Review Article:
Meter in poetry

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Nigel Fabb and Morris Halle. 2008. *Meter in poetry: A new theory*. Cambridge: Cambridge University Press. Pp. x + 297.

Meter in poetry (MIP) presents a unified account of the meters used in the world's poetic traditions. According to Fabb and Halle (F&H), all poetry is made up of lines and the defining feature of metrical poetry is that it involves restrictions on line length (p. 273). The aim of the book is to provide a general framework within which to characterize the various ways in which lines are measured and patterned in the world's poetic traditions. The general outlook of MIP is that of generative linguistics. Just as a linguistic theory is a theory of grammatical well-formedness, a theory of meter is a theory of metrical well-formedness. As its title indicates, the book deals only with meter, not with versification in general; topics such as rhyme, alliteration, and stanza structure are touched upon only to the extent that they are relevant to the discussion of meter.

Works with comparable theoretical goals have appeared in the past, notably Chapter 3 of Halle and Keyser (1971), Kiparsky (1977), Hayes (1983, 1989), Prince (1989), Hanson and Kiparsky (1996), Golston (1998), and Golston and Riad (2000). These were all of article size and none of them dealt with more than a few poetic traditions. MIP's empirical coverage is incomparably more vast. Here are the main headings of the table of contents: "A theory of poetic meter" (pp. 1–43); "English strict meters" (pp. 44–66); "English loose meters" (pp. 67–93); "Southern Romance" (pp. 94–132); "French" (pp. 133–152); "Greek" (pp. 153–185); "Classical Arabic" (pp. 186–213); "Sanskrit" (pp. 214–237); "Latvian" (pp. 238–250); "Meters of the world" (pp. 251–267); "The metrical poetry of the Old Testament" (pp. 268–284).

The chapter headings listed above give only a limited idea of the range of poetic traditions covered. Chapter 4 actually deals with Spanish, Italian, Galician-Portuguese, and the Saturnian verse of Latin.[1] Other languages/traditions discussed in the book are the Judeo-Spanish poetry of the Middle Ages (pp. 208ff.), Bedouin Arabic (pp. 251ff.), Hassānīya Arabic (pp. 253ff.), Chinese (pp. 255ff.), and Vietnamese (pp. 259ff.).

The system presented in MIP was foreshadowed in earlier publications, notably Halle and Keyser (1999) and Fabb (2002). But the book is self-contained. The workings of the theory and the facts that the theory purports to explain are presented with remarkable clarity. The discussion can be followed by anyone familiar with linguistic arguments and with sequential derivations.

According to MIP a meter is a set of rules and conditions. Here is how these rules and conditions operate in order to assess the metricality of a sequence of words. Taking that sequence as an input, the rules apply sequentially to construct a metrical grid. The conditions then check the resulting scansion — that is, the composite object consisting of the linguistic string and the grid. If the scansion meets all the conditions, the input linguistic sequence is deemed to conform to the meter under consideration. Example (1) outlines the derivations for checking whether two sequences are well-formed trochaic tetrameters. The sequences are *Pléasure néver is at home* and *Pléasure is néver at home*[2] ((22a), p. 15, and (26), p. 19). The first is a well-formed trochaic tetrameter, but the second is not.
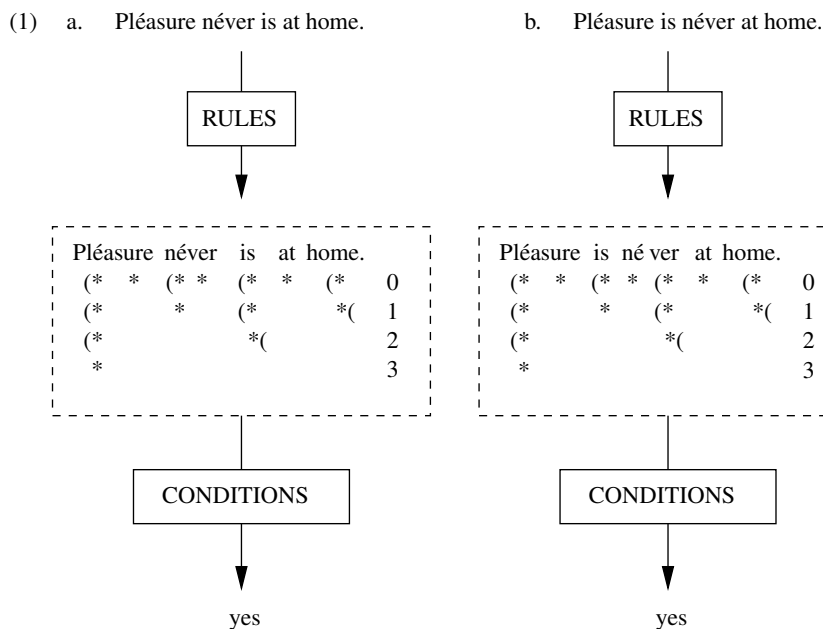
(1)   a.   Pléasure néver is at home.   b.   Pléasure is néver at home.

