seem to be possible to make the “basic paradigm” a requirement of U.G.

• A theory which incorporates such a notion is too restrictive, it undergenerates.

Note: This is a property of Williams’s theory, not of paradigm theories generally. However, recall that this particular property was the one that does not translate into the paradigm-free theory; that’s why it was important to look at this property—it had the potential to constitute a decisive argument in favour of paradigms.

2. **PARADIGM UNIFORMITY**

Surface resemblances among morphologically related words are sometimes surprising from a synchronic phonological perspective.

(29) a. light **en** ing (participle) is related to light **en**
b. light **n** ing (noun) shows alternative syllabification possible.

(30) To what degree do such relatedness effects require the notion of a paradigm?

Where they do, they have the potential to establish an argument for paradigms.

(31) Cycle = Base-Priority (Benua 2000)

‘similarity effects should only arise between a derivative and a subconstituent, and … it will always be the derivative that is [made] to conform to the subconstituent’

(Kenstowicz 1995:3)

(32) [light] Æ [light + n] (/n/ is syllabic) Æ [lighten + ing] ([n] retains its syllabicity)

(33) Effects which are cyclic thus do not inherently imply a paradigm.

(34) Three (non)-arguments for paradigms:

a. Paradigmatic relationships determmine which constituents will and will not constitute cyclic domains. (Kenstowicz 1995) & (McCarthy 2001).

b. Similarity effects are not directional: the base is sometimes required to conform to a derivative.

Traditional notion in historical linguistics - the question here is: what role does it play in the synchronic grammar?
2.1 Itelmen syllabification

See Bobaljik 1998 for discussion, additional data, clarification and caveats (exceptions).

Schwa = zero alternations (nouns) NB: ːːːː glottalized ‘n’

<table>
<thead>
<tr>
<th>Bare noun</th>
<th>C-initial suffix</th>
<th>V-initial suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>ǝǝǝǝ</td>
<td>‘sable’</td>
<td>ǝǝǝǝ (PL)</td>
</tr>
<tr>
<td>ǝǝǝǝ</td>
<td>‘wind’</td>
<td>ǝǝǝǝ (LOC)</td>
</tr>
<tr>
<td>ǝǝǝǝ</td>
<td>‘road’</td>
<td>ǝǝǝǝ (ABL) ǝǝǝǝ (LOC)</td>
</tr>
</tbody>
</table>

Consonant clusters may be arbitrary length, but [+sonorant] consonants must be adjacent to a vowel. (m, n, ð, r, l, z) (no evidence for glides)

Verb roots do not show alternations:

<table>
<thead>
<tr>
<th>Verb stem</th>
<th>C-initial suffix</th>
<th>V-initial suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>/kaps/</td>
<td>‘price’</td>
<td>Kap-i</td>
</tr>
<tr>
<td>/Eps/</td>
<td>‘not have’</td>
<td>Eps-Ess-E</td>
</tr>
</tbody>
</table>

The form of the verb root is constant throughout the paradigm.

The cyclic account is forced to stipulate the difference in cyclicity between nouns and verbs. There are two arguments from the paradigm-uniformity literature that suggest that such differences can be derived by (and only by) explicit reference to paradigms. Showing that either of these makes the right predictions would constitute an argument for paradigms.

2.1.1 Base Identity (Kenstowicz 1995)

Korean (younger Seoul variety):

Nouns: Underlying final clusters simplify in the citation form (bare root) of the noun. The simplification over-applies in the nominative, by Base-Identity.

Verbs: The verb root cannot stand on its own as a word. Base-Identity is irrelevant, and simplification shows an alternation.

Korean: Only the noun root constitutes a cyclic domain; this is because only the noun root occurs as an independent word.
The noun / verb asymmetry is explained by reference to paradigmatically related words.

- Does not generalize to Itelmen (exactly the opposite).

(NB. Evidence that UR is ever /kaps/ as opposed to /kap/ ? Cf. Kim-Renaud 1986:38)

2.1.2 Optimal Paradigms I (McCarthy 2001)

Classical Arabic verb templates must end in CVC, cannot end in CV:C or CVCC. Classical Arabic noun templates may end in any of these forms.

Syllable-final consonants are moraic. + *[µµµ]

CV:C] and CVCC] can only survive before a vowel-initial suffix, otherwise will simplify (and neutralise) to CVC

Paradigm Uniformity (= Optimal Paradigm) will ensure that simplification (hence neutralisation) in one member of the paradigm will apply uniformly.

Verbs have C-initial and V-initial (inflectional) suffixes; hence the pattern of syllabification before C-initial suffixes + Paradigm Uniformity will cause CV:C Æ CVC even before vowel-initial suffixes.

Optimal-Paradigms (plus an Arabic-specific constraint ranking) will cause CV:C] and CVCC] always to neutralize to CVC] in verbs, because verbs sometimes take C-initial suffixes, hence CV:Ç and CVCC] are unusable. (by 'Stampean occultation' Prince & Smolensky 1993)

Nouns have only vowel-initial (inflectional) suffixes. Since they never occur before a consonant-initial suffix, they are never forced to simplify (within the paradigm).

