The Metrics of Children's Verse: A Cross-Linguistic Study

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Nursery rhymes in many languages consist of verses of four lines, and each line has four major "beats." The beats are spaced evenly in time and are usually marked by syllables with stress or with some other phonological distinction that sets them off from surrounding sylla-bles, but rests occur in a few beat positions. Each language has its own special characteristics within this general pattern, but the similarities between languages seem greater for nursery rhymes than for more elaborate forms of poetry. It seems difficult to attribute the cross-linguistic similarities to anything except our common humanity.

INTRODUCTION

IN spite of a few recent and intriguing studies[2] the science of comparative metrics is hardly firmly established. This may be due in part to our convic-tion that poetic language, and metrics in particular, is so utterly dependent upon the idiosyncratic character of the individual language that comparison (and, of course, translation) is extremely difficult. Students of the English language who have devoted their careers to English verse have often been poorly equipped to deal with other languages, particularly those from outside of Europe, but linguists and anthropologists have been at least as badly handi-capped when dealing with the complexities of metrical theory in any language, even English. Perhaps we can avoid some of the worst complexities by first limiting the comparison to nursery rhymes, for one would expect these to be simpler than most other forms of poetry, and it should be sound strategy to attack simple things first. It may be that children throughout the world recite simple but rhythmical verses, and an anthropologist like myself, who would not presume to make pronouncements upon the metrics of Shakespeare or Shelley, can attack nursery rhymes with relatively little fear. It turns out, moreover, that children's poems in a remarkable range of languages share a number of features, and this means they can be compared without quite as much difficulty as might first be imagined.

In this paper I examine nursery rhymes from a number of languages, and I try to point out some of their similarities and differences. I will start with English, simply because it is my native language and it is the language most readers will find most familiar. I am not the first to discover the patterns that I will describe, but students of English verse seem singularly disunited in the importance they place upon these patterns.[3] This lack of unity arises, I sus-pect, because English scholars have been interested in far more sophisticated English poetry than nursery rhymes, and so long as we stick to simple verse, the major patterns seem clear enough.

ENGLISH

The overwhelming majority of English nursery rhymes have 16 "beats," which are divided into four "lines" of four beats each. Each beat is spaced

evenly in time from its neighbors (exactly like the stressed note that introduces a measure in music), so that the rhythm of a nursery rhyme can be called "isochronic" and can easily be recited to the accompaniment of a metronome. Each beat is typically (but with an important exception to be noted later) marked by a stressed syllable, and it is this regularly recurring stress that distinguishes simple metrical verse from prose.[4] Thus, in the following examples, any native speaker of English will stress the syllables marked with the numbers, and he will space these stressed syllables evenly in time, even if, as may be the case with the third example, he is unfamiliar with the particular poem.

(1)
```
    1        2      3        4
Humpty Dumpty sat on a wall,
    5       6      7         8
Humpty Dumpty had a great fall.
9           10        11            12
All the king's horses and all the king's men,
    13          14        15      16
Couldn't put Humpty together again.
```

(2)
```
    1         2        3         4
Ride a cock-horse to Banbury Cross,
      5       6      7          8
To see a fine lady upon a white horse;
    9          10          11        12
Rings on her fingers and bells on her toes,
    13           14         15        16
She shall have music wherever she goes.
```

(3)
```
    1        2       3          4
Two little monkeys sitting on a bed,
5       6       7         8
One fell off and bumped his head.
    9                10            11    12
Mommy called the doctor and the doctor said,
    13     14     15              16
"Had no business jumping on the bed."
```

It is important to realize that the number of weak or unstressed syllables between adjacent beats is extremely variable and that the number is apparently irrelevant to the larger rhythmical pattern. In general, anything from none to three unstressed syllables can occur between any two adjacent beats. The number of unstressed syllables in no way affects the isochronism of the major beats, as the reader can easily verify by reading the examples given here or by experimenting with other verses. When many syllables come between beats, they are simply said more rapidly, so that the next beat is reached at the same moment it would have been reached had there been no intervening syllables at all. There is a limit, however, and the unpleasant feeling in the line

(4)
```
        5           6         7             8
She had so many children she didn't know what to do.
```

seems to be due to the excessive number of weak syllables falling between the last two beats. Three successive weak syllables are allowed; four are too many.

The variability in the number of weak syllables does not mean that the number is irrelevant to our appreciation of a particular verse or line. On the contrary, it seems to be very largely the patterning of weak syllables that gives us our impression that one verse has a different rhythm from another, and it in some way helps to create the mood of the poem. But the variability does not touch the larger pattern of four beats to the line and of four lines to the verse, a pattern that is too inflexible to offer variation that could create differences in rhythm or mood.[5] Because the number of unstressed syllables is irregular, any attempt to analyze English nursery rhymes into "feet" such as iambs, trochees, or spondees is, in my opinion, doomed to failure. I doubt if one can make a serious claim that metrical feet have any relevance at all for simple English verse.[6]

The underlying four-beat line has one important variation. The fourth beat of any line may be filled by a rest instead of by a stressed syllable. The pause that constitutes the rest is essential to the rhythm, and it serves to maintain the sequence of four beats even in a line with only three stressed syllables. Rests are ignored by our conventional writing system, and only musical notation indicates them explicitly, but they are as obligatory in poetry as in music. The most common pattern of rests in nursery rhymes is for the last beat of the second and fourth lines (i.e., beats 8 and 16) to be a rest, while all other beats are filled by stressed syllables.

(5)
```
  1         2          3       4
Old King Cole was a merry old soul,
      5        6        7       8
And a merry old soul was he;    R
      9          10          11             12
He called for his pipe and he called for his bowl,
          13           14        15    16
And he called for his fiddlers three.    R
```

To verify the obligatory nature of the rests, the reader need only attempt to recite (5) without them. It is mechanically possible to do so, but it is clearly wrong. Dozens of nursery rhymes have this pattern. They are sometimes said to have alternating four-beat and three-beat lines, but such a description ignores the obligatory rest, and it obscures the fundamental similarity of these verses to those in which every line has its full complement of four occupied beats.

