The odd-parity input problem in metrical stress theory

Brett Hyde
Washington University in St Louis

Supplementary materials

To grasp the extent of the odd-parity input problem under weak layering accounts, it is helpful to see how the problem emerges in each of the patterns predicted. To this end, detailed summaries for the symmetrical alignment account and the iterative foot optimisation account are provided below. §1 summarises the predictions of symmetrical alignment with respect to the odd heavy problem, and §2 and §3 summarise symmetrical alignment's predictions for the quantity-sensitive and quantity-insensitive even output problems respectively. §§4–6 summarise the predictions of iterative foot optimisation with respect to the same problems.

1 The odd heavy problem under symmetrical alignment

When the only minimality requirement in the grammar is a moraic minimality requirement, as it is under the standard FtBin constraint, each of the binary parsing patterns predicted under symmetrical alignment exhibit the unattested quantity-sensitivity associated with the OHP. They exhibit the effects of the OHP in isolation under the rankings indicated in (1).

(1) *OHP effects in isolation*
    a. *Underparsing patterns*
       Max, Dep, FtBin $\gg$ Parse-σ
    b. *Exhaustive parsing patterns*
       Max, Dep, Parse-$\sigma \gg$ FtBin

In the summary of predicted patterns in (2)–(4), the first form listed for each ranking is an odd-parity form, with all light syllables. This form illustrates the basic pattern produced by the ranking when odd-numbered heavy syllables are absent. The second form contains two odd-numbered heavy syllables, and illustrates the particular OHP effects that the ranking produces when odd-numbered heavy syllables are present. It indicates that

parsing is exhaustive under both underparsing and exhaustive parsing rankings and it indicates whether the leftmost or the rightmost odd-numbered heavy syllable is parsed as a monosyllabic foot.

(2) *Unidirectional underparsing patterns under symmetrical alignment*

    a. Max, Dep, FtBin ≫ Parse-σ ≫ AllFt-L

Trochaic : unattested	*Iambic : unattested*
(ĹL)(ĹL)(ĹL)L	(LĹ)(LĹ)(LĹ)L
(ĹL)(H́)(ĹH)(ĹL)	(LĹ)(H́)(LH́)(LĹ)

    b. Max, Dep, FtBin ≫ Parse-σ ≫ AllFt-R

Trochaic : unattested	*Iambic : unattested*
L(ĹL)(ĹL)(ĹL)	L(LĹ)(LĹ)(LĹ)
(ĹL)(H́L)(H́)(ĹL)	(LĹ)(HĹ)(H́)(LĹ)

(3) *Unidirectional exhaustive parsing patterns under symmetrical alignment*

    a. Max, Dep, Parse-σ ≫ FtBin ≫ AllFt-L

Trochaic : unattested	*Iambic : unattested*
(Ĺ)(ĹL)(ĹL)(ĹL)	(Ĺ)(LĹ)(LĹ)(LĹ)
(ĹL)(H́)(ĹH)(ĹL)	(LĹ)(H́)(LH́)(LĹ)

    b. Max, Dep, Parse-σ ≫ FtBin ≫ AllFt-R

Trochaic : unattested	*Iambic : unattested*
(ĹL)(ĹL)(ĹL)(Ĺ)	(LĹ)(LĹ)(LĹ)(Ĺ)
(ĹL)(H́L)(H́)(ĹL)	(LĹ)(HĹ)(H́)(LĹ)

(4) *Bidirectional underparsing patterns under symmetrical alignment*

    a. Max, Dep, FtBin ≫ Parse-σ ≫ AllFt-R; PrWd-L ≫ AllFt-R

Trochaic : unattested	*Iambic : unattested*
(ĹL)L(ĹL)(ĹL)	(LĹ)L(LĹ)(LĹ)
(ĹL)(H́L)(H́)(ĹL)	(LĹ)(HĹ)(H́)(LĹ)

    b. Max, Dep, FtBin ≫ Parse-σ ≫ AllFt-L; PrWd-R ≫ AllFt-L

Trochaic : unattested	*Iambic : unattested*
(ĹL)(ĹL)L(ĹL)	(LĹ)(LĹ)L(LĹ)
(ĹL)(H́)(ĹH)(ĹL)	(LĹ)(H́)(LH́)(LĹ)

2 The quantity-sensitive even output problem under symmetrical alignment

Under the moraic minimality requirement of the standard FtBin constraint, symmetrical alignment predicts eight patterns that exhibit the effects of the OHP in combination with the effects of the quantity-sensitive EOP. The patterns emerge under the rankings indicated in (5).

