

1 **Neutralization**2 **Preamble**3 **Chapter 1: The Rhyme and the Reason of Neutralization**4 **Daniel Silverman**

5

6 Consider a language—we'll call it Babelese—with the following nine values:

7 **p t k i u**8 **m n ŋ a**

9 If all roots in Babelese contain either four, five, or six of these values in sequence, then,
 10 logically, the largest possible number of phonetically unique roots in Babelese is $9^4+9^5+9^6$, or
 11 597,051. That is, the free commutation of the nine values, in sequences of four, five, or six,
 12 produces 597,051 unique phonetic forms.

13 Of course, Babelese won't have this many phonetically unique roots. Instead, there will surely be
 14 a number of systematic limitations on its roots' phonetic content.

15 First, not every value will freely occupy every "slot"; there will be gaps. For example, if
 16 Babelese roots are exclusively of the form **CVCV**, **CVCVC**, **CVCCV**, and **CVCCVC** (where
 17 **C**=consonant and **V**=vowel), then only six of the values may be commuted in the first position of
 18 a root (**p t k m n ŋ**), and only three of the values may be commuted in the second position of a
 19 root (**i u a**), and so on. That is, roots in Babelese consist of a number of sequenced *paradigms*,
 20 some with more members that might be substituted for one another, some with fewer. These are
 21 *paradigmatic* limitations on root structure.

22 Second, not every value will be found next to every other value. For example, let's say root-
 23 internal **CC** sequences in Babelese involve only homorganic nasal-stop sequences. Thus, the
 24 only consonant clusters found morpheme-internally are of the form **NP** (where **N**=nasal,
 25 **P**=plosive). Such limitations clearly reduce the number of phonetic root types. For example, due
 26 to its context, there are only three phonetic values that commute in the relevant **N** paradigm:
 27 **m(p) n(t) ŋ(k)**. This is a *syntagmatic* limitation on root structure.

28 As our root-internal **CC** sequencing limitation demonstrates, the distinction between
 29 paradigmatic systems and syntagmatic systems is not clear-cut: paradigmatic limitations are
 30 directly affected by syntagmatic ones. Still, it is clear that, far from possessing free combinatoric
 31 possibilities, roots in Babelese—and also, roots in every real language—involve systematic
 32 limitations on the distribution of their values that may be characterized in both paradigmatic and
 33 syntagmatic terms.

34 The morpheme-internal **CC** sequencing limitation is a *static* property of the Babelese root
 35 inventory: it is *always* the case that root-internal consonantal sequences in Babelese are one of
 36 three *fixed* homorganic nasal-stop sequences (**mp nt nk**). However, words in Babelese—and
 37 again, words in almost all real languages—are often polymorphemic. Let’s suppose that
 38 Babelese words are maximally bimorphemic. Moreover, let’s suppose that cross-morpheme **N+C**
 39 sequences are necessarily homorganic as well. Derived **C+C** clusters may thus take twenty-four
 40 different forms:

41	p+p	p+t	p+k		t+p	t+t	t+k		k+p	k+t	k+k
42	p+m	p+n	p>η		t+m	t+n	t>η		k+m	k+n	k>η
43	m+p					n+t				η+k	
44	m+m					n+n				η>η	

45 Due to this morpheme boundary condition, some nasal consonants that come to immediately
 46 precede a heteromorphemic consonant *alternate* with values that differ with respect to their oral
 47 configuration. For example, if a morpheme that is **n**-final when at the end of a word finds itself in
 48 a word-internal context where a **k**-initial morpheme immediately follows, the **n** will alternate
 49 with **η**: **n**# - **η**+**k** (where underlined symbols indicate values in alternation). This sort of
 50 alternation pattern serves to reduce the number of configurations in the relevant context.
 51 Consequently, Babelese words have only three contrastive **NP** configurations, though they each
 52 come in two rather different varieties: **mp nt nk** and **m+p n+t η+k**.