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[2]The acute accents indicate lexical stress, not explicitly marked in F&H's presentation.

As can be seen from the scansions in the dashed boxes in (1), a grid is made up of "Gridlines", which are rows of asterisks. Grids are constructed from top to bottom, one Gridline at a time. First, Gridline 0 is constructed by writing one asterisk under each syllable of the input sequence. After that, a set of iterative rules applies. Each rule takes as its input the sequence of asterisks created by the preceding step in the derivation. It divides that sequence into headed groups and writes an asterisk beneath the head of each group, thereby creating a new Gridline.[3] In (1), for instance, here is how the rules derive Gridline 1 from Gridline 0. The sequence of asterisks of Gridline 0 is scanned from left to right, inserting left parentheses to form binary groups whose left element is the head of the group. An asterisk is written beneath the head of each Gridline 0 group, which yields the four asterisks that constitute Gridline 1. This is shown in (2).

(2) * * * * * * * ⟶ (* * (* * (* * (*   Gridline 0
                          *   *   *   *   Gridline 1
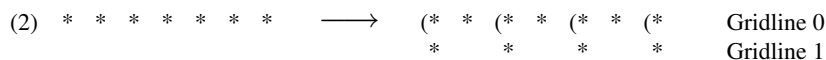
The iterative rules for trochaic tetrameters are given below ((34), p. 22).[4]

(3) a. Gridline 0: starting just at[5] the L edge, insert a L parenthesis, form binary groups, heads L. The group formed during the last iteration may be incomplete.

   b. Gridline 1: starting just at the L edge, insert a L parenthesis, form binary groups, heads L.

   c. Gridline 2: starting just at the L edge, insert a L parenthesis, form binary groups, heads L.

The diagram in (2) depicts the operation of rule (a). Note that in (2) the rightmost Gridline 0 group is incomplete. An incomplete group cannot occur in a Gridline unless the iterative rule for that Gridline has a rider allowing it, which rule (3a) does. Since rules (3b) and (3c) do not have such a rider, Gridlines 1 and 2 may not end in an incomplete group; that is, they must contain an even number of asterisks.

Grids are, among other things, devices for counting syllables and deriving line lengths. In general, one way to count things is to gather them into groups of uniform size, to do the same with the resulting groups, and then with the resulting groups of groups, and so on until one is left with a single group. Our base-ten counting system does precisely that using groups of 10, which is a fairly large size. In contrast, MIP's framework implies that the number system employed by the language faculty can only count in twos or threes.[6]

In (2), rule (3a) divides Gridline 0 into four groups. Since each group on Gridline 0 is represented by one asterisk on Gridline 1, counting the asterisks on Gridline 1 is the same as counting the groups on Gridline 0. Rule (3b) divides Gridline 1 into two binary groups, each represented by an asterisk on Gridline 2. Rule (3c)

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[3]Inserting parentheses and projecting group heads to the next Gridline are actually separate operations, but this simplification is immaterial here.

[4]In MIP and in this review, *L* and *R* are shorthand for 'left' and 'right'.

[5]In this iterative rule and others below, which I cite verbatim, *just at* means 'right at' — in other words, *do not* skip any asterisks before inserting the first parenthesis.

[6]I am setting aside F&H's account of Old Testament metrical verse; see below.

then applies to Gridline 2, where it can only form one binary group. This group is represented by a single asterisk on Gridline 3, and grid construction ends.

Each meter in a poetic tradition is characterized by its own set of iterative rules. This set contains one rule for every Gridline but the bottom-most. To be well formed, in MIP's system, a grid must be complete, meaning that every iterative rule must have inserted parentheses during the grid's construction and its bottom-most Gridline must contain exactly one asterisk. The only linguistic sequences from which the iterative rules in (3) can derive grids that are complete are those made up of seven or eight syllables. Example (4) shows the result of applying the rules in (3) to sequences that contain fewer than seven syllables or more than eight.