Other distributions of rests are less common, but "Hickory, dickory, dock" has rests at positions 4, 8, and 16, only the third line being complete.

(6)
```
     1        2        3       4
Hickory, dickory, dock,    R
        5        6        7        8
The mouse ran up the clock.    R
        9          10         11        12
The clock struck one, the mouse ran down,
     13     14      15       16
Hickory, dickory, dock.    R
```

Occasional verses have a rest only in the final line.

(7)
```
        1          2          3         4
   One little, two little, three little indians,
        5          6          7        8
   Four little, five little, six little indians,
        9         10          11        12
   Seven little, eight little, nine little indians,
        13        14         15        16
   Ten little indian boys.     R
```

Finally, if the deviant fifth line of "This little pig" is temporarily ignored (see below), the first four lines form a verse in which the last beat of every line has a rest.

(8)
```
        1        2            3          4
   This little pig went to market,     R
        5        6            7          8
   This little pig stayed at home,     R
        9       10    11              12
   This little pig had roast beef,     R
        13      14    15      16
   This little pig had none,     R
```

(And this little pig cried wee-wee-wee-wee all the way home.)

While rests may occur at the last beat of any line, examples 5 through 8 suggest that they are most common in the fourth line, but they are almost as common in the second. The first line has a rest far less frequently, but rests in the third line are the most unusual of all.

This pattern—4 lines, 16 beats, an irregular number of weak syllables, and optional rests at the last beat of each line—satisfactorily accounts for the overwhelming majority of English nursery rhymes. We do have occasional couplets, consisting of a half verse,

(9)
```
     1            2            3          4
   Old Mother Goose when she wanted to wander,
        5            6          7        8
   Would ride through the air on a very fine gander.
```

and occasional six-line verses,

(10)
```
     1     2     3     4
     A  B  C  D  E  F  G,
     5     6     7            8
     H  I  J  K  L  M  N  O  P,
     9        10    11      12
     Q   R   S and T   U   V
        13     14    15      16
     Double-U and X   Y   Z.
        17     18   19       20
     Happy Happy we shall be
        21     22     23     24
     When we learn our A–B–C's.
```

but they are in the distinct minority. We also have a few verses with degenerate final lines. In "This little pig," which was already mentioned, the fifth toe seems to be more than the verse pattern of Mother Goose can cope with, and

"This little pig cried wee-wee-wee-wee all the way home" simply cannot be scanned in any reasonable fashion.

Rhymes are adapted to the patterns of lines and rests, and help to reinforce them. In a verse with no rests, the syllable at beat 4 usually rhymes with that at beat 8, and the syllable at beat 12 rhymes with that at 16. When rests occur at beats 8 and 16, it is usual for the syllables immediately preceding the rests (beats 7 and 15) to rhyme instead. The verses already given offer a number of examples, and most readers will have no difficulty thinking of others.

It is also quite common to have internal rhymes within the first line, so that the syllable at beat 2 rhymes with that at beat 4.

	1 2 3 4
(11)	Hey diddle diddle, the cat in the fiddle . . .
	1 2 3 4
(12)	Jack Sprat could eat no fat . . .
	1 2 3 4
(13)	Little Jack Horner sat in a corner . . .
	1 2 3 4
(14)	Old Mother Hubbard went to the cupboard . . .

Almost as common are internal rhymes in the third line by which the syllables at beat 10 and beat 12 are paired together, as in the third lines of "Old Mother Hubbard," "There was a little girl," "Little Bo-Peep," and "Little Jack Horner."

	9 10 11 12
(15)	. . . When she got there, the cupboard was bare . . .
	9 10 11 12
(16)	. . . And when she was good, she was very, very good . . .
	9 10 11 12
(17)	. . . Leave them alone, and they'll come home . . .
	9 10 11 12
(18)	. . . He stuck in his thumb, and pulled out a plum . . .

By combining a number of the features already mentioned, a limerick can be produced. Limericks have rests at the last beat of every line except the third (as in "Hickory, dickory, dock"), they have an internal rhyme in the third line (as in examples 15 through 18), and like many nursery rhymes they also rhyme beat 7 to beat 15. Limericks also rhyme beat 3 to beat 7 (and indirectly to 15), a less usual pattern in nursery rhymes though they sometimes rhyme when beat 4 has a rest.

	1 2 3 4
(19)	There was an old dame of Nantucket **R**
	5 6 7 8
	Who kept all her cash in a bucket **R**
	9 10 11 12
	Her daughter named Nan ran away with a man
	13 14 15 16
	And as for the bucket, Nantucket. **R**

Of course it is conventional to write a limerick with five lines, by splitting what I write here as the single third line into the more usual short third and fourth orthographic lines, but this orthographic convention should not obscure the basic similarity of the limerick to other simple forms of English verse.[7] The

third line as I write it, the only line to lack a rest, probably gives the limerick a good deal of its vigor. It seems to signal the approach of the end, and it prepares the listener for the punch line.

It appears likely to me that in all simple verse the beats to which I have given odd numbers (the first and third of each line) are given a slightly greater stress than the even-numbered beats, but the difference is a subtle one and probably varies with the style of recitation. If such an extra stress does occur, then it combines with several other features to give simple English verse a peculiar binary character. An entire verse is clearly divided into two halves (couplets), as is shown by the patterns of both rests and rhymes. Each couplet in turn is clearly divided into two lines. The lines are often divided into two halves (hemistiches), as is shown by the internal rhymes and possibly by the differing stresses of odd and even beats. Finally each half line obviously has two beats, but the single beat is as far as binary divisions can be made, for below this point comes the irregularity caused by the variable numbers of unstressed syllables.