(5) *OHP + quantity-sensitive EOP effects*
    a. *Insertion patterns*
       Parse-σ, FtBin, Dep ≫ Max
    b. *Deletion patterns*
       Parse-σ, FtBin, Max ≫ Dep

For each pattern summarised in (6) and (7), there are two example outputs for odd-parity inputs. The first indicates which odd-numbered heavy syllable, the leftmost or the rightmost, is parsed as a monosyllabic foot when one or more is available. The second indicates whether a syllable is added or subtracted when no odd-numbered heavy syllable is available.

(6) *OHP + quantity-sensitive EOP* (*deletion version*)
    a. Parse-σ, FtBin, Dep ≫ Max ≫ AllFt-L

	Trochaic : unattested	*Iambic : unattested*
LLHLHLL →	(ĹL)(H́)(ĹH)(ĹL)	(LĹ)(H́)(LH́)(LĹ)
LLLLLLL →	(ĹL)(ĹL)(ĹL)	(LĹ)(LĹ)(LĹ)

    b. Parse-σ, FtBin, Dep ≫ Max ≫ AllFt-R

	Trochaic : unattested	*Iambic : unattested*
LLHLHLL →	(ĹL)(H́L)(H́)(ĹL)	(LĹ)(HĹ)(H́)(LĹ)
LLLLLLL →	(ĹL)(ĹL)(ĹL)	(LĹ)(LĹ)(LĹ)

(7) *OHP + quantity-sensitive EOP* (*insertion version*)
    a. Parse-σ, FtBin, Max ≫ Dep ≫ AllFt-L

	Trochaic : unattested	*Iambic : unattested*
LLHLHLL →	(ĹL)(H́)(ĹH)(ĹL)	(LĹ)(H́)(LH́)(LĹ)
LLLLLLL →	(ĹL)(ĹL)(ĹL)(ĹL)	(LĹ)(LĹ)(LĹ)(ĹL)

    b. Parse-σ, FtBin, Max ≫ Dep ≫ AllFt-R

	Trochaic : unattested	*Iambic : unattested*
LLHLHLL →	(ĹL)(H́L)(H́)(ĹL)	(LĹ)(HĹ)(H́)(LĹ)
LLLLLLL →	(ĹL)(ĹL)(ĹL)(ĹL)	(LĹ)(LĹ)(LĹ)(ĹL)

3 The quantity-insensitive even output problem under symmetrical alignment

When the grammar contains both a moraic minimality requirement and a syllabic minimality requirement – when it contains both the FtMin-μ and FtMin-σ constraints, for example – the quantity-insensitive version of the EOP emerges. In addition to OHP-only and OHP + quantity-sensitive EOP patterns, symmetrical alignment predicts four patterns that exhibit the effects of the quantity-insensitive EOP. The quantity-insensitive EOP patterns emerge under the rankings indicated in (8).

(8) *Quantity-insensitive EOP effects*
  a. *Insertion patterns*
     FTMIN-σ, PARSE-σ, DEP $\gg$ MAX
  b. *Deletion patterns*
     FTMIN-σ, PARSE-σ, MAX $\gg$ DEP

For each of the patterns summarised in (9) and (10), there are two example outputs for odd-parity inputs. Regardless of the presence or absence of odd-numbered heavy syllables in the inputs, the outputs are even-parity.