(4) a. *Sequences with fewer than 7 syllables*:

    Ma ni to ba
    (*   *   (* *(1
    (*   *(0
     *   2

b. *Sequences with more than 8 syllables*:

    1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
    (* * (* * (* * (* * (*   *   (*   *   (*   *   (*   0
    (*   *   (*   *   (*   *   (*   *(1
    (*   *   (*   *(2
     *   *   3

In (4a) the derivation stalls when rule (3c) tries to parse Gridline 2 into complete binary groups. This cannot be done, as Gridline 2 consists of only one asterisk. Consequently rule (3c) fails to apply and (4a) is not a complete grid.

In (4b) the syllables are represented by digits to gain space. Gridline 3 is bottom-most because (3) does not contain any iterative rule that could apply below Gridline 2. The grid in (4b) is ill-formed since its bottom-most Gridline contains more than one asterisk.

Returning to the two derivations in (1), whose linguistic sequences both give rise to well-formed (in fact, identical) grids, the difference between them is that in (1a) but not (1b) the scansion in the dashed box satisfies the following condition, which is part of the definition of the English trochaic tetrameter:

(5) Maxima must project to Gridline 1 ((25), p. 8).

The definition of *maximum* varies across traditions or even across meters within a given tradition. In the case at hand, a maximum is a syllable that bears word stress in a polysyllabic word ((29), p. 19). The scansion in (1b) fails to satisfy condition (5) because the initial syllable of *néver*, which is a maximum, is not represented by an asterisk on Gridline 1.

Condition (5) brings us to the other main function of grids, besides controlling line length, which is to provide a basis for positional restrictions on different kinds of syllables. In a trochaic meter the main stresses of polysyllabic words can only occur on odd-numbered syllables; this is explained as the effect of condition (5), in conjunction with the fact that Gridline 0 groups are left-headed and formed starting from the left edge of the Gridline. As another example of the role of group heads,

consider the case of the French *décasyllabe* (pp. 142–143), a ten-syllable line in which the fourth syllable and the last are word-final and stressed. The grid for this meter is exemplified in (6). ("Δ" will be explained later on, in the discussion of (16).)