Since each larger unit can be symmetrically divided into two units of the next smaller type, a few verses can be read in two ways; that is, we can assign the regular metrical pattern to these verses in two alternative ways. For instance, the following fragment of "Sing a song of sixpence" can be interpreted as having two complete 16-beat verses:

(20a)
```
 1     2     3 4
Sing a song of sixpence,
   5     6     7       8
A pocket full of rye;    R
   9        10   11  12
Four and twenty blackbirds
 13  14  15     16
Baked in a pie.    R
   1     2     3 4
When the pie was opened,
     5     6     7       8
The birds began to sing;    R
   9     10   11   12
Wasn't that a dainty dish
   13    14      15      16
To set before the king?    R
```

If, instead, we emphasize only alternate beats, and minimize what are shown as even-numbered beats in (20a) to the point where they are no longer even heard as beats, we have:

(20b)
```
  1              2             3             4
Sing a song of sixpence, a pocket full of rye;
  5              6             7             8
Four and twenty blackbirds baked in a pie,
    9             10            11             12
When the pie was opened, the birds began to sing;
   13            14            15            16
Wasn't that a dainty dish to set before the king?
```

Only a minority of nursery rhymes are susceptible to alternative interpretations such as (20), for a verse must have neither too many nor too few un-

stressed syllables. The difference between the two interpretations is the same as the difference between $\frac{2}{4}$ and $\frac{4}{4}$ time in music. (20a) is in $\frac{2}{4}$ time, and it has many beats, often on alternate syllables and sometimes even on adjacent syllables; while (20b) is marked, as in $\frac{4}{4}$ time, with fewer and more widely spaced beats, often with three intervening unstressed syllables.

By this time the pattern of beats may seem to have been removed rather far from any clear relationship to phonemic or syllabic stress of the sort we recognize in the nonpoetic use of English. The same word or syllable may occur at a beat position in one poem, or in one reading, but between beats in another poem or even in an alternative reading of the same poem. Nevertheless, syllable stress is related to the metrical beat in certain clear ways. A two-syllable word might not receive any beat at all, but if it does, it must be adjusted so that its stressed syllable will fall at a beat position. Since we can use varying numbers of unstressed syllables between the beats, we can adjust the longer words to make them fit the beat without undue difficulty. Two words, such as "under" and "below," that have different positions of stress can still be substituted for one another in the same line by compensating in the surrounding unstressed syllables:

<pre>
       1   2   3   4
    I hear the water below the bridge.
       1   2   3   4
    I hear the water under the bridge.
</pre>

The pattern of beats, then, is partially independent of the rest of the language, and the trick of composing simple poetry is to fit the words to the pattern, adjusting them in such a way that their stresses will somehow fit the rhythm of beats that our ear demands.

Jump-rope games, counting games, clapping games, all are widely, perhaps universally, played by children. All are clear examples of the metrical pattern, for they depend in a particularly clear way upon the beat. In "Eeny-meany-miney-mo," the one who is reciting points to a new child at each beat and pays no attention to the total number of syllables. One jumps to the beat in a jump-rope game and claps to the beat in clapping games.

Once we recognize these four-beat lines and their collection into four-line verses, we see them turn up in a far wider variety of popular verse than just nursery rhymes. Virtually all popular songs and advertising jingles fit this pattern, as do the ephemeral but easily grasped poems that appear in our comic strips or as contributions to our popular magazines. Even Ogden Nash, when he scans at all—which of course he often fails to do—generally fits the pattern very well (Nash 1949:51):

<pre>
                1   2   3   4
    (21)   Any hound a porcupine nudges
                  5   6   7   8
                Can't be blamed for harboring grudges.
                   9   10   11   12
                I know one hound that laughed all winter
                    13   14   15   16
                At a porcupine that sat on a splinter.*
</pre>

And in spite of its six syllables, even the popular children's taunt:

(22)

is unambiguously a four-beat line.

The metrical pattern is obviously closely related to the rhythm of music, and one may feel tempted to ask whether the rhythm of poetry is anything except music. The beats that I have recognized are analogous to musical measures, although it seems quite unnecessary to recognize any particular position in simple poetry as marking the end of one measure or the beginning of the next.[8] Measures in folk and popular songs, like the beats of simple poetry, often cluster into groups of four, and four of these clusters frequently make a verse, although other multiples of four measures are not unusual. In spite of such manifest similarities, I feel it would go too far to dismiss the rhythm of poetry as nothing but the penetration of music into language. Even if metrics were nothing but music, we would still have the properly linguistic problem of discovering how we adjust our linguistic patterns to the music, but beyond this, one might say equally well that the rhythm of music is merely a matter of the imposition of poetry upon melody. The more reasonable attitude would seem to be that we have general rules of rhythm, which are neither predominantly musical nor predominantly poetic, but stand equally behind both music and spoken verse, and to which we must adapt both melody and language.

The four-beat line also appears to have great historical depth. In writing of the earliest poetry in the Germanic languages, Lehmann (1956) states: "There is no problem about the predominant elements of the line. These are four syllables, two in each half-line, which are elevated by stress, quantity, and two or three of them by alliteration" (1956:37). Alliteration, of course, is not consistently used in modern popular verse, but I find it difficult not to see in these four "elevated" syllables (known to Germanic scholars as "lifts") the beats of modern popular verse.[9]

Lehmann, however, makes a rather sharp contrast between the earliest Germanic poetry and the poetry of later centuries, and he says, " . . . the [Germanic alliterative] lines vary greatly in precisely those characteristics that modern verse has standardized: the relative position of the stresses and the number of unstressed syllables per line" (1956:36). By "modern verse," Lehmann is of course referring not to nursery rhymes but to the sophisticated tradition of English poetry from Chaucer through Shakespeare to Shelley and Keats and so on. But except for the alliterations, nursery rhymes and popular songs preserve the very characteristics that Lehmann considers to be exclusively ancient, and they appear to perpetuate a very old tradition.