(9) *Quantity-insensitive EOP* (*deletion version*)
    FTMIN-σ, PARSE-σ, DEP $\gg$ MAX

		Trochaic: unattested	*Iambic: unattested*
LLHLHLL	$\rightarrow$	(ĹL)(H́L)(H́L)	(LĹ)(HĹ)(HĹ)
LLLLLLL	$\rightarrow$	(ĹL)(ĹL)(ĹL)	(LĹ)(LĹ)(LĹ)

(10) *Quantity-insensitive EOP* (*insertion version*)
     FTMIN-σ, PARSE-σ, MAX $\gg$ DEP

		Trochaic: unattested	*Iambic: unattested*
LLHLHLL	$\rightarrow$	(ĹL)(H́L)(H́L)(ĹL)	(LĹ)(HĹ)(HĹ)(LĹ)
LLLLLLL	$\rightarrow$	(ĹL)(ĹL)(ĹL)(ĹL)	(LĹ)(LĹ)(LĹ)(LĹ)

4 The odd heavy problem under iterative foot optimisation

When the grammar contains only a moraic minimality requirement, each of the underparsing patterns predicted under iterative foot optimisation exhibits the unattested quantity-sensitivity of the OHP. They exhibit the effects of the OHP in isolation under the rankings indicated in (11).

(11) *OHP-only effects in underparsing patterns*
     MAX, FTBIN $\gg$ PARSE-σ

In the summaries in (12) and (13), the first odd-parity form illustrates the basic pattern produced by each ranking. The second form shows the effects of the OHP. It indicates the position of the last syllable addressed by the derivation, the syllable that, if heavy, will be parsed as a monosyllabic foot. Notice that the effect of the OHP is limited to an alternation between underparsing and exhaustive parsing. It has no effect on parsing directionality.

(12) *Unidirectional underparsing patterns under iterative foot optimisation*
  a. MAX, FTBIN $\gg$ PARSE-σ $\gg$ ALLFT-L

Trochaic: Wergaia-type	*Iambic: unattested*
(σ́ σ)(σ́ σ)(σ́ σ)L	(σ σ́)(σ σ́)(σ σ́)L
(σ́ σ)(σ́ σ)(σ́ σ)(H́)	(σ σ́)(σ σ́)(σ σ́)(H́)

    b. Max, FtBin ≫ Parse-σ ≫ AllFt-R

        Trochaic : unattested   *Iambic : unattested*

        L(σ́ σ)(σ́ σ)(σ́ σ)   L(σ σ́)(σ σ́)(σ σ́)

        (H́)(σ́ σ)(σ́ σ)(σ́ σ)   (H́)(σ σ́)(σ σ́)(σ σ́)

(13) *Bidirectional underparsing patterns under iterative foot optimisation*

    a. Max, FtBin ≫ Parse-σ ≫ AllFt-R; PrWd-L ≫ AllFt-R

        Trochaic : unattested   *Iambic : unattested*

        (σ́ σ)L(σ́ σ)(σ́ σ)   (σ σ́)L(σ σ́)(σ σ́)

        (σ́ σ)(H́)(σ́ σ)(σ́ σ)   (σ σ́)(H́)(σ σ́)(σ σ́)

    b. Max, FtBin ≫ Parse-σ ≫ AllFt-L; PrWd-R ≫ AllFt-L

        Trochaic : unattested   *Iambic : unattested*

        (σ́ σ)(σ́ σ)L(σ́ σ)   (σ σ́)(σ σ́)L(σ σ́)

        (σ́ σ)(σ́ σ)(H́)(σ́ σ)   (σ σ́)(σ σ́)(H́)(σ σ́)

OHP-only effects are obscured in exhaustive parsing patterns under iterative foot optimisation. Iterative foot optimisation produces quantity-insensitive exhaustive parsing patterns under the rankings in (14).

(14) *Absence of OHP-only effects in exhaustive parsing patterns*

    Max, Dep, Parse-σ ≫ FtBin

As illustrated in the summaries in (15) and (16), the same syllable will be parsed as a monosyllabic foot in odd-parity forms whether it is heavy or light.

(15) *Unidirectional exhaustive parsing patterns under iterative foot optimisation*

    a. Max, Dep, Parse-σ ≫ FtBin ≫ AllFt-R

        Trochaic : Passamaquoddy-type   *Iambic : Suruwaha-type*

        (Ĺ)(σ́ σ)(σ́ σ)(σ́ σ)   (Ĺ)(σ σ́)(σ σ́)(σ σ́)

        (H́)(σ́ σ)(σ́ σ)(σ́ σ)   (H́)(σ σ́)(σ σ́)(σ σ́)

    b. Max, Dep, Parse-σ ≫ FtBin ≫ AllFt-L

        Trochaic : Maranungku-type   *Iambic : unattested*

        (σ́ σ)(σ́ σ)(σ́ σ)(Ĺ)   (σ σ́)(σ σ́)(σ σ́)(Ĺ)