(6) Je vis de loin surgir une nacelle
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)*  *)  *  *)  *  *)  * *)  *  *)Δ      0
    *       *)      *   *      *)        1
            (*                  *(        2
            *                             3
```

The fourth syllable and the tenth are the only ones that project an asterisk to Grid-line 2, which allows the authors to posit the following condition for the French *décasyllabe* (condition (14), p. 141):

(7) The two syllables projecting to Gridline 2 must be maxima and must be followed by a word boundary (caesura).[7]

F&H's iterative rules for the *décasyllabe* are given in (8).

(8) a. Gridline 0: starting just at the R edge, insert a R parenthesis, form binary groups, heads R.

b. Gridline 1: starting just at the R edge, insert a R parenthesis, form ternary groups, heads R. The group formed during the last iteration must be incomplete — binary.

c. Gridline 2: starting just at the L edge, insert a L parenthesis, form binary groups, heads L.

Every meter in every tradition is characterized by iterative rules like those in (3) and (8). The rules in (3) and (8) are but particular instantiations of a general rule schema, which contains several variable parameters. To show the range of variation that MIP allows across traditions and meters, I again give rule (8b), with brackets around every term susceptible of parametric variation:

(9) Gridline 1: starting $[\text{just}]_1$ at the $[\text{R}]_2$ edge, insert a $[\text{R}]_3$ parenthesis, form $[\text{ternary}]_4$ groups, heads $[\text{R}]_5$. The group formed during the last iteration $[\text{must}]_6$ be incomplete — $[\text{binary}]_7$.

Pursuant to the value of parameter 1, rule (9) must insert a parenthesis as soon as it starts scanning its input; some rules, by contrast, are required to skip asterisks before they start inserting parentheses. Parameters 2, 3, and 5 range over two values: L and R. Parameter 4 ranges over two values: binary and ternary. Parameter 6 ranges over three values: *must*, *may*, and *may not*.[8] Parameter 7 needs to be set only for rules that form ternary groups; in rules that form binary groups, incomplete groups can only be of one kind: unary.

In an iterative rule of grid construction, each parameter is set independently of the other parameters. In a set of iterative rules such as (3) or (8), the parameters for each rule in the set are also independent of those for the other rules in that set.

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[7]For French a maximum is defined as a syllable bearing the word stress ((4), p. 137).

[8]The default option is *may not*, in which case the rule does not mention incomplete groups; see for instance rules (3b), (3c), (8a), and (8c).

In English trochaic meters, parsing Gridline 0 into left-headed binary groups yields abstract patterns like that in (2), where odd-numbered syllables project to Gridline 1. Due to condition (5), these patterns manifest themselves as a rhythm in which only odd-numbered syllables may be stress maxima. This situation is typical of many analyses in MIP: the grouping of Gridline 0 asterisks in twos or threes produces a basic periodicity, which results in a rhythmic pattern, due to a condition on Gridline 1 that involves stress or syllable weight.[9] It is a remarkable feature of MIP's approach that the same formal machinery that serves to impose a basic binary or ternary periodicity on the syllabic sequence is also used to define features that characterize the line as a whole, such as caesura, or the location of the syllable that must have a Sharp tone in Vietnamese *ca dao* (p. 260).

In the two examples I have used to outline the course of derivations in MIP's system, the only rules that produce or change representations are iterative rules of grid construction. This is a feature of these particular examples, which were chosen for expository convenience. For most meters the "rules" box in (1) contains other rules besides the iterative ones. One kind of rule that is commonplace is an asterisk-deletion rule. I illustrate with the scansion of the compound meter *sārdūlavikrīḍita* of Classical Sanskrit (pp. 231–232). In this meter the first sub-line is a 12-syllable sequence that must fit the pattern in (10), where "H" and "L" represent heavy and light syllables.

(10)   H H H   L L H   L H L   L L H

The uneven spacing is a visual aid to suggest that this pattern can be broken down into four triplets, the second and fourth of these being anapests (that is, LLH sequences), and the third coming close to it. Here is how MIP accounts for this pattern. The iterative rules are those in (11), and (12a) is the grid that these rules derive for a well-formed sub-line. (Derivation (12b) and the underscore in (12a) will be explained below.)

(11)   a.   Gridline 0: starting just at the R edge, insert a R parenthesis, form ternary groups, heads R.

       b.   Gridline 1: starting just at the L edge, insert a L parenthesis, form binary groups, heads L.

       c.   Gridline 2: starting just at the R edge, insert a R parenthesis, form binary groups, heads R.

[9]The Spanish *endecasílabo* is subject to the same condition (5) as the English trochaic tetrameter (p. 109), but with a different definition of stress maximum ((38), p. 104). In Bedouin songs from Sinai and the Negev, syllables project to Gridline 1 if and only if they are stressed (p. 253). In Greek dactylic and anapestic meters (pp. 171, 177) and in Arabic "Circle 2" meters (p. 206), syllables projecting to Gridline 1 must be heavy. Some Sanskrit meters require in addition that other syllables be light (see ex. (13) below).

(12)   a.   ūḍhā yena mahādhuraḥ su viṣame
            H H H L   L H L H L L L H[10]
)* *   *)*   * *) *   * *)* * *)   0
                (*   *   (*   *(1
)*   *)   2
                                     *   3

       b.   ūḍhā yena mahādhuraḥ su viṣame
            H H H L   L H L H L L L H
)* *   *)*   * *) *   * Δ)* * *)   0
                (*   *   (*   *(1
)*   *)   2
                                   *   3

The rules in (11) can parse any 12-syllable sequence whatsoever, regardless of the distribution of syllable weights. In order to allow only sequences that fit the pattern in (10), the two conditions below are imposed on well-formed scansions. (Condition (13) is shared by several other Sanskrit meters in MIP's account.)

(13)   Syllables projecting to Gridline 1 must be heavy; other syllables must be light.

(14)   The leftmost syllable which projects to Gridline 1 must be preceded by heavy syllables.

Condition (13) alone would allow only a sequence of anapests. The role of (14) is to ensure that the first triplet in the line is HHH, as required by (10), rather than an anapest. F&H assume that (14) takes precedence over (13), a more general condition.[11] Conditions (13) and (14) are, then, met by all the syllables in scansion (12a) except the two underlined ones, which both violate (13). The remedy is the following rule ((26), p. 223):

(15)   Delete the Gridline 0 asterisk of the light syllable projecting to the head of the verse.

The head of a verse is the lone asterisk that constitutes the bottom-most Gridline. In (12a) the head of the verse corresponds to the underlined L. Deleting the Gridline 0 asterisk projecting from that L yields scansion (12b), where "Δ" is a reminder of where the deleted asterisk stood.[12] As a result of the deletion, the asterisk projecting from the underlined H becomes rightmost in its Gridline 0 group, which makes it the head of that group.[13] Both syllables in the underlined HL sequence now meet condition (13). Scansion (12b) meets conditions (13) and (14) and consequently the input sequence is deemed metrical.

This analysis is typical of MIP's approach in at least two respects: (i) the iterative rules first construct a grid that approximates the observed pattern, and then the grid is adjusted locally by a deletion rule; (ii) the deletion rule uses the head of the grid to locate the deletion site.

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[10]The third syllable and the last are H because the vowel *e* is always long.

[11]Another case of conflict between conditions that is resolved in a similar manner occurs on p. 216.