The noun / verb asymmetry is explained by reference to the other members of the paradigms.

- Does not generalize to Itelmen (both nouns and verbs have both C- and V-initial suffixes).

Note that this particular part of McCarthy’s discussion is directly replicable on a cyclic / Base-Priority account, taking the verb stem (but not the noun stem) to constitute a cyclic domain.

If the stem (prior to suffixation) is evaluated with respect to *[µµµ], the simplification and neutralization effects will follow straightforwardly:

...CVC] ...CV:C] Cycle I

...CVC] ...CVC] Closed syllable shortening *[µµµ]

...CVC] + suffix ...CVC] + suffix

2.1.3 Optimal Paradigms II (McCarthy 2001)

Another section (4.2) of the Optimal Paradigms paper addresses the left edge of the templates, arguing that here the N/V asymmetry crucially requires reference to derived forms.

This argument has the right form, but is, as far as I can tell, internally flawed.

(44) “At the left edge of the verb stem, the permitted structures are richer than in the noun. Verb stem templates can begin with [CV or [CCV sequences, but noun stems (except for nominalized verbs) can only begin with [CV. As I will show, this difference follows from the fact that verbs have CV-inflectional prefixes, but nouns do not. The idea is that the presence of a CV-prefix in the imperfective verb licenses a following consonant cluster, and this cluster carries over to the prefixless perfective through the agency of OP faithfulness.” (p.23)

No noun surfaces as: * [ ][ ][ ] if underlying, epenthesis ☐ [ ][ ][ ]

Verbs may surface as: sta[ ][ ][ ]

Why are initial clusters licit in the verb, but not in the noun?

Step 1: (pp.23-24)

Assume that the initial consonant in such a cluster is parsed as a word-appendix

This violates a markedness constraint: Exh(PrWd)

This markedness constraint is ranked higher than the prohibition on epenthesis, hence:

(45) ![Table]

(46) “Since nouns do not inflect with prefixes, the epenthized form [ ][ ][ ] will appear throughout the paradigm of * [ ][ ][ ]. The resulting paradigm is indistinguishable from the paradigm derived faithfully from the input * [ ][ ][ ]. By the logic of Stampean occultation, there are no [CCV noun templates in Arabic because the grammar always maps them onto surface forms with [CV templates.” (p.24)

Step 2: (pp.24-25) So why are the clusters allowed in the verb?

Two constraints crucially outrank Exh(PrWd).

One is OP-Dep-V: If you epenthize anywhere in the paradigm, you must epenthize throughout.

The other is No-LL: No two consecutive light syllables, presumably a stand-in for something else.

(Note that No-LL is in turn crucially outranked by IO-Max-V which blocks syncope).
Perfective: \( st\)\( \text{H} \text{ž} \text{C} \text{N} \) Imperfective: \( \text{L} \text{C} \text{s} \text{t} \text{a} \text{H} \text{ž} \text{K} \text{N} \text{W} \)

<table>
<thead>
<tr>
<th></th>
<th>/( \text{staH} \text{ž} \text{C} \text{N} )/</th>
<th>( \text{IO-Max-V} )</th>
<th>( \text{No-LL} )</th>
<th>( \text{Exit(PrWd)} )</th>
<th>( \text{IO-Dep-V} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>( \text{staH} \text{ž} \text{C} \text{N} )</td>
<td>( \ast )</td>
<td>( \ast )</td>
<td>( \ast )</td>
<td>( \ast )</td>
</tr>
<tr>
<td>b.</td>
<td>( \text{staH} \text{ž} \text{C} \text{N} )</td>
<td>( \ast )</td>
<td>( \ast )</td>
<td>( \ast )</td>
<td>( \ast )</td>
</tr>
<tr>
<td>c.</td>
<td>( \text{s} \text{t} \text{a} \text{H} \text{ž} \text{C} \text{N} )</td>
<td>( \ast )</td>
<td>( \ast )</td>
<td>( \ast )</td>
<td>( \ast )</td>
</tr>
</tbody>
</table>

a. = no epenthesis  
b. = epenthesis in prefixless form only  
c. = epenthesis in both prefixed and prefixless forms

“Exit(PrWd) would be expected to trigger epenthesis in unprefixed forms… and this epenthesis would be expected to carry over to prefixed forms by OP faithfulness. But No-LL blocks epenthesis in the prefixed form, and OP faithfulness carries this blocking effect back to the unprefixed form, blocking epenthesis there too.”

“This result … is an expected consequence of the OP model: the blocking of a process in one form, where it is not motivated phonologically, also blocks the process in another form, where it is motivated phonologically. The influences of OP faithfulness are fully symmetrical within paradigms, so there is two-way flow of information.” (pp. 25-26, italics added)

**Step 3**: (missing)

Nouns have only vowel-initial suffixes.

Hypothetical noun stem in Step 1 has a long vowel: /\( \text{i} \text{i} \text{i} \text{i} \)/

If it had a short vowel, things would be different in suffixed forms.