Alliteration has, to be sure, been largely replaced by rhymes. But where alliteration does occur in modern popular verse, it occurs on the beats, and if the beats can be identified with the ancient "lifts," this is exactly where they occurred in ancient Germanic verse.

```
                    1        2        3     4
(23)              Said the flea to the fly in the flu,    R
                    5        6            7        8
                  "We are caught so what shall we do?"    R
                    9          10            11        12
                  Said the flea, "let us fly." Said the fly, "let us flee."
                    13          14          15      16
                  So they flew through a flaw in the flu.    R
```

More sophisticated English verse has been predominantly interpreted as iambic pentameter—ten syllables to the line divided among five feet with a stress on the second syllable of each foot. To be sure, a considerable number of lines deviate in one way or another from rigid iambic pentameter. They may have a "feminine ending" (an extra weak syllable at the end of the line) or one or two deviant feet, but certainly a large number of lines do fit the standard interpretation. To the extent that such verse cannot be simultaneously interpreted as having four isochronic beats to the line (see note 6), then it is probably difficult and unnatural, and requires special study to be appreciated. Its very difficulty makes iambic pentameter less tedious, and probably permits its use on occasions when the more popular and, in the literal sense of the word, "vulgar" four-beat lines would be out of place. I would make a claim, then, that goes precisely counter to the repeated assertion that iambic pentameter is somehow the "natural" mode of expression in English poetry. I believe instead that it is rather a mode that many English speakers never master and that probably always has to be explicitly taught. All English speakers probably master the four-beat line with no special instruction, and that would seem to make it the more "natural" verse form.

The sophisticated tradition of iambic pentameter can even be regarded as a sort of elaborate aberration away from popular verse. It is sometimes written as much to be read from the printed page as to be recited aloud or listened to, and it is not dependent upon the ease of universal mastery for its dissemination or perpetuation. The four-beat line, on the other hand, has had extraordinary continuity. The earliest known English verse may have been a good deal closer to an oral folk tradition than is later sophisticated English poetry, and the four-beat line has been perpetuated from that time to our own nursery rhymes and folk songs.

The pattern's persistence ought to raise the question of the extent to which it is uniquely English, and the extent to which it is generally human. The obvious way to deal with this question is to examine popular verse in languages as remote as possible from English and from each other, and to see whether they have comparable patterns. I will first turn to the Peking dialect of Chinese.

CHINESE

The Chinese tradition of children's verse has many similarities to our own. Similar topics appear in the poems and they contain a certain amount of sheer nonsense. Like most English nursery rhymes also, the Chinese examples can

often be alternatively sung with a melody or recited without one. Division into lines can be easily accomplished, on the basis of both grammatical divisions and rhymes, which as in English come predominantly, though not exclusively, at the end of the line. The examples that I give here are transcribed in "Yale Romanization," which, for present purposes, seems somewhat better than the older and more familiar Wade-Giles. The reader is urged to find a Chinese speaker who can read these examples aloud, for otherwise he will have to accept on faith that these verses, like English nursery rhymes, have a regular isochronic beat, and that the beats do indeed fall on the syllables where they are marked.[10]

The first example is frankly chosen for its similarity to English verse. It falls naturally into four lines, most of them rhymed, and each line has four beats. Note that the number of syllables between the beats is irregular, varying from none to two. (In this transcription a vowel or a pair of adjacent vowels signals a syllable, but *ts*, *dz*, and *sz* may also count as separate syllables, and when *r* has an accent—i.e., a tone mark—it must be counted as a vowel.)

(24)

1		2	3		4		

Syǎu hár, syǎu *hár* shāngjǐng *tár*   Little child, little child
    5   6   7   8   climbs the well platform
Shwāile ge gēntóu, jyǎnle ge *chyér*   Falls head over heels, picks
 9   10 11   12   up a coin
Yòu dǎ tsù, yòu mǎi *yér*   And vinegar, and buys
 13   14   15   16   salt
Yòu chyǔ syífù, yòu gwò *nyěr*.   And gets married and lives
                                      out his years.

Chinese also allows rests on the last beat of the line, as in (25). Without oral recitation, there is no way to convince a skeptical reader that these rests are present, but I do not believe that anyone hearing the poem read aloud would have any doubts.

(25)

1	2	3	4	

Yí, èr, sān, sž, *wǔ*,   **R**   One, two, three, four, five,
 5   6   7   8
Jīn, mòu, shwěi, hwǒ, *tǔ*,   **R**   Gold, wood, water, fire, earth
 9   10   11   12
Yàndz lǎi gwò chyáu,   **R**   Cross the bridge
 13   14   15   16
Gēr gā yī chī *shǔ*.   **R**   (Noise of flying birds), let us
                                  count together.

(24) and (25) fit precisely the same pattern that accommodates English verse, and I could easily multiply examples. As in English, each line has four beats and the last beat of each line can have a rest, although I have not discovered as much variability in rest patterns as I have in English. The number of syllables between beats is irregular, though (25) happens to be quite consistent, and most Chinese poems are not quite as irregular in the number of weak syllables as English poems.

Some Chinese examples do deviate from English, however. A few verses

have irregular first lines, as if it takes a while for the verse to settle down to its meter. In (26), for example, the first line has six beats instead of the more usual four, but it immediately reverts to the four-beat rhythm.

(26)
```
      *   *   1      2      3     4
    yáu, yáu, yì yáu yáu dàu wàipwó chyáu        Rock, rock, rock to grand-
           5        6     7      8                  mother's bridge
    wàipwó jyàu wǒ syǎu bǎubǎu:                  Grandmother calls me little
      9      10   11   12                           "baubau"
    táng yībāu, gwǒ yíbāu,                       Package of candy, package
      13          14  15      16                    of fruit,
    chīde wǒ dòur gǔ gāugāu!                     I ate until my stomach
                                                    was big and full.
```

Chinese also appears to be somewhat less rigid than English in the number of lines per verse, though four lines is still most common. In (27), which has six lines, I mark the beats as they appeared when the verse was recited without melody. It can be sung, however, and when it is, the first two lines are stretched out greatly in time. For this reason, one might consider the first two lines to be extra ones, and see the latter four as falling into a regular 16-beat verse.

(27)
```
        *      *      *            *
    ché, ché, ché góulù yúan ne,                The cart wheels are round,

     *       *      *        *
    jyā jyā mén hòu gwà húng syàn ne,           Behind every house gate hangs
        1       2    3      4                      a red thread,
    húng syàn jyòu, gwà yāu dāu,                Behind the red thread hangs
        5       6    7      8                      a sword,
    yāu dāu jyāu, dǐng dà tīen;                 The sword is sharp, (it)
        9     10    11       12                    reaches the sky;
    tīen dǎ léi-a, gǒu yǎu dzéi-a,              The sky thunders, the dog
        13    14    15      16                     bites the thief,
    syī lā, hwā lā, yī dà dwēi!                 (Noise of glass and porcelain)
                                                   everyone falls down.
```
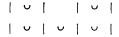
The final Chinese example is only a couplet, but it has a characteristic form.