        (σ́ σ)(σ́ σ)(σ́ σ)(H́)   (σ σ́)(σ σ́)(σ σ́)(H́)

(16) *Bidirectional exhaustive parsing patterns under iterative foot optimisation*

    a. Max, Dep, Parse-σ ≫ FtBin ≫ AllFt-R; PrWd-L ≫ AllFt-R

        Trochaic : unattested   *Iambic : unattested*

        (σ́ σ)(Ĺ)(σ́ σ)(σ́ σ)   (σ σ́)(Ĺ)(σ σ́)(σ σ́)

        (σ́ σ)(H́)(σ́ σ)(σ́ σ)   (σ σ́)(H́)(σ σ́)(σ σ́)

    b. Max, Dep, Parse-σ ≫ FtBin ≫ AllFt-L; PrWd-R ≫ AllFt-L

        Trochaic : unattested   *Iambic : unattested*

        (σ́ σ)(σ́ σ)(Ĺ)(σ́ σ)   (σ σ́)(σ σ́)(Ĺ)(σ σ́)

        (σ́ σ)(σ́ σ)(H́)(σ́ σ)   (σ σ́)(σ σ́)(H́)(σ σ́)

5 The quantity-sensitive even output problem under iterative foot optimisation

Under the moraic minimality requirement of the standard FTBIN constraint, iterative foot optimisation predicts sixteen patterns that exhibit OHP + quantity-sensitive EOP effects. The patterns emerge under the rankings indicated in (17).

(17) *OHP + quantity-sensitive EOP effects*
   a. *Insertion patterns*
       PARSE-σ, FTBIN, DEP ≫ MAX
   b. *Deletion patterns*
       PARSE-σ, FTBIN, MAX ≫ DEP

The patterns where the OHP is accompanied by the quantity-sensitive EOP are summarised in (18) and (19). For each language predicted, there are two example mappings. The first indicates the type of OHP pattern that emerges from odd-parity inputs with an appropriately positioned odd-numbered heavy syllable, and the second illustrates the type of EOP pattern that emerges from odd-parity inputs that lack such a heavy syllable. Notice that the quantity-sensitivity of the OHP can be observed even under exhaustive parsing rankings (PARSE-σ ≫ FTBIN) in the context of OHP + quantity-sensitive EOP patterns. Sensitivity to the weight of odd-numbered syllables in odd-parity forms results in an alternation between odd-parity outputs and even-parity outputs. Also, note that it is possible to predict the position of syllable insertion and deletion under iterative foot optimisation in way that is not possible under symmetrical alignment. In the deletion version of the EOP, the last syllable to have its parsing status settled is the syllable deleted. In the insertion version, a syllable is added to the foot containing the last syllable to have its parsing status settled.

(18) *OHP + quantity-sensitive EOP* (*deletion version*)
   a. PARSE-σ, FTBIN ≫ MAX ≫ ALLFT-R

	Trochaic : unattested	*Iambic : unattested*
H$\sigma\sigma\sigma\sigma\sigma$ →	(H́)(σ́ σ)(σ́ σ)(σ́ σ)	(H́)(σ σ́)(σ σ́)(σ σ́)
L$\sigma\sigma\sigma\sigma\sigma$ →	(σ́ σ)(σ́ σ)(σ́ σ)	(σ σ́)(σ σ́)(σ σ́)

   b. PARSE-σ, FTBIN ≫ MAX ≫ ALLFT-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma\sigma$H →	(σ́ σ)(σ́ σ)(σ́ σ)(H́)	(σ σ́)(σ σ́)(σ σ́)(H́)
$\sigma\sigma\sigma\sigma\sigma$L →	(σ́ σ)(σ́ σ)(σ́ σ)	(σ σ́)(σ σ́)(σ σ́)

   c. PARSE-σ, FTBIN ≫ MAX ≫ ALLFT-R; PRWD-L ≫ ALLFT-R

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma$H$\sigma\sigma\sigma\sigma$ →	(σ́ σ)(H́)(σ́ σ)(σ́ σ)	(σ σ́)(H́)(σ σ́)(σ σ́)
$\sigma\sigma$L$\sigma\sigma\sigma\sigma$ →	(σ́ σ)(σ́ σ)(σ́ σ)	(σ σ́)(σ σ́)(σ σ́)

    d. Parse-σ, FtBin $\gg$ Max $\gg$ AllFt-L; PrWd-R $\gg$ AllFt-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma$H$\sigma\sigma$ $\rightarrow$	$(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{H})(\acute{\sigma}\,\sigma)$	$(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\acute{H})(\sigma\,\acute{\sigma})$
$\sigma\sigma\sigma\sigma$L$\sigma\sigma$ $\rightarrow$	$(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)$	$(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})$

(19) *OHP + quantity-sensitive EOP* (*insertion version*)

    a. Parse-σ, Max $\gg$ FtBin $\gg$ Dep, AllFt-R

	Trochaic : unattested	*Iambic : unattested*
H$\sigma\sigma\sigma\sigma\sigma$ $\rightarrow$	$(\acute{H})(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)$	$(\acute{H})(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})$
L$\sigma\sigma\sigma\sigma\sigma$ $\rightarrow$	$(\acute{L}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\sigma\,\acute{\sigma})$	$(\sigma\,\acute{L})(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})$

    b. Parse-σ, Max $\gg$ FtBin $\gg$ Dep, AllFt-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma\sigma$H $\rightarrow$	$(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{H})$	$(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\acute{H})$
$\sigma\sigma\sigma\sigma\sigma$L $\rightarrow$	$(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\sigma\,\acute{\sigma})(\acute{L}\,\sigma)$	$(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\sigma\,\acute{L})$

    c. Parse-σ, Max $\gg$ FtBin $\gg$ Dep, AllFt-R; PrWd-L $\gg$ AllFt-R

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma$H$\sigma\sigma\sigma\sigma$ $\rightarrow$	$(\acute{\sigma}\,\sigma)(\acute{H})(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)$	$(\sigma\,\acute{\sigma})(\acute{H})(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})$
$\sigma\sigma$L$\sigma\sigma\sigma\sigma$ $\rightarrow$	$(\acute{\sigma}\,\sigma)(\acute{L}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)$	$(\sigma\,\acute{\sigma})(\sigma\,\acute{L})(\sigma\,\acute{\sigma})(\acute{\sigma}\,\sigma)$

    d. Parse-σ, Max $\gg$ FtBin $\gg$ Dep, AllFt-L; PrWd-R $\gg$ AllFt-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma$H$\sigma\sigma$ $\rightarrow$	$(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{H})(\acute{\sigma}\,\sigma)$	$(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\acute{H})(\sigma\,\acute{\sigma})$
$\sigma\sigma\sigma\sigma$L$\sigma\sigma$ $\rightarrow$	$(\acute{\sigma}\,\sigma)(\acute{\sigma}\,\sigma)(\acute{L}\,\sigma)(\acute{\sigma}\,\sigma)$	$(\sigma\,\acute{\sigma})(\sigma\,\acute{\sigma})(\sigma\,\acute{L})(\sigma\,\acute{\sigma})$

6 The quantity-insensitive even output problem under iterative foot optimisation

Like symmetrical alignment, iterative foot optimisation suffers the effects of the quantity-insensitive EOP when the grammar contains both a moraic minimality requirement and a syllabic minimality requirement. There are two differences, however. The first difference is that it is possible under iterative foot optimisation to predict the exact position of syllable insertion and deletion. When a syllable is inserted, it is always inserted into the foot containing the last syllable to have its parsing status settled. When a syllable is deleted, it is always the last syllable to have its parsing status settled. The second difference is that iterative foot optimisation can combine the quantity-insensitive EOP with other patterns. It can combine the quantity-insensitive EOP both with underparsing and with the quantity-sensitive EOP.

Simple quantity-insensitive EOP effects emerge under the rankings in (20).

(20) *Quantity-insensitive EOP* (*even-parity surface forms only*)

    a. *Deletion version*
       Parse-σ, FtMin-σ $\gg$ Max

    b. *Insertion version*
       Max, Parse-σ $\gg$ FtMin-σ, FtMin-μ; FtMin-σ $\gg$ Dep

For each of the patterns summarised in (21) and (22), there are two example outputs for odd-parity inputs. Regardless of the presence or absence of odd-numbered heavy syllables in the inputs, the outputs are always even-parity.

(21) *OHP + quantity-insensitive EOP* (*deletion version*)

    a. Parse-σ, FtMin-$\sigma \gg$ Max $\gg$ AllFt-R

	Trochaic : unattested	*Iambic : unattested*
H$\sigma\sigma\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)
L$\sigma\sigma\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

    b. Parse-σ, FtMin-$\sigma \gg$ Max $\gg$ AllFt-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma\sigma\sigma$H →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)
$\sigma\sigma\sigma\sigma\sigma\sigma$L →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

    c. Parse-σ, FtMin-$\sigma \gg$ Max $\gg$ AllFt-R; PrWd-L $\gg$ AllFt-R

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma$H$\sigma\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)
$\sigma\sigma$L$\sigma\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

    d. Parse-σ, FtMin-$\sigma \gg$ Max $\gg$ AllFt-L; PrWd-R $\gg$ AllFt-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma$H$\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)
$\sigma\sigma\sigma\sigma$L$\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

(22) *OHP + quantity-insensitive EOP* (*insertion version*)

    a. Parse-σ, Max $\gg$ FtMin-$\sigma \gg$ Dep; Parse-σ, Max $\gg$ FtMin-μ, AllFt-R

	Trochaic : unattested	*Iambic : unattested*
H$\sigma\sigma\sigma\sigma\sigma$ →	($\acute{H}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{H}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)
L$\sigma\sigma\sigma\sigma\sigma$ →	($\acute{L}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)(σ $\acute{\sigma}$)	(σ $\acute{L}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

    b. Parse-σ, Max $\gg$ FtMin-$\sigma \gg$ Dep; Parse-σ, Max $\gg$ FtMin-μ, AllFt-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma\sigma\sigma$H →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{H}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{H}$)
$\sigma\sigma\sigma\sigma\sigma\sigma$L →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)(σ $\acute{\sigma}$)($\acute{L}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{L}$)

    c. Parse-σ, Max $\gg$ FtMin-$\sigma \gg$ Dep; Parse-σ, Max $\gg$ FtMin-μ, AllFt-R; PrWd-L $\gg$ AllFt-R

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma$H$\sigma\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{H}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{H}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)
$\sigma\sigma$L$\sigma\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{L}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{L}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

    d. Parse-σ, Max $\gg$ FtMin-$\sigma \gg$ Dep; Parse-σ, Max $\gg$ FtMin-μ, AllFt-L; PrWd-R $\gg$ AllFt-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma$H$\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{H}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{H}$)(σ $\acute{\sigma}$)
$\sigma\sigma\sigma\sigma$L$\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{L}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{L}$)(σ $\acute{\sigma}$)

The quantity-insensitive EOP is combined with underparsing under the rankings indicated in (23).

(23) *Underparsing + quantity-insensitive EOP (insertion version)*
 Max, FtMin-μ ≫ Parse-σ ≫ FtMin-σ ≫ Dep

For each of the patterns summarised in (24), there are two example outputs for odd-parity inputs. In the first, the last syllable to have its parsing status settled is heavy. In the second, the last syllable to have its parsing status settled is light. A heavy syllable in the relevant position leads to syllable insertion, and a light syllable in the relevant position leads to underparsing.

(24) *Underparsing + quantity-insensitive EOP (insertion version)*
 a. Max, FtMin-μ ≫ Parse-σ ≫ FtMin-σ ≫ Dep; Parse-σ, Max ≫ AllFt-R