Sequences of light syllables exist; the effects of No-LL emerge only to block epenthesis. (p.26):

<table>
<thead>
<tr>
<th></th>
<th>/( \text{kutub-un} )/</th>
<th>/( \text{kutubun} )/</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>( \ast )</td>
<td>( \ast )</td>
</tr>
<tr>
<td>b.</td>
<td>( \ast )</td>
<td>( \ast )</td>
</tr>
<tr>
<td>c.</td>
<td>( \ast )</td>
<td>( \ast )</td>
</tr>
</tbody>
</table>

\( \text{IO-Max-V} \quad \text{No-LL} \quad \text{Exit(PrWd)} \quad \text{IO-Dep-V} \)

Given V-initial suffixes, Stampean occultation does not apply here, on the basis of what is available from the discussion in the paper.

Including the suffixes in the paradigm formed the basis for the argument about the noun / verb asymmetries at the right edge.

**2.1.4 Section Summary**

“The analysis of Arabic templates sets in clear contrast the differences between OP and serial-derivation models.” (McCarthy, p.2)

This is quite true (of the prefixes).

If facts about the phonology of unprefixed verb forms depend crucially and solely on facts about the phonology of the prefixed forms,

then we would have evidence that some type of transderivational (possibly paradigmatic) relationships—beyond “is derived from”—are visible to the grammar.

The Cyclic / Base-Priority hypothesis would be falsified.

But neither McCarthy nor Kenstowicz meet the burden of demonstrating this.

Important note: nothing I have said here bears directly on the derivation vs. representation issue nor on whether rules versus constraints are important. The cyclic hypothesis is logically independent of these (cf. Benua).
2.2 (Aside) Curious consequences of OP

McCarthy notes one consequence of OP is that, under a certain set of circumstances, OP will enforce a "majority rules" effect, and offers an example from Moroccan Arabic.

The placement of schwa in the verb root differs before C-initial and V-initial suffixes.

The suffixless form behaves as if followed by a C, due to preponderance of C-initial suffixes in the paradigm.

What happens in ‘defective’ paradigms?

Back to Itelmen, above.

<table>
<thead>
<tr>
<th>Verb stem</th>
<th>C-initial suffix</th>
<th>V-initial suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>¹O³</td>
<td>³EG!P</td>
<td>¹O³</td>
</tr>
<tr>
<td>'kill'</td>
<td>³EG³</td>
<td>³EG³</td>
</tr>
<tr>
<td>1SG-kill-1&gt;3pl.</td>
<td>'I killed them'</td>
<td>'kill it!'</td>
</tr>
<tr>
<td>²IMP-kill-2&gt;3sg</td>
<td>³KP</td>
<td>³KP</td>
</tr>
<tr>
<td>'I killed them'</td>
<td>'it was windy'</td>
<td>'it is windy'</td>
</tr>
</tbody>
</table>

The form of the verb root is constant throughout the paradigm.

It always has the form it would have before consonant-initial suffixes.

= Over-application (of epenthesis) due to Paradigm Uniformity:

But: The verb meaning 'to be windy' occurs only in the third person intransitive for which the suffix is vowel initial.

□ The OP system predicts that a form with a defective paradigm would have a different phonological behaviour, if, e.g., semantic defectiveness excluded C-initial suffixes!

(This turns out not to arise in Itelmen, due to a C-initial aspectual suffix compatible with ³KP)

Similarly,

Although the total paradigm in Moroccan Arabic has more C-initial suffixes than V-initial suffixes, this is not true in the imperfective:

For a verb which lacks perfective forms (is restricted to the imperfective), the ‘balance’ in the paradigm would shift, and hence, it’s phonological behaviour should also shift.

(This is not inconceivable: a partial list of verbs lacking perfective aspect forms in Russian is given in Pulkina & Zakhava-Nekrasova 1988:308, incl. značit’ ‘to mean’, udírivovat’ ‘to participate’ etc.; gaps in English: I stride, I strode, ??I have stridden).

3. GENERAL CONCLUSIONS

Are paradigms part of grammatical knowledge? Or does grammatical knowledge contain only the pieces which go into making up paradigms; the ingredients, but not the final product? In this talk, we have seen some places where the two theories can potentially be distinguished.

Where the paradigm theory included information above and beyond what the ingredients-only theory provides, it was shown that grammar does not appear to make use of this extra information.

In the realm where the paradigm theory could be made to be more restrictive, it was seen to be too restrictive. (The Basic Paradigm Hypothesis is incorrect, section 1)

What about syntax-phonology correlations?

Once again, where the theories make the same range of predictions, the differences are not interesting and importantly cannot be said to constitute an argument for paradigms.

Where theories crucially rely on paradigms (i.e., in order to make diverging predictions), the predictions appear to range from not sufficiently general to incorrect.

Distributed Morphology is deterministic, local and concatenative. The only relationship among ‘words’ that is important (usable by the grammar) is that arising from concatenation: “contains”—the Cyclic / Base-Priority Hypothesis. This is inconsistent with any role for ‘paradigmatic’ effects.

Despite claims (or more often, presuppositions) to the contrary, this strong thesis does not appear to be threatened by the available evidence.

Going further (?): we know what cases of real paradigm influences would look like. But every time we look at them, they don’t pan out.

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