Summary: I argue that nonderived environment blocking (NDEB) is the result of an opaque interaction between a component that constrains possible URs in the lexicon and the usual phonological component that maps URs into surface forms. I present several arguments for this approach over previous proposals. This amounts to an argument for a dual-component architecture of phonology and against the elimination of constraints on URs (the principle of Richness of the Base in OT).

The problem: In standard NDEB cases, which I exemplify using Finnish assimilation (Kiparsky, 1973), a phonological process (t → s /_i) applies across morphemes boundaries ([halut-a]-[halus-i]) or morpheme-internally when fed by a prior phonological process (final-vowel raising, [vete-nå]-[vesi]) but is otherwise blocked from applying ([tïla], [äiti]).

Architecture: My claim is that NDEB supports a component that restricts possible URs in the lexicon. I will have nothing to say about the phonological formalism (e.g., rule-based or constraint-based) or the nature of lexical representations (e.g., underspecified or fully specified). To make the proposal explicit, I will adopt a ruled-based formalism and underspecification, but these choices are arbitrary. The architecture, which I now describe, is schematized in the box below. **The alphabet:** A phonological grammar includes an inventory of feature bundles, the elements of which can be concatenated: if k,a,t ∈ Σ, then {kat} and {taka} are possible concatenations, among others. **Constraints on URs (CURs)** come in two forms: a) constraints on the alphabet: language-specific restrictions of Σ to a subset Σ′ ⊂ Σ; if x /∈ Σ′, then {bax} is not a possible concatenation of the elements of Σ′; b) morpheme structure rules, which are formally identical to regular rules. **Generating URs:** URs are generated in two steps. Step I: concatenate elements from Σ′. Step II: apply morpheme structure rules. **Underspecification:** the elements of Σ may be underspecified for some of their features (e.g., T stands for a voiceless alveolar underspecified for CONT). Underspecified features are later filled by morpheme structure rules or by phonological rules. Both types of rules may be feature-filling. For example, if assimilation is feature-filling (T → s /_i), it applies to underspecified /T/ but not to fully-specified /t/.

<table>
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<tr>
<th>Σ′ → {CONCATENATION}</th>
<th>Morpheme structure rules</th>
<th>Phonological rules</th>
<th>[SR]</th>
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Analysis: Consider first a hypothetical grammar with two feature-filling rules: (1) assimilation: T → s /_i and (2) “anti-assimilation”: T → t /_i, where (2) is ordered before (1). A UR like /Ti/ surfaces as [ti]: (2) applies first and removes the environment for (1) by specifying T as [-cont]. This interaction is at the core of my proposal: assimilation is blocked in environments present at the stage of the derivation when anti-assimilation applies. Assimilation only applies to environments created in later stages of the derivation. **The grammar:** CURs: (1) t /∈ Σ′, (2) T → t /_i. **Phonological rules:** (3) T → s /_i, (4) T → t. The two CURs require that /t/ occur only before /i/ in URs; /T/ occurs elsewhere. When possible, assimilation (3) applies to /T/, which is otherwise specified as [t] by the elsewhere rule (4). **Derivations:** Morphological NDEB: Consider the derivation of [tilas-i] (alternating with [tilat-a]). Here assimilation applies between two morphemes but not within the stem. First, morpheme struc-
Phonological rules apply to \{TilaT\} and \{i\}, yielding the URs /tilaT/ and /i/. Phonological rules apply to /tilaT-i/: /Ti/ (but not /ti/) satisfies the environment for assimilation, yielding [tilaT-i]. The derivation of [tilat-a] is similar: here assimilation does not apply in /tilaT-a/, but the elsewhere rule (4) does, yielding [tilat-a]. **Phonological NDEB:** nothing further has to be said. The derivation of [vesi] starts with \{veTe\}, anti-assimilation does not apply, leaving T underspecified, and the environment for assimilation is met after vowel raising.

**Previous proposals:** For Kiparsky (1993), the input-output mapping is identical to mine: assimilation is a feature-filling rule and the distinction between application and misapplication corresponds to underspecification (/T/) vs. full specification (/t/). The absence of CURs leads to over-generation: the underlying distribution of /T/ and /t/ remains an accident of the Finnish lexicon; nothing prevents /t/ from occurring root-finally and incorrectly blocking assimilation before a suffix-initial /i/. The grammar incorrectly generates ungrammatical SRs such as *[hirat-i]. In approaches such as the **Strict Cycle Condition** (Mascaró, 1976) and **Colored Containment** (van Oostendorp, 2006), a sufficient condition for application in cases of morphological NDEB is that the triggering environment spans two morphemes. Romanian palatalization (Steriade, 2008a) suggests that this characterization is incorrect. The process \(k \rightarrow tf / - \{e, i, j\}\) applies across a morpheme boundary ([mak]-[matj]) and is blocked morpheme-internally ([rokie], [unkj]), but when a stem-final vowel is deleted before the suffix ([bere]-[berj]), palatalization of a stem-penultimate /k/ is blocked exactly when the deleted vowel had been a palatalization trigger ([p̃duke]-[p̃dukj] vs. [minekə]-[minetj]). This behavior is predicted by the current approach, as the presence of a palatalization trigger in the UR provides the environment for anti-palatalization before suffixation. **Wolf’s (2008)** **Optimal Interleaving with Candidate Chains** accounts for morphological NDEB through a condition on crucial precedence between suffixation and the application of a process: if the environment is present both before and after suffixation, the process is blocked. Vowel raising in Romanian (Steriade, 2008b) and reduction in Armenian (Khanijan, 2008) provide counter-evidence. In Romanian, where stress is predictable, newly-unstressed [a] raises to [a] ([bårba]-[bårba-ös] vs. [mazil]-[mazil-ı]). For URs such as /bårba/, Wolf’s approach makes the right prediction: raising applies in [bårba-ös] since [a] is not unstressed before suffixation. But given Richness of the Base, /bårba/ and /bårba/ are possible URs in which [a] is not stressed before suffixation and surface stress is fixed by the grammar. This leads to over-generation of SRs like *[bårba-ös] where raising does not apply. In the current approach, a judicious choice of CURs could filter out the relevant URs. **Burzio’s (2000)** **Sequence Protection** faces the same challenge. Faithfulness constraints protect underlying environments from undergoing a change. In Romanian, underlying unstressed [a] would be protected from raising. For URs such as /bårba/, raising is correctly licensed in the suffixed form since stressed [a] evades faithfulness. But unstressed [a] in the hypothetical /bårba/ and /bårba/ is subject to faithfulness, incorrectly yielding *[bårba-ös].

**Implications:** OT dispensed with CURs primarily for reasons of theoretical simplicity: a single-component architecture seemed more appealing than a dual-component one; output constraints unified CURs and the input-output mapping. The present work identifies NDEB as a domain in which the predictions of the two architectures diverge and presents new empirical evidence in favor of a dual-component architecture of phonology.