(28)
```
        1        2  3     4
    Líng-lúng tǎ, tǎ líng-lúng                  Elegant pagoda, elegant pagoda
        5        6    7      8
    Líng-lúng bǎo tǎ, shf-sān tzúng.            Elegant pagoda has 13 stories.
```

The pattern of weak and strong syllables found in (28) is very common in the Chinese children's verses I have seen, and can be diagramed as follows:

```
    |  ◡  |      |  ◡  |

    |  ◡  |  ◡  |  ◡  |
```

If (28) is rearranged by having each line broken into two smaller lines, just as "Sing a song of sixpence" (20) was rearranged, one would have:

```
    |   |   |  R

    |   |   |  R

    |   |   |   |

    |   |   |  R
```

which has a curious resemblance to an English limerick. Of course it differs

from a limerick in having every syllable considered to mark a beat, but the long third line (or in the original arrangement the extra weak syllable between beat 6 and 7) probably plays a similar role to the long third line of a limerick, by rhythmically anticipating the coming of the end.[11]

One may well ask what phonetic characteristics are used in Chinese to carry the beat. Unfortunately, the only confident statement I can make in this regard is a negative one: the beat has nothing to do with tone. In more sophisticated forms of Chinese poetry tone can play a crucial role: in some varieties, syllables occupying particular positions in the line must carry an appropriate tone (Lotz 1960). I first examined Chinese children's verse because I imagined that tone might act in some degree like English stress in marking out rhythm, but it does not. Even an inspection of the few examples given here may be enough to convince the reader that any tone may appear at any position, whether or not that position has a beat, and an examination of a much larger sample would confirm this conclusion. (The four main tones of Peking Chinese are marked in this transcription as ⁻ ′ ◡ ` respectively, while syllables in the fifth "tone," the so-called "toneless" syllables, are left unmarked.) If tone does not give the beat in Chinese, then one must ask what does? My guess is that it is imposed by higher-level intonational patterns, and that it has little to do with segmental phonology. This is hardly a satisfactory answer, but the problem will have to be left to someone more knowledgeable in Chinese syntax and intonation than I.

The metrical patterns of English and Chinese nursery rhymes are similar enough to allow a number of direct comparisons. First, Chinese seems to be less variable in the number of weak syllables between beats than is English. Chinese is particularly rigid in discouraging weak syllables before the first beat or after the last beat of a line. Even in English, weak syllables are probably somewhat less common in these positions than they are between adjacent beats of the same line, but Chinese goes farther in this limitation. Even between adjacent beats of the same line, Chinese is somewhat less variable than English, for Chinese has a rather strong tendency to alternate a beat syllable with a single weak syllable, as in some of the examples, though a considerable number of lines have no weak syllable at all between the second and third beats. These are only statistical tendencies however; I have found many examples that show that Chinese, like English, can have up to three weak syllables between adjacent beats, and the various lines of the same poem need not follow the same pattern, any more than in English.

Second, Chinese is less rigid than English in limiting itself to the four-beat line. The examples given here include one six-beat line, and in other poems a fair number of lines with other than four beats show up, six-beat lines probably being the most frequent.[12] Still, four-beat lines have a clear majority, and it takes only a little practice to make them sound entirely normal and rhythmical to the English ear.

Third, Chinese seems particularly variable in the number of lines in a verse. English is only cautiously variable in this regard, though it does have an occa-

sional couplet or six-line verse. These are more common in Chinese, and in contrast to English, where an odd number of lines is virtually unknown, I have Chinese examples with three, five, or seven lines in a verse. Even in my sample of Chinese, however, four-line verses are in a substantial plurality, though not a clear majority. In a collection of 74 poems (P'u Ch'üan-Ch'ün 1956) 32 have four lines, 11 are couplets, and 3 verses have eight lines, the latter possibly consisting of two four-line verses. The collection also includes 8 verses of six lines, surely more than one would find in a representative collection of English nursery rhymes, and 8 poems with three lines, 4 with five lines, 2 with seven lines, 2 with nine lines, and one each with 10, 11, 12, and 30 lines, this last consisting of ten sections of three lines each.

Chinese rhymes (italicized in the examples) operate much like those of English. They generally occur at the end of the lines, most often between adjacent lines; but occasionally the second and fourth beat of the same line are made to rhyme, just as they are in English. Rhymed syllables must have identical "finals" (vowels, and final consonants if any), but the tones need not be identical. Unlike English, where some sort of rhyme seems to be completely obligatory, a few Chinese verses lack them.

In summary then, Chinese children's verse differs from English in being less variable in the number of weak syllables between beats, but more variable in the number of beats per line, in the number of lines per verse, and probably in its rhyming patterns. Nonetheless, these differences operate within a remarkably similar framework.

BENGKULU

Bengkulu is a Malayo-Polynesian language spoken in southwestern Sumatra. It is closely related to Minangkabau, and hence not too divergent from Indonesian. Speakers of Bengkulu are so rare outside of Indonesia that few readers will be able to confirm my statements about the rhythm of its children's verses, although the language is enough like Indonesian that one or two of the examples may be recognizable as rather deviant versions of poems or songs known to speakers of standard Indonesian. In spite of its unfamiliarity, I give a number of Bengkulu examples here, for they raise some interesting problems not found in either the Chinese or the English.[13] Several of the examples are popular among older children or adolescents rather than among the smallest children, but they illustrate certain patterns very well.

The first two examples, (29) and (30), raise no problem. In both cases, each line has three beats occupied by a slightly stressed syllable, and a fourth beat occupied by a rest. These verses have a surprisingly large number of weak syllables at the beginning of the lines. The fourth line of (29) actually has four weak syllables before the first beat, which are more successive weak syllables than occur in any position in either English or Chinese. These weak syllables are said very rapidly and by no means crowd out the preceding rest. (Each vowel, or the sequence *ai*, indicates a separate syllable.)