[12]"Δ" is merely an expository convenience; it does not form part of the grid.

[13]A similar device has already been proposed in phonology; see Halle and Vergnaud (1987:29).

Since the deletion rule makes reference to the head of the verse, it must apply after the last iterative rule. MIP's framework also allows rules that must apply before the first iterative rule. As stated on p. 154, all Greek meters share a rule that deletes the Gridline 0 asterisk projected from the first syllable in any sequence of light syllables. This rule applies before the iterative rules in some meters (e.g., pp. 157ff., 169ff.) and after them in others (e.g., pp. 179–180). Finally, MIP countenances rules that are crucially ordered between iterative rules; see p. 121, where rule (85) is ordered between the iterative rules for Gridlines 0 and 1.

Asterisk-deletion rules are only one kind of non-iterative rule in MIP. Besides rules that delete parentheses, instantiated only once in the book (Rule (85), p. 121), two other types of rules play an important role: non-iterative parenthesis-insertion rules and non-projection rules. The former are a key feature of MIP's approach to "loose" meters, that is, meters in which the spacing between Gridline 1 asterisks is not uniform. An example would, unfortunately, take up too much space. Instead, here is an example of non-projection. In French poetry, line-final syllables with a "feminine" schwa are not counted in the computation of line length. (A feminine schwa is a schwa that occurs in the last syllable of a polysyllable.) To deal with this fact, F&H posit a non-projection rule:[14]

(16) At the end of a line, a syllable is not projected to Gridline 0 if its vowel is schwa and it is the last syllable in a polysyllabic word.

This rule must apply before the iterative rules. It operates for instance in (6), where there is no asterisk under the final syllable of trisyllabic *nacelle* and "Δ" is written instead as a reminder of this fact (see note 12).

To summarize, each meter in a poetic tradition is characterized by its own "mini-grammar" (my terminology), which produces sequential derivations like those outlined in (1). A mini-grammar consists of ordered rules and of well-formedness conditions. A linguistic string is deemed metrical if the rules can derive from it a grid that is complete, and if furthermore the resulting scansion meets the well-formedness conditions. In the mini-grammar that defines a given meter, some rules and conditions are specific to that meter while others are shared by several other meters or by all the meters of the poetic tradition.

I have merely outlined the bare bones of MIP's system. Within the confines of a short review it is out of the question to try to fully convey the complex rule interactions posited within this system. In the remarks about the book that follow, I concentrate on the machinery for counting syllables, which F&H view as "the major topic of [their] book" (p. 13). I will comment on two features of their framework that present problems needing to be addressed in further work: its phonological parsimony and its descriptive power.

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[14]This is my reformulation of (3i), p. 135. As is shown, for instance, by the examples discussed in Cornulier (1995:35–37), monosyllables must be excluded from the purview of non-projection. Exceptions are *je* and *ce* when they are enclitics: sequences like *sais-je* in (7) on p. 137 behave in all respects as though they were polysyllables ending with a feminine schwa, a well-known fact of French phonology.

What I mean by the phonological parsimony of F&H's system is that it assumes very little about the phonological make-up of the linguistic sequences that are inputs to derivations, employing relatively basic representations of them. F&H do not make use of the Prosodic Hierarchy that is taken for granted in much current phonological work. In particular they do not assume the existence of moras. An important claim made in MIP is that "the syllable is the ultimate constituent of metrical verse" (p. 213). In the first step of grid construction, the phonological units that project to Gridline 0 are syllables. This is in keeping with the close kinship between the grids in MIP and those advocated by Idsardi (1992) and Halle and Idsardi (1995) for representing stress in phonology; see pp. 39–43 in MIP. F&H succeed in avoiding moras altogether for Greek, for Classical Arabic, and also for much of Sanskrit. However, for the "mora-counting" meters of Sanskrit, in which lines contain a fixed number of moras (see pp. 232ff.), the first rule that applies in a derivation is the following ((61), p. 233):

(17) Project a light syllable as an asterisk on Gridline 0. Project a heavy syllable as two asterisks on Gridline 0.

Here, for instance, is how the two-word sequence *vyākhyātum eva* is projected on Gridline 0 ((71), p. 235):

(18)   vyākhyātum eva
         H   H L   H L
        * * * * *   * * *   0

The obvious question is why it is not light syllables that project as two asterisks and heavy syllables that project as one. Invoking rule (17) is tantamount to making use of moras without saying so. Clearly, the analysis of the metrical facts in question becomes less arbitrary if moras are included in the phonological representations. It also becomes simpler; the excess descriptive power of F&H's system is already a cause for concern, as will be seen below.

In support of their contention that the syllable is the ultimate constituent of metrical verse, F&H adduce the generalization that syllables are never split between consecutive grids (pp. 213, 234). However, such a split seems to be precisely what happens at the second caesura in the second line in their example (49) on p. 229, also from Sanskrit: *pace* the discussion on p. 228, the most natural interpretation of the situation is that the heavy syllable /ruk/ straddles two consecutive "sub-lines," each with its own grid; /ru/ is associated with one grid and /k/ is associated with the next.[15]

Another instance of phonological parsimony is F&H's concern for limiting the ways in which phonology and metrics can interact. They put forth the important claim that in any given metrical tradition, "metrical rules and conditions recognize only a two-way partition of syllables" (p. 267). The basis for the partition varies

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[15]Tashlhiyt Berber songs provide further counterexamples to the purported generalization. Syllables that are split between consecutive lines do in fact occur in Tashlhiyt verse, and contrary to what F&H write in note 10 on p. 228, these intrasyllabic enjambments do not impinge on the computation of syllable weight; see Dell and Elmedlaoui (2008:126–132) for a detailed discussion.

depending on the tradition considered: stressed vs. unstressed, heavy vs. light, Sharp tone vs. Even tone, etc.

F&H's account of French is a prima facie counterexample to this claim, because condition (14) on p. 141 (reproduced above as (7)) must be able to distinguish between those syllables that bear word stress and those that do not (see note 7), while the non-projection rule (3i) on p. 135 (see (16)) must be able to tell apart syllables with a schwa and syllables with another vowel. It may be that the definition of maximum in French and the non-projection rule can be modified so as to save F&H's general claim about the two-way partition of syllables, but it remains to be seen how this is to be done.

I now turn to the descriptive power of F&H's system. Most of the book is devoted to analyses of specific meters drawn from various poetic traditions. These analyses show how the proposed framework can accommodate the bewildering variety of these traditions. The price for this breadth of coverage is a very rich formal apparatus. The richness of F&H's descriptive machinery raises concerns about its empirical content. Rather than a theory of meter, what is presented in MIP is an outline of such a theory, with some components articulated in greater detail than others. The only area of MIP's framework where the range of options allowed by the system is described precisely is the iterative rules. In view of the incompleteness of the system, it is impossible to state exactly what patterns it excludes in principle from the range of possible meters. Much will depend on the extent to which non-iterative rules and well-formedness conditions are allowed to vary, a question F&H implicitly leave for further research.[16]