53 Unlike those observed within morphemes, distributional limitations due to morpheme
 54 concatenation are not static in nature. Rather, they are *dynamic*; in Babelese, for example, as we
 55 have just observed, one such dynamically-imposed limitation involves one nasal consonant
 56 alternating with another just in case it comes to immediately precede another consonant; such
 57 assimilatory patterns are extremely common, in fact.

58 Babelese now looks quite different from our naïve first approximation. Although we initially
 59 characterized language as possessing nine values, these values do not combine freely. There are
 60 both paradigmatic and syntagmatic limitations on these values’ distribution, and there are both
 61 statically-imposed and dynamically-imposed limitations on these values’ distribution.

62 We might say that the limitations on values and their sequencing increase phonological RHYME,
 63 in the sense that, due exactly to these observed limitations, distinct words necessarily end up
 64 sounding more similar to each other than they would if there were no such combinatory
 65 limitations. Indeed, due in particular to dynamically-imposed limitations (due to alternation),
 66 there are *synchronically active* increases in phonological RHYME.

67 But despite this inevitable increase in phonological RHYME, phonological REASON is rarely
 68 adversely affected. Many’s the time that alternations locally reduce the number of distinct
 69 configurations—that is, the syntagmatic context involves a reduction in the number of

70 commutable values in the paradigm—but such reductions are typically inconsequential from the
 71 point of view of keeping elements phonetically distinct that differ in *meaning*. Phonological
 72 REASON, then, refers to the successful conveyance of lexical *meaning* from speaker to listener.

73 Take one example: consider again a nasal-plosive sequence in Babelese. Nasal alternations in the
 74 context **N+C** result in a smaller number of contrastive values here, but this reduction in *phonetic*
 75 distinctness (this increase in RHYME) does not necessarily entail a reduction in *semantic*
 76 distinctness (a decrease in REASON), simply because, in most cases, there will be other
 77 contrastive values that function to keep morphemes phonetically distinct from each other. For
 78 example, we may observe **taŋka_n# - taŋka_m+p - taŋka_n+t - taŋka_ŋ+k** versus **tiŋka_ŋ# - tiŋka_m+p**
 79 **- tiŋka_n+t - tiŋka_ŋ+k**. For the two words **taŋka_n#** versus **tiŋka_ŋ#**, despite the dynamically-
 80 imposed phonetic identity (or, more precisely, near-identity) of the nasal-stop sequences in
 81 particular morphologically complex contexts, the morphemes maintain phonetic distinctness due
 82 to **V₁** differences, **a** versus **i**. Rather, only in those comparatively rare instances when morphemes
 83 are otherwise identical are increases in phonological RHYME accompanied by a decrease in
 84 phonological REASON: **taŋka_n# - taŋka_m+p - taŋka_n+t - taŋka_ŋ+k** versus **taŋka_ŋ# -**
 85 **taŋka_m+p - taŋka_n+t - taŋka_ŋ+k**. Stated more succinctly, most alternations do not involve
 86 minimal pairs such that particular alternations derive homophones. Consequently, most such
 87 alternations are heterophone-maintaining and thus not function-negative; crucial phonetic
 88 differences are maintained despite increases in phonological RHYME.

89 In fact, rather remarkably, an increase in phonological RHYME oftentimes correlates positively
 90 with an increase in phonological REASON. Consider how this is so in Babelese. Recall that
 91 morpheme-internal **CC** sequences always consist of homorganic nasal-stop sequences.
 92 Consequently, whenever a sequence of consonants is encountered in the speech stream that takes
 93 any other phonetic shape, a listener may safely conclude that the two consonants do not belong
 94 to the same morpheme. Here, an overall increase in phonological RHYME correlate positively
 95 with an increase in phonological REASON: systematic sequential limitations at the morpheme
 96 level provide important clues to listeners about the morphological structure of the speech stream.

97 Oftentimes then, limitations on the distribution of contrastive values increase phonological
 98 RHYME, *and* increase phonological REASON. As stated, reductions in phonological REASON are
 99 limited to those rare cases in which an alternation derives homophones.