	1 2 3 4	

(29)   Anak ik*an* dimakan ik*an*.   **R**   The baby fish is eaten by
                     5   6   7   8   a fish.
         Anak tenggiri didalam la-*ut*.   **R**   The baby mackerel is inside
                     9   10   11   12   the ocean.
         Sanak buk*an* sudara buk*an*   **R**   Someone not a kinsman, not
                         13   14   15   16   a sibling
         Kareno budi mako tesang*kut*.   **R**   Has entangled you by a
                                                                               favor.

(30)   Dari mano punai mela*jang*?   **R**   From where does the dove glide?
                     5   6   7   8
         Dari kaju turun kepa*di*.   **R**   From the tree down to the padi.
                     9   10   11   12
         Dari mano kasih sa*jang*?   **R**   From where does love move?
                     13   14   15   16
         Dari mato turun keha*ti*.   **R**   From the eye down to the heart.

(31) and (32) raise a new problem. "Pak-pak pisang" is a clapping game in which an adult sits with a small child alternately slapping his knees with his left and right hand, until the very last beat when he tickles the child. I emphasize the slapping by marking the points where the slaps occur with "l" and "r"—these beats being isochronic. One slap occurs at a rest. "Lenggang" was at one time a rather popular song in part of Indonesia. Because of the irregularity of its lines, I mark the beats with asterisks rather than with numbers. I give these songs as I first transcribed them (31a, 32a), with the rests marked as in the earlier English and Chinese examples.

(31a)   Pak-pak pisang   Slapping sound; banana

         Pisangku belum masak   **R**   My banana is not yet ripe

         Masak sebid*ji*   One is ripe

         Diurung bari ba*ri*   In the middle of the thorny bush

(32a)   Lenggang lenggang kang*kung*   **R**   Sway like a (certain kind of) plant

         Kangkung ditengah saw*ah*.   **R**   Plant in the middle of a rice field.

         Nasib tidak un*tung*   (My) fate is unfortunate

         Punja kawan seperti di*a*.   **R**   Having a friend like him.

These verses seem at first to break the now familiar pattern since the number of beats in each line is variable. The first verse has lines of 3, 5, 3, and 4 beats, while the second has lines of 4, 4, 3, and 5 beats. A little ingenuity, however, is enough to rearrange the lines and allow four beats to re-emerge consistently. One need only suppose that the rests occur at the beginning of the lines instead of at the end. A rest formerly written at the end of the verse must be considered to come at the very beginning instead. One may wonder how one could ever recognize a rest that comes either at the very end of a verse or

at its very beginning, but if, as in some of these cases, the song has more than one verse the answer is simple, for a rest must then be left between adjacent verses. Of course this does not tell whether the rest is at the end of one verse or at the beginning of the next, and only a consideration of the general patterning of the poem can solve that problem. If (31a) and 32a) are rewritten so that rests come at the beginning, we have:

(31b)
<pre>
          l   r   l
      R   Pak-pak pisang
      r   l   r   l
      Pisangku belum masak
      r   l   r   l
      R   Masak sebidji
       r l   r   *
      Diurung bari bari.
</pre>

(32b)
<pre>
      1   2   3   4
      R   Lenggang lenggang kangkung
      5   6   7   8
      R   Kangkung ditengah sawah.
      9   10   11   12
      R   Nasib tidak untung
          13   14   15 16
      Punja kawan seperti dia.
</pre>

Rearrangement of the rests may look like sleight of hand, but it brings some incidental advantages. Rhymes become lined up, so that they appear in the same position of successive lines, and in the case of the slapping game, the left and right slaps appear in the same positions in each line. It is worth noting that in "Lenggang," the only two lines that are not separated by a rest are the third and fourth, the same lines that are run together without a rest in a limerick. The absence of a rest would seem, in both cases, to signal the approach of the end.

Two additional Bengkulu examples, (33) and (34), also require rests at the beginning of the lines.[14] (33) is recited to small babies while holding their hands and clapping them together, and it suggests a reward for mature behavior. (34) is recited by school-aged children.

(33)
<pre>
      1   2   3   4
      R   Puk ambai ambai   (Sound of clapping hands)
      5 6   7   8
      Belalang kupu kupu   Grasshopper, butterfly
      9   10 11   12
      R   Nani leke pandai   Nani learns quickly
          13   14   15   16
      Buli di-upa a-ir susu.   Will be rewarded with milk.
</pre>

(34)
<pre>
      1   2   3   4
      R   Gelang sipaku gelang   Tra la, Tra la
      5   6   7   8
      R   Gelang sirama rama   Tra la, butterfly
      9   10   11   12
      R   Pulang marilah pulang   Home, let's go home
          13   14   15 16
      Marilah pulang ber sama sama   Let's go home together
</pre>

Bengkulu rhymes occur at the ends of lines and most often in an *abab* pattern, though in (31) only the last two lines are rhymed.

To recognize rests at the beginning of lines gives Bengkulu one striking difference from either English or Chinese. It also raises the possibility that the first two Bengkulu examples, (29) and (30), should also be written with the rests at the beginning of lines, though this would offer little advantage, since a rest occurs with every line. To place the rests at the beginning of (29) would, however, place the identical rhymes of the first and third lines at the second and fourth beats, which is where internal rhymes occur both in English and Chinese. Other than the peculiarity of its rests, Bengkulu seems to fit much the same pattern as Chinese and English. So far as can be judged by my limited examples, Bengkulu is completely rigid in having four lines to the verse, and if rests are placed at the beginning, all lines have four beats. I have no verse without at least two rests, while verses with no rests at all are common in English and constitute a considerable majority in Chinese. Bengkulu appears to be as varied as English in the number of weak syllables between the beats. In its many weak syllables before the first nonrested beat of the line, it is very different from Chinese, and goes further even than English. This may well be related to the presence of the previous rests.

As with Chinese, I am by no means clear about just what phonological features provide the beat. The syllables at the beats seem to be slightly stressed by comparison with the others. The beats are often on the last syllable of a word, but at other times they are on the penultimate syllable. In the absence of at least some preliminary analysis of the stress and intonation patterns of Bengkulu, I can do little except emphasize once more that the position of the beat is as consistent and unambiguous as it is in English nursery rhymes.