		Trochaic : unattested	*Iambic : unattested*
H$\sigma\sigma\sigma\sigma\sigma$	→	(H́ σ)($\sigmá$ σ)($\sigmá$ σ)($\sigmá$ σ)	(σ H́)(σ $\sigmá$)(σ $\sigmá$)(σ $\sigmá$)
L$\sigma\sigma\sigma\sigma\sigma$	→	L($\sigmá$ σ)($\sigmá$ σ)(σ $\sigmá$)	L(σ $\sigmá$)(σ $\sigmá$)(σ $\sigmá$)

 b. Max, FtMin-μ ≫ Parse-σ ≫ FtMin-σ ≫ Dep; Parse-σ, Max ≫ AllFt-L

		Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma\sigma$H	→	($\sigmá$ σ)($\sigmá$ σ)($\sigmá$ σ)(H́ σ)	(σ $\sigmá$)(σ $\sigmá$)(σ $\sigmá$)(σ H́)
$\sigma\sigma\sigma\sigma\sigma$L	→	($\sigmá$ σ)($\sigmá$ σ)(σ $\sigmá$)L	(σ $\sigmá$)(σ $\sigmá$)(σ $\sigmá$)L

 c. Max, FtMin-μ ≫ Parse-σ ≫ FtMin-σ ≫ Dep; Parse-σ, Max, PrWd-L ≫ AllFt-R

		Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma$H$\sigma\sigma\sigma$	→	($\sigmá$ σ)(H́ σ)($\sigmá$ σ)($\sigmá$ σ)	(σ $\sigmá$)(σ H́)(σ $\sigmá$)(σ $\sigmá$)
$\sigma\sigma$L$\sigma\sigma\sigma$	→	($\sigmá$ σ)L($\sigmá$ σ)($\sigmá$ σ)	(σ $\sigmá$)L(σ $\sigmá$)($\sigmá$ σ)

 d. Max, FtMin-μ ≫ Parse-σ ≫ FtMin-σ ≫ Dep; Parse-σ, Max, PrWd-R ≫ AllFt-L

		Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma$H$\sigma\sigma$	→	($\sigmá$ σ)($\sigmá$ σ)(H́ σ)($\sigmá$ σ)	(σ $\sigmá$)(σ $\sigmá$)(σ H́)(σ $\sigmá$)
$\sigma\sigma\sigma\sigma$L$\sigma\sigma$	→	($\sigmá$ σ)($\sigmá$ σ)L($\sigmá$ σ)	(σ $\sigmá$)(σ $\sigmá$)L(σ $\sigmá$)

The quantity-insensitive EOP is combined with the quantity-insensitive EOP under the rankings indicated in (25).

(25) *Quantity-sensitive EOP (deletion version) + quantity-insensitive EOP (insertion version)*
 Parse-σ, FtMin-μ ≫ Max ≫ FtMin-σ ≫ Dep

For each of the patterns summarised in (26), there are two example outputs for odd-parity inputs. They illustrate the consequences of having a heavy or light syllable in the position of the last syllable to have its parsing status settled. A heavy syllable leads to syllable insertion, and a light syllable leads to syllable deletion.

(26) *Quantity-sensitive EOP* (*deletion version*) + *quantity-insensitive EOP*
(*insertion version*)

a. PARSE-σ, FTMIN-μ ≫ MAX ≫ FTMIN-σ ≫ DEP; PARSE-σ, MAX ≫
ALLFT-R

	Trochaic : unattested	*Iambic : unattested*
H$\sigma\sigma\sigma\sigma\sigma$ →	(H́ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ H́)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)
L$\sigma\sigma\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)(σ $\acute{\sigma}$)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

b. PARSE-σ, FTMIN-μ ≫ MAX ≫ FTMIN-σ ≫ DEP; PARSE-σ, MAX ≫
ALLFT-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma\sigma$H →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)(H́ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ H́)
$\sigma\sigma\sigma\sigma\sigma$L →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)(σ $\acute{\sigma}$)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

c. PARSE-σ, FTMIN-μ ≫ MAX ≫ FTMIN-σ ≫ DEP; PARSE-σ, MAX,
PRWD-L ≫ ALLFT-R

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma$H$\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)(H́ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ H́)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)
$\sigma\sigma$L$\sigma\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)

d. PARSE-σ, FTMIN-μ ≫ MAX ≫ FTMIN-σ ≫ DEP; PARSE-σ, MAX,
PRWD-R ≫ ALLFT-L

	Trochaic : unattested	*Iambic : unattested*
$\sigma\sigma\sigma\sigma$H$\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)(H́ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ H́)(σ $\acute{\sigma}$)
$\sigma\sigma\sigma\sigma$L$\sigma\sigma$ →	($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)($\acute{\sigma}$ σ)	(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)(σ $\acute{\sigma}$)