100 *All these systematic limitations on morpheme structure—be they paradigmatic or syntagmatic,*
 101 *be they static within morphemes, or dynamic due to morpheme concatenation, be they*
 102 *homophone-deriving or heterophone-maintaining—fall under the general rubric of*
 103 *“neutralization”. Broadly interpreted then, neutralization is a conditioned limitation on the*
 104 *distribution of a system’s contrastive values. It is these sorts of patterns that are the focus of the*
 105 *present study.*

106 And although I will continue to discuss all these sorts of systematic limitations on morphological
 107 and phonological structure as neutralizing in nature, I ultimately refrain from suggesting a
 108 definition of neutralization in these terms. Rather, in this study I move towards a strictly
 109 *functional*—more specifically, *function-negative*—definition of neutralization, one of
 110 NEUTRALIZATION as derived homophony. (When used in this formal sense, the term appears in
 111 small caps.)

112 It bears repeating: throughout, I use the term “neutralization” when discussing any and all of
 113 systematic limitations on morpheme structure, both lexical and derived. Nonetheless, I ultimately
 114 define the term with respect to its sole genuinely function-negative consequence:
 115 NEUTRALIZATION results from an alternation that derives homophones.

116 It is not (or, rather, not *only*) for polemical reasons that I limit the formal definition of
 117 NEUTRALIZATION to this strictly function-negative sense. Rather, strange as it may initially seem,
 118 this definition of NEUTRALIZATION requires the fewest assumptions to be made about the nature
 119 of phonological structure; defining NEUTRALIZATION as derived homophony is maximally
 120 theory-neutral, despite (or, I’d like to think, exactly because of) its strictly functional orientation.

121 To see how this works, let’s now return to our discussion of Babelese, considering in a bit more
 122 detail how we might phonologically characterize the observation that its morpheme-internal **NP**
 123 sequences are always homorganic.

124 First, we could say that nasals do not contrast in place-of-articulation when a stop follows. That
 125 is, the oral properties of the nasal can be “read off” the oral properties of the following plosive.
 126 This is an especially common characterization, because it is often the case that nasal-plosive
 127 sequences that occur *across* morpheme boundaries induce the neutralizing alternation of the
 128 nasal itself (just as in Babelese), and so it feels right to group the two patterns—**NP** and **N+P**—
 129 into one, claiming that the nasal’s oral properties are always a consequence of the following
 130 plosive’s, and consequently, such nasals’ oral properties need not be lexically specified.

131 Second, we could say that plosives do not contrast for place-of-articulation when a nasal
 132 precedes. That is, the oral properties of the plosive can be “read off” the oral properties of the
 133 preceding nasal. Although evidence from both alternation and from sound change are discrepant
 134 with this characterization (since it is typically nasals that assimilate to following plosives, and
 135 not plosives to preceding nasals), it must be emphasized that patterns of (dynamic) assimilation
 136 (for example, **m+p**, **n+t**, **ŋ+k**) are irrelevant to the analysis of (static) morpheme-internal sound
 137 structure (for example, **mp nt ŋk**), regardless of their phonetic comparability.

138 Third, we could say that **NP** sequences possess oral place contrasts at a paradigmatic level of
 139 analysis, but not at a syntagmatic level of analysis. That is, we could characterize one **NP** span
 140 (say, **nt**) as engaging in oral contrast with other **NP** spans (say, **mp ŋk**).

141 Regarding the first and second alternatives, it must be emphasized that, due to the strict non-
 142 alternating quality of morpheme-internal **NP** sequences, there is no motivation for either value to
 143 be “read off” the other. For any given morpheme-internal **NP** sequence (**mp nt ŋk**), oral qualities
 144 strictly co-vary with each other, and so “reading off” one oral quality from the other is wholly
 145 arbitrary from both the language analyst’s perspective, and from the language user’s perspective.