MISCELLANEOUS

Although English, Chinese, and Bengkulu are both geographically and typologically divergent, any claim to the universality of a linguistic pattern must rest upon more than three languages. In this section, therefore, I give some rather random and only partially analyzed examples from a number of other languages. These have been chosen to represent the greatest possible diversity, but in the absence of much fuller linguistic analysis, they can only be regarded as suggestive. Certainly the range of variation within any single language cannot possibly be suggested by one or two poems. Nevertheless, these examples do serve collectively to suggest that the pattern of four-beat lines and even of four-line verses is a remarkably widespread one. (35) is a modern child's poem from Cairo Arabic.

(35)	1 2 3 4 ʔana qismi Saami	My name is Sammy
	5 6 7 8 qaašit-il ʔasaami	May the name live
	9 10 11 12 bukra ʔabʔa muḥami	Tomorrow I'll become a lawyer
	13 14 15 16 zay ma ʔaal Papa. **R**	Just as Papa says.

1 2 3 4	
ʔana qandi uṭṭa	I have a cat
5 6 7 8	
taakul il furuṭṭa	(which) eats the fruit
9 10 11 12	
tigri ǫa lmaḥaṭṭa	(and) runs to the station
13 14 15 16	
tistana Papa. **R**	waiting for Papa.

(36) is a child's verse from Yoruba of Nigeria. I find this a particularly interesting example in view of the following statement by Greenberg: "It appears safe to conclude that except for possible recent influences of European rhymed poetry, the vast majority of African peoples south of the Sahara, including here the non-Moslem peoples of West Africa and all the Bantu peoples except the Islamicized Swahili, do not possess prosodic systems" (1960:928). By prosodic systems, Greenberg means such characteristics as rhyme, alliteration, quantity, stress, and tone that are used to set apart noncasual utterances according to "rules which can be stated in terms of the sound structure alone" (p. 926). Greenberg also quotes Babalola (1957:7) with approval as saying, "Yoruba poetry has neither rhyme or regular metre." Yet here is a Yoruba children's verse that has a clear and simple rhythm that seems to be marked by the regular occurrence of stress.

(36)	1 2 3 4	
	Iya lonigbowo mi.	Mother is my helper.
	5 6 7 8	
	Ontoju mi ni kekere.	(She) cares for me during youth.
	9 10 11 12	
	Ẹhin re lofi pon mi.	(She) carries me on her back.
	13 14 15 16	
	Iya ku isẹ mi. **R**	Mother does well for me.
	1 2 3 4	
	Mi yio ki'ya mi ku isẹ	I will greet my mother
	5 6 7 8	
	Pẹlu teribamolẹ	With great respect
	9 10 11 12	
	Emi koni kǫ 'sẹ fun (i)yamimǫ	I will not refuse work for my mother again
	13 14 15 16	
	Iya-o ku-isẹ mi o. **R**	Mother, thank you.

(37) is part of a short poem from the Southern California Indian language, Serrano. The language is rather deviant from normal colloquial Serrano, and it is not possible to give a full translation or to be certain of the accuracy of what is translated, but the rhythm can hardly be questioned.

(37)	1 2 3 4	
	Wi·ʔn aya· atax aya·	(?)
	4 5 6 7	
	Pu·kuʔ mai hu·ʔai.	Their fire is burning.
	9 10 11 12	
	Niyəkəməʔ ninaʔ naməʔ	My mother and my father,
	13 14 15 16	
	Pu·kuʔ mai hu·ʔai.	Their fire is burning.

Finally, J. L. Fischer has described the meter of Trukese and Ponapean oral literature as follows:

Metered texts are generally organized in groups of two or three lines each. Most common

are a series of couplets in which both lines contain seven moras, i.e., seven short syllables or an equivalent combination of short and long syllables (with long syllables counting as the equivalent of two short ones). Couplets of seven and five, five and five, and occasional irregular lines are also found. . . . The choice of seven and five moras for the length of lines may seem rather arbitrary. I am not sure, however, that this is so. If one considers that the pauses between lines also have definite length and that there are long and short pauses, a seven mora line plus a short pause could be treated as an eight mora unit, the pause counting for an additional mora. . . . [In certain chants] a short pause has the value of one mora, and a long pause has the value of three moras. Thus five and seven mora lines with pauses added are both equivalent to eight moras. A further variant which fits into this same pattern is that occasionally a seven mora line is replaced by two three mora lines, each followed by a one mora pause. These again add up to eight moras. . . . There is a tendency for the odd numbered moras to be more strongly stressed than the even numbered moras in the case of short syllables, and for long syllables (which are generally stressed) to begin on odd numbered moras, except for the last mora in a line [Fischer 1959:48].

The strongly stressed odd-numbered moras sound very much like the "beats" that I have recognized in other languages, so it would seem that Trukese and Ponapean verse also consists of four-beat lines, with a rest possible at the last beat of the line. There is some degree of variation in the number of syllables lying between the beats, but apparently none can come before the first beat or after the last beat of a line.

CONCLUSION

I find the array of languages with 16-beat verses to be rather impressive. In English, of course, these patterns are by no means confined to children's verse, and I see no reason why they should be confined to children's verse elsewhere. My attention to nursery rhymes has simply been a matter of expedience. One would suppose that any verse that children can learn and appreciate must be simple, and it is easier to elicit children's verse than the less predictable genres of adult metrical language, but English has limericks, Spanish has metrical riddles, and other languages may well have other types of verse that fit the pattern I have described.[15]

If these patterns should prove to be universal, I can see no explanation except that of our common humanity. We may simply be the kind of animal that is predestined not only to speak, but also, on certain occasions, to force our language into a recurrent pattern of beats and lines. If all people use similar patterns, then cross-linguistic comparisons of the sort I have made between English, Chinese, and Bengkulu should not be quite as difficult as might first be imagined. For the simplest form of verse, at least, the similarities are so great that comparisons are easy. If we knew more about enough languages, it should be possible to describe the general pan-human features of verse, the features within which our human nature limits us. To these general rules each language could be expected to add its own special restrictions, rules that would limit the broader human capacity to the narrower channels of a particular cultural and linguistic tradition.