In MIP's framework some meters admit of alternative accounts that cannot be distinguished on empirical grounds.[17] Consider for instance F&H's rules for five-syllable lines in French (the italics are visual aids to make the riders about group incompleteness stand out):

(19) *Five-syllable meter (French)*:

      a. Gridline 0: starting just at the R edge, insert a R parenthesis, form binary groups, heads R. *The group formed during the last iteration must be incomplete.*

      b. Gridline 1: starting just at the R edge, insert a R parenthesis, form binary groups, heads R. *The group formed during the last iteration must be incomplete.*

      c. Gridline 2: starting just at the R edge, insert a R parenthesis, form binary groups, heads R.

I shall use the expression "iterative module" to refer to a set of iterative rules like (19).[18] A grid derived by the rules in (19) is given in (20a), with digits as stand-ins for

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[16]The range of attested meters is furthermore limited by "practical requirements of composition and reception", which F&H view as similar to "performance factors [that prevent] actual verbal behavior [. . .] from making free use of some of the possibilities made available by linguistic competence" (p. 90).

[17]I am setting aside cases of genuine metrical ambiguity like those discussed on pp. 50–51 and pp. 79–80.

[18]See also (3), (8), and (11).

syllables.[19] But (19) is not the only iterative module that could be used to define the French five-syllable meter in MIP's system. Other such modules can be derived by simultaneously changing *R edge* to *L edge* and *R parenthesis* to *L parenthesis* in one or more of the rules in (19). To illustrate, two grids constructed by such alternative modules are in (20b) and (20c). If the rule changes just described are made to just the Gridline 0 rule (19a), the grid constructed by the resulting iterative module is that in (20b). If those changes are made to just the Gridline 1 rule (19b), the resulting grid is that in (20c). The arrows in (20b,c) signal which Gridline has undergone a modified rule.

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(20)  a.                          b.                          c.
      1  2  3  4  5               1  2  3  4  5               1  2  3  4  5
      *) *  *) *  *)   0          (* *  (* *  (*   0 ⇒        *) *  *) *  *) 0
      *)    *     *)   1             *) *     *)   1          (*    *     (* 1 ⇒
      )*          *)   2             )*       *)   2             )*    *)    2
                  *    3                      *    3                  *     3
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The three grids are empirically indistinguishable, in the sense that each one is compatible with all the facts concerning five-syllable lines in French verse. As any combination of the three rules in (19) may be subjected to the changes described above, (19) is but one among eight (2^3) different iterative modules that are empirically indistinguishable.

How does one choose between alternative scansions like those in (20)? F&H do not give a general answer to this question, but we can infer the outline of an answer from the kinds of arguments they offer in defence of their analyses in specific cases. The factor that contributes most substantially to narrowing the range of potential analyses of a given meter is F&H's overarching concern for establishing a simple relation between different meters that belong to the same poetic tradition. Compare for instance the rules for French five-syllable lines with those for seven-syllable lines, which are given in (21); a grid derived by these rules is depicted in (22a) ((8), p. 139).

(21) *Seven-syllable meter (French)*:

> a. Gridline 0: starting just at the R edge, insert a R parenthesis, form binary groups, heads R. *The group formed during the last iteration must be incomplete.*
>
> b. Gridline 1: starting just at the R edge, insert a R parenthesis, form binary groups, heads R.
>
> c. Gridline 2: starting just at the R edge, insert a R parenthesis, form binary groups, heads R.

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(22)  a.  1  2  3  4  5  6  7          b.  1  2  3          c.  1  2  3
          *) *  *) *  *) *  *)  0          *) *  *)  0          )* *  *)  0
          )*    *)    *     *)  1          )*    *)  1                *  1
             )*          *)     2                *)  2
                         *     3                *   3
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There is only one difference between module (21) for seven-syllable meter and module (19) for five-syllable meter: unlike the Gridline 1 rule of (19), that of (21) lacks

the italicized rider requiring that the last group be incomplete. More generally, in MIP's account French meters with lengths ranging from one to eight syllables have iterative modules that are all like (19) and (21). These modules only differ from one another as to which rules have a rider requiring that the last iteration create an incomplete group. To give another example, if one adds this rider to the Gridline 2 rule in (21), the result is MIP's iterative module for lines in which there are three syllables, instead of seven. A grid constructed by this module is depicted above in (22b) ((10), p. 139).

The grid in (22b), which groups asterisks by twos, seems a rather elaborate way of scanning three-syllable lines in French verse. MIP's framework also allows a simple ternary scansion, which is represented in (22c). That scansion is generated by an iterative module with only one rule in it, that for Gridline 0: Starting just at the R edge, insert a R parenthesis, form ternary groups, heads R. Why did F&H not adopt that straightforward solution?

Although they do not make it explicit, the reason for their preference is not in doubt. In discussing various meters belonging to the same poetic tradition, F&H's policy is the same throughout the book: they invariably aim for rules that are as similar as possible across meters and for generalizations that are valid for the tradition taken as a whole. A trivial example is the non-projection rule (16). Since the discounting of line-final feminine schwas is a general fact about French verse, the authors state it only once, as a rule that applies in the scansion of every meter. Incorporating that fact independently into the rules for individual meters would result in a tremendous loss of generality. Although F&H's method of exposition tends to focus the reader's attention on individual meters, their work is in fact an inquiry into the structure of metrical traditions, rather than individual meters.

We now see the reason why F&H prefer (22b) over (22c) for the scansion of three-syllables lines in French. Adopting (22c) would require positing ternary groups on Gridline 0, while in MIP's account of French, Gridline 0 groups are binary in all meters.

The tacit assumption here is that for group size on a given Gridline — here, Gridline 0 — to be invariant across meters in a metrical tradition is a significant generalization about that tradition. But then, how come group size is not invariant across French meters on Gridline 1 as well? In MIP's account of French, Gridline 1 groups are binary in some meters and ternary in others; compare for instance (21b) and (8b). It is possible to devise an alternative account of French in which all meters have ternary groups on Gridline 1. Each Gridline 1 rule of MIP's account that forms binary groups has an empirically equivalent rule that forms ternary groups. For instance, the alternative module for seven-syllable lines is obtained by replacing the Gridline 1 rule of (21b) with the following:

(23) Gridline 1 (revised): starting just at the R edge, insert a R parenthesis, form *ternary* groups, heads R. *The group formed during the last iteration must be incomplete — unary.*

The resulting module constructs the grid in (24a); MIP's grid, which was given above in (22a), is reproduced below in (24b) for the sake of comparison.