146 The third alternative is more plausible. There is indeed something fundamentally correct in
 147 asserting that the observed morpheme-internal limitation involves a commutation of oral values
 148 across of a span of the speech stream involving a change from nasal-channeled airflow to a
 149 complete cessation of airflow (giving us **mp nt ŋk**). The motivation, again, is the fixed status of
 150 the various phonetic states within this span such that no one phonetic subcomponent of the
 151 complex is different in status from any other phonetic component: as all components are
 152 necessarily fixed throughout the span, there is every reason to treat the complex as a whole, a
 153 *Gestalt*. (Note that, by “fixed”, I don’t mean static or unmoving—indeed, the soft palate is in a
 154 state of motion, from open to closed, across this span—but rather, by “fixed”, I refer to any
 155 phonetic content that co-varies over an expanse of the speech stream: <labial nasal - labial stop>,
 156 <alveolar nasal - alveolar stop>, <velar nasal - velar stop>.)

157 At this point then, I need to emphasize that the IPA symbols we have been using (and will
 158 continue to use) should be interpreted as cover terms, or shortcuts, for the constellation of motor
 159 routines and their attendant acoustic cues—*whatever their shape or size*—that possess genuine
 160 linguistic status, readily encompassing more—or less—of the temporal span represented by
 161 single IPA symbol. Thus, IPA symbols are not isomorphic with *Gestalten*. Rather, they are mere
 162 visual expedients.

163 Now, once we acknowledge the fact that particular expanses of the speech stream may be fixed
 164 with respect to their phonetic properties, the next step is to see how far we can push the idea.
 165 Clearly, *any* stretch of the speech stream that possesses fixed phonetic content (again, in the
 166 sense that the phonetic content co-varies for an expanse of the speech stream) is amenable to this
 167 sort of analysis.

168 What elements of the speech stream meet this criterion for *Gestalt* status? We might first
 169 consider those elements of the speech stream that are cycled and recycled in a phonetically stable
 170 manner, due to their serving a single linguistic function: morphemes, and collocations of
 171 morphemes that tend to recur together in their patterning (words, and perhaps rote phrases). As a
 172 first approximation then, we might propose that morphemes, exactly because of their fixed
 173 phonetic properties, should be regarded as *Gestalten*.

174 Obviously, this won’t do. Morphemes are not always phonetically fixed, of course. Rather, there
 175 may be systematic changes that morphemes undergo, depending on their context. These are the
 176 synchronic alternations that result in allomorphy that we have already discussed. So, we must
 177 retreat from the claim that morphemes are indivisible, fixed wholes. Rather, it is only those

178 components of morphemes that are not subject to alternation for which phonetic properties are
 179 strictly fixed. For example, in Babelese, we have allomorphic patterns like **taŋkan** - **taŋkam+p** -
 180 **taŋkaŋ+k**. Here, part of the morpheme is phonetically fixed, but also, there is a systematic
 181 pattern of alternation that is not fixed with respect to other elements of the morpheme. This part
 182 of the morpheme co-varies (is fixed) with respect to elements *outside* the domain of the
 183 morpheme (specifically, the following plosive). Indeed, since nasals at different places of
 184 articulation differently coarticulate with preceding vocalism, the alternation here no doubt
 185 encompasses more of the speech stream than is implied by the mere change in IPA symbol,
 186 incorporating at least a sizable portion of the preceding vowel: **taŋkan** - **taŋkam+p** - **taŋkaŋ+k**.

187 Consequently, in general, we may indeed treat non-alternating components of morphemes—
 188 whatever their shape or size—as wholes, as *Gestalten*, and further recognize that components in
 189 alternation—again, whatever their shape or size—are *Gestalten* as well, ones that are set in high
 190 relief against their phonetically fixed morpheme-internal backgrounds. *These* are the proposed
 191 elements of phonological contrast. Indeed, as I write in my 2006 book, “there is no reason to
 192 assume that language users subdivide the words they learn into distinct sound-components unless
 193 there is evidence from alternation to do so”.