Beyond this, the similarity between languages suggests that even translation might not be quite so hopeless as we have always imagined, at least if we limit ourselves to very simple poetry. Of course we cannot translate particular rhymes, though we can translate rhyming patterns. Verse forms, patterns of stress, and numbers of weak syllables can often, it seems, be equally well ex-

pressed in different languages. It is not difficult to design and recite a verse in English that, like Bengkulu, has rests at the beginning of one or more lines. These verses sound a bit strange at first, but they help to convey something of the feeling of Bengkulu verse.[16]

I cannot help but wonder whether even sophisticated verse is not built in part, at least, upon a basis similar to that of simple poetry. Certainly the patterns I have suggested cannot be found in any obvious form in much of our more sophisticated poetry, yet possibly by modifying rules—tightening up in some places, loosening the rules in others—and no doubt by adding some entirely new restrictions, the relation between simple and elaborate poetry could be reduced to fairly reliable generalizations. If this should be true in all languages, then the various sophisticated traditions of poetry might be comparable through the intermediacy of our shared simple forms. The comparative study of metrics would then be the study of the diverse ways in which different poetic traditions depart from the common basis of simple verse. If this should be the case, then the study of the humble nursery rhyme might amount to more than just a pleasant game.

NOTES

[1] It is a particular pleasure to report that the research upon which this paper is based was carried out without a grant of any kind. I am, however, deeply indebted to a large number of friends and colleagues who spent long hours with me, reciting nursery rhymes in various languages and discussing one or another aspect of metrical theory. With seemingly limitless patience and even interest, Miss Rose Li of the Department of Far Eastern Languages at the University of Michigan wrote, recited, and recorded on tape scores of Chinese nursery rhymes, while Dr. Norma Diamond of the Department of Anthropology and the Center for Chinese Studies at the University of Michigan helped me immeasurably with the interpretation of these Chinese examples. For the Bengkulu examples I am indebted entirely to Mr. Amran Halim, of Bengkulu Sumatra, Republic of Indonesia, who is a student in the Department of Linguistics at the University of Michigan. Mr. Ernest Abdel-Messih, of Cairo, Egypt and the Linguistics department, supplied the Arabic example, and Mr. Samuel Adetogun of Ibadan, Nigeria and the Forestry department, supplied the Yoruba. Mr. Kenneth Hill of the Linguistics department was good enough to let me copy his tapes of Serrano verse, to provide the transcription that I give of a Serrano poem, and to permit me to include it among my examples. If my earlier complete ignorance of English metrical theory has in any way been dispelled, that is due to the patient instruction of A. L. Becker, with whom I repeatedly discussed my nursery rhymes and who repeatedly suggested things to read and avenues of investigation to follow up. His wife, Judith Becker, performed a similar role in helping to dispel some of my musicological ignorance.

[2] Among the more intriguing studies of metrics in non-European languages are those by Fischer (1959), Greenberg (1960), and Lotz (1960). It was Lotz's article in particular that gave me the notion of examining Mother Goose rhymes, and it was, therefore, the most immediate stimulus to this paper. The papers by Lotz and Greenberg suffer in one respect: they fail to indicate the precise time relationships of the various parts of the verses. This is largely the fault of our notational system, for unfortunately linguists virtually never use a notation that is capable of indicating time relationships accurately, as only musical notation can do. We may note long and short syllables, but we have generally been unwilling to indicate rests, though these may be crucial to the timing of a verse. As a result it is almost impossible to interpret the rhythm of most of the poetry that has actually been published from little-known languages. For familiar languages the reader can usually supply the rhythm himself from his intuitive grasp of the phonology, intonation, and even syntax of the language. With more exotic languages this is virtually impossible.

A few recent analyses of the music and language of some American Indian songs are more accurate in their indication of timing since they use musical notation. (Robins and McLeod, 1956; Bursill-Hall, 1964.) However, the primary attention of these papers is to longer musical and linguistic phrases than I consider here, and it is difficult to make out the fine-scale relations between the musical beat and phonology. Fischer's article allows a more detailed metrical interpretation, and his conclusions will be considered toward the end of this article.

³ The patterns that I describe for English are capable of being "discovered" over and over again, and after my own discoveries I found to my mild disappointment, but hardly to my real surprise, that others had found the same patterns long before me. The dominance of the four-stress line in English verse, not only in nursery rhymes, but in much other poetry also, as well as the importance of rests at beat positions, has been emphasized recently by Northrop Frye (1957: 251 ff.). A good deal earlier, none other than Edward Sapir, in an article buried away in the *Journal of English and Germanic Philology* (Sapir 1921), suggested that it was unfortunate that our poetic notation includes no method of indicating rests, and pointed out that for certain types of English verse the number of syllables was far less important than the timing of stresses. Even earlier, Sidney Lanier in *The Science of English Verse* (Lanier 1911, first published in 1880) had found many of the same features. In particular, Lanier recognized the crucial importance of rests in all forms of English verse, including specifically nursery rhymes, and he emphasized the absolute rigidity with which the major "accents" (beats) are timed. I am less convinced by Lanier's analysis of the timing of the syllables within the "bar" (or "measure," or between what I have called "beats"). His analysis depends upon an analogy with music, and in fact he uses a simplified musical notation to indicate time relationships both within and between "bars"; but the timing of the syllables between the major beats is somewhat marginal to my topic, and for the larger scale metrical patterns I am in substantial agreement with Lanier.

In spite of this long history, however, critics of English poetry are by no means united in the importance that they place upon these patterns. For a vigorous defense of the traditional but quite different iambic pentameter interpretation see Wimsatt and Beardsley (1959). Both this and Frye's chapter stressing the importance of the four-beat line have been conveniently reprinted in Perry (1965).

⁴ Isochronism of the stressed syllables is by no means confined to simple verse in English. Not only has a good deal of more sophisticated English poetry been interpreted as isochronic (see notes 3 and 6), but even ordinary spoken prose has some tendency in that direction. Kenneth Pike has claimed:

> The timing of rhythm units [a sentence or part of a sentence spoken with a single rush of syllables uninterrupted by a pause] produces a rhythmic succession which is an