```
(24)  a.  1  2  3  4  5  6  7            b.  1  2  3  4  5  6  7
          *) *  *) *  *) *  *)  0            *) *  *) *  *) *  *)  0
          *)    *     *     *)  1            )*    *)    *     *)  1
          )*                *)  2            )*                *)  2
                            *   3                              *   3
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It bears emphasizing that the alternative account of French just outlined is empirically indistinguishable from MIP's account, and that the entity described in the two equivalent accounts is not merely an individual meter, but the poetic tradition taken as a whole. Note furthermore that this empirical equivalence is unlike that which one often encounters in theorizing about language acquisition, when two grammars are compatible with all the data available to the learner at a given stage of the process of acquisition. In this case the existence of alternative grammars is only a temporary situation: the learner will later on encounter additional data that will decide between the two grammars. In the case of the alternative analyses we are considering here, all the data about French meter that is in principle relevant for deciding between the two analyses is already known to the analyst.

Finally, it is not clear how simplicity considerations could help one decide between the two accounts. In general, when they discuss alternative accounts that their system makes available for the same set of data, F&H appeal to simplicity to justify their choice, without articulating their conception of simplicity. It is probable that, rather than a methodological principle for evaluating competing scientific theories, the kind of simplicity they have in mind is a criterion built into the mental machinery that listeners/readers bring to bear when they deal with metrical verse, something like the evaluation measure envisioned by generative grammarians in the 1960s; see for instance Chomsky and Halle (1968).