194 We now see just how wrong-headed our first proposals regarding Babelese root structure were.
 195 Phonetic events that function as elements of contrast in one context may not serve this same
 196 function in other contexts, and so, even as a theoretic straw man, it is downright silly to consider
 197 their free commutation and their free combination. The spans of speech within morphemes—
 198 despite phonetic appearances to the contrary, and however “recyclable” their attendant motor
 199 routines—are *not* necessarily built out of smaller linguistically significant units that combine in
 200 various ways. Rather, the spans of the speech stream underlain by a specific linguistic *function*—
 201 morphemes, words, and perhaps certain rote phrases—are the genuine building blocks of
 202 linguistic structure, blocks that may only be partitioned into smaller units if there is evidence
 203 from alternation to do so.

204 Let’s back up for a moment. I have been belaboring the assertion that morphemes might only be
 205 analyzed into smaller components when there is evidence from alternation to do so, because I am
 206 moving toward a purely function-negative definition of NEUTRALIZATION as the product of
 207 derived homophony. How do my assertions about morpheme structure relate to this proposed
 208 definition of NEUTRALIZATION? Well, once we (permanently) rid the morpheme of extraneous
 209 submorphemic structure (distinctive features, segments, syllables, etc.), there remains no way to
 210 relate components of the speech stream to each other by any other than *semantic* means.
 211 Consequently, non-alternating morphemes are obviously non-distinct, but morphemes in
 212 alternation are typically functionally non-distinct as well, since they do not induce a semantic
 213 change. This is the result we want, because, apart from their mere *extrinsic phonetic similarity*,
 214 there is no reason to group any disparate components of the speech stream together into a
 215 functional set unless there is linguistic evidence that they do indeed possess some sort of

216 *intrinsic functional non-distinctness*. In phonology, the *only* instance where in which physical
 217 dissimilarity is regularly overridden by functional identity comes from alternation: components
 218 of the speech stream that substitute for one another, and yet morpheme meaning remains the
 219 same, share an *intrinsic functional identity*.

220 This establishes the functional link among allomorphs that we're looking for, ridding phonology
 221 of its emphasis on positing functional links among mere phonetic correspondents (the
 222 hypothetical segment, the hypothetical distinctive feature). The result is that, for example,
 223 morpheme-internal **ŋk** bears no intrinsic phonological relationship to any other **ŋk** in Babelese,
 224 be the sequence found in another morpheme-internal context (**ŋk**), or at a morpheme boundary
 225 (**ŋ+k**), or across a word boundary (**ŋ#k**). Rather, functional links may be established solely by
 226 semantic criteria; allomorphs are functionally—semantically—non-distinct.

227 There is, of course, one—and *only* one—exception to the assertion that alternation maintains
 228 morpheme identity, and that is when the alternation derives homophony. Here—and *only* here—
 229 the allomorphs in alternation do not share a unique functional identity. Rather, in just this
 230 instance, identity is forfeited—indeed it is shared, or overlapped, with another morpheme—due
 231 to the absence of phonetic evidence for these morphemes' distinctness in meaning.

232 NEUTRALIZATION, then, involves an *extrinsic phonetic similarity*—indeed, a derived *phonetic*
 233 (*near-*) *identity*—among items, but it is the consequent *intrinsic functional non-distinctness* of
 234 the alternant forms that establishes the phenomenon's linguistic relevance: any phonetic
 235 evidence for these items' difference in meaning is washed away. The result? Alternations that
 236 eliminate the *phonetic* distinctness among morphemes also eliminate phonetic evidence for the
 237 *semantic* distinctness among morphemes. By contrast, any definition of neutralization that relies
 238 on the mere phonetic similarity among elements of the speech stream relies on fallacious
 239 assumptions about the functional relevance of sub-morphemic content.

240 Let's now return to Babelese. Let's suppose that suffixation is a pervasive process in the
 241 language. In Babelese, suffixes are monosyllabic (**CV** or **CVC**), and are subject to vowel
 242 harmony, such that their vowel is identical to the final vowel of the root, for example,
 243 **taŋkan+tak**, but **kupit+tik**.

244 Patterns like this exemplify a number of trends that we observe in morpho-phonological systems.
 245 First, affixes are usually shorter than roots, and also, are often subject to assimilatory phenomena
 246 such as vowel harmony. The functional origin of these tendencies is well understood: since there
 247 are always fewer affixes than there are roots, and since their distribution is so predictable, there
 248 is less functional pressure for affixes to consist of the many and varied values found in roots. So,
 249 as a natural evolutionary consequence, affixes are often shorter, and are more readily subject to
 250 root-controlled assimilatory alternations.

251 Second, the vocalic alternation observed in Babelese suffixes is almost surely not localized to
 252 one individual vowel. Indeed, the alternation in evidence likely encompasses any consonant(s)

253 that intervene between the root-final vowel and the suffix vowel (**taŋkan+tak**, but **kupit+tik**).
 254 That is, due to its syntagmatic context, the paradigm subject to alternation consists of the entire
 255 span from the second root vowel up to and including the suffix vowel, and not only suffix
 256 vocalism itself. Even though we might transcribe the allomorphs with the same consonant
 257 symbols, in actuality these consonants are implemented differently from each other, due to their
 258 differing vocalic contexts.

259 Third, although affixes are more readily subject to assimilatory alternations, still, exactly because
 260 they are members of a small set, NEUTRALIZATION is rarely an issue here. This is not just a
 261 fortuitous or coincidental result. Rather, there are constant pressures on the sound pattern—some
 262 quite superficial and proximal, others extremely deep and distal—that are responsible for the
 263 slow-going shaping of the system such that function-negative phenomena like NEUTRALIZATION
 264 are kept at bay.

265 For example, as our discussion of Babelese suffixes has suggested, certain assimilatory
 266 tendencies may go largely unchecked in just those cases where NEUTRALIZATION is not likely to
 267 be an issue. Since such assimilations may be seen as the diachronic “end-state” along a gradient
 268 scale of coarticulation, it might be wise to back up for a moment and consider the sorts of
 269 pressures that oftentimes act on coarticulation.

270 In Babelese, we can readily imagine that vowel-to-vowel (trans-consonantal) coarticulation
 271 within roots is somewhat circumscribed, exactly because root vowels function contrastively: too
 272 much vowel-to-vowel coarticulation might jeopardize the distinctiveness of one or both vowels.
 273 In the limiting case, such coarticulation leads to vowel-to-vowel assimilation, or vowel harmony.
 274 To the extent that distinctions in root vocalism are responsible for minimal pairing, complete
 275 vowel assimilation would result in a decrease in phonological REASON: some roots would be
 276 rendered non-distinct from each other.

277 We can, in fact, imagine several possible scenarios that might play themselves out over time,
 278 depending on the “initial conditions” (or at least “preceding conditions”) established by the
 279 structure of the Babelese lexicon.

280 First, as just noted, if many Babelese roots are crucially dependent on vocalism for their phonetic
 281 distinctness, vowel-to-vowel coarticulation may indeed be passively curtailed: since distinctions
 282 in vocalism embody the crucial phonetic distinctions among many roots, coarticulation is rather
 283 likely to be significantly inhibited.

284 Second, if many Babelese roots are *not* crucially dependent on vocalism (and instead rely more
 285 heavily on their consonantism), we might expect vowel coarticulation to proceed relatively
 286 freely, perhaps culminating in fully harmonized root-internal vocalism.

287 Third, again, if many Babelese roots are *not* crucially dependent on vowel distinctions, we might
 288 see an interaction with the Babelese stress system such that vowel paradigms have fewer
 289 members in unstressed contexts.

290 Fourth, we might imagine a scenario in which these unstressed syllables attrit completely,
 291 culminating in a system that possesses only monosyllabic roots. This would surely result in a
 292 significant reduction in the number of root shapes, and the phonology might be bereft of options
 293 to countervail the threat of NEUTRALIZATION. Morphology, however, may come to the rescue: the
 294 increase in RHYME among roots may be offset by the co-evolution of a root compounding
 295 process, and thus REASON is never jeopardized.

296 Readers versed in the phonological patterning of linguistic systems will be able to summon
 297 actual examples comparable to each of these scenarios.

298 The overarching proposal, then, is that phonological RHYME may increase until encountering a
 299 counter-pressure that inhibits undue decreases in phonological REASON. More specifically, the
 300 inventory of motor routines that a language deploys is likely to be influenced by lexical semantic
 301 factors: coarticulation and assimilatory alternations may conceivably evolve rather freely,
 302 provided the transmission of *meaning* between speaker and listener is not adversely affected.
 303 Indeed, as a passive consequence of communicative success—of effective transmission of lexical
 304 semantic content—speech with curtailed coarticulation (as opposed to uncurtailed coarticulation)
 305 may emerge as the conventionalized norm. Articulatory details put in service to failed
 306 communication—as when the meaning associated with overly-coarticulated or -assimilated
 307 speech tokens is not effectively communicated to listeners, due to consequent derived
 308 homophony—are less likely to be reproduced as listeners become speakers (since, due to derived
 309 homophony, such speech may be misunderstood), and thus are less likely to become
 310 conventionalized motor routines.

311 Thus, so-called “phonetic or “low-level” effects (such as patterns of coarticulation) are likely the
 312 result of deep historical and systemic pressures many times removed from the physical systems
 313 that proximally underlie speech; the emergent result of persistent, slow-going, interlocutory
 314 tendencies that shape and change speech conventions.

315

316 **Conclusion**

317 I began this discussion by claiming that Babelese possessed nine contrastive values. We now see
 318 that this was incorrect. Babelese possesses as many contrastive values as there are components of
 319 the speech stream that either alternate or are stable within morphemes. These values consist of
 320 motor routines and acoustic complexes of varying shapes and sizes, involving few if any of the
 321 neat, organized, phonetic “slices”—be these slices temporal (loosely, segments), or spectral

322 (loosely, distinctive features)—that linguists typically manipulate. For language users, these
 323 phonetically complex values emerge when links are established between sound and meaning.

324 Indeed, almost all alternations, in fact, maintain heterophony, and are thus function-neutral; only
 325 those alternations that result in ambiguity in meaning—by deriving homophony—have function-
 326 negative consequences. This is NEUTRALIZATION. Still, phonological RHYME may increase—and
 327 may even be function-positive to the extent that it assists in parsing—until encountering a
 328 counter-pressure that inhibits undue decreases in phonological REASON.

329 Now, despite all the admittedly speculative discussion I have been engaging in (indulging in?) in
 330 this preamble, I'd like to reassure the reader that the bulk of this book is dedicated to elucidating
 331 various approaches to neutralization that have been discussed at length in the literature, though,
 332 to be sure, we will be slowly building towards a new definition of neutralization, one of
 333 neutralization as derived homophony, that is, NEUTRALIZATION.

334 In Part One, RHYME, in Section A I make *observations* about, and provide *descriptions* of,
 335 patterns of neutralization, considering the “topology” (Chapter Two), the “taxonomy” (Chapter
 336 Three), and the “typology” (Chapter Four) of neutralization. In Section B I take a detour to
 337 discuss a few “false positives: “partial phonemic overlap” (Chapter Six) and “near-
 338 neutralization” (Chapter Seven). In Section C I move on to consider various proposed
 339 *explanations* for neutralization, considering, in turn, “speaker-based” (Chapter Eight) and
 340 “listener-based” approaches (Chapters Nine through Eleven). Section D includes a case study of
 341 NEUTRALIZATION in Korean (Chapter Twelve), then a survey of the *domains* over which anti-
 342 homophony may passively exert its pressure (Chapter Thirteen). I conclude Part One by asserting
 343 that “distinctions are drawn that matter” (Chapter Fourteen).

344 In Part Two, REASON, I discuss the functional value of neutralization in terms of Kruszewski's
 345 “cement” (Chapter Fifteen), Trubetzkoy's “boundary signals” (Chapter Sixteen), Firth's
 346 “prosodies” (Chapter Seventeen), and Saffran's “transitional probabilities” (Chapter Eighteen).

347 Finally, as a postscript, I summarize our results, and very briefly revisit Babelese (Chapter
 348 Nineteen).