The excess descriptive power is considerably increased in the final chapter, which deals with metrical verse in the Old Testament. According to F&H, Old Testament metrical verse is unique among the meters discussed in MIP, in that it is "based on ordinary counting, without grouping syllables into pairs/triplets" (p. 271). F&H do not explain why an account of Old Testament metrical verse in terms of the formal apparatus presented in the previous chapters would be inadequate. Be that as it may, the final chapter enormously enlarges the range of analytic options, since it implies that metrical grids are not the only way of counting syllables; an alternative way is "simple counting" (p. 271), "syllable counting of the most rudimentary kind, without groupings into feet, metra, etc." (p. 283). If "ordinary counting" is available as an alternative to metrical grids, it is not clear to me why ordinary counting could not be used to measure the length of French lines lacking a caesura, rather than iterative rules like those in (19) and (21).

Problems and loose ends are unavoidable in an enterprise with the scale and ambition of MIP. They should not distract us from the importance of Nigel Fabb and Morris Halle's achievement. This work is unique for the range and diversity of metrical traditions that it succeeds in bringing together under a unified account. To pull off such a feat is something few scholars could achieve. On p. 153 the authors write: "All kinds of meter involve counting and patterning. In the theory of this book, the counting explains the patterning." If they are on the right track in making counting

the cornerstone of metrical scansion, it is to be expected that in the coming years many new results in metrical research will arise from attempts to answer questions raised by the system developed in MIP.

Corrigenda

Strings that need correction are enclosed between angled brackets; emendations are preceded by a slash.

p. 5: <Browning>/Byron

p. 20: "from a <Gridline>"/line

p. 91: the arrows in (53) should be right-pointing

p. 93: <syllable whose projection cannot be deleted>/non-projected syllable

p. 115: "rule (<3>)"/9

p. 124: misplaced parenthesis in (99)

p. 127: "as in (10<6>)"/8

p. 137: in (5)a, "starting <at>"/ just at

p. 147: at the end of (24), add the following: "The last (rightmost) group must be incomplete (unary)".

p. 151: in the first sub-line in (35), add parenthesis before the leftmost asterisk on Gridline 0; in the second sub-line, *idem* on Gridlines 0 and 1.

p. 152: "(6) and (3<5>)"/6

p. 230: "rules (4<6>)"/5

p. 241: "<left> margin"/right

p. 255: *<lu>*/*lü*; *<zhe>*/*ze*; in addition, *pace* the cited source, *<qiú>*/*qiū*, and furthermore in lines 2 and 4 in (10) the rightmost tones are in fact *ping*

p. 258: in (19): "immediately to its <right>"/left; "with <one> other"/one and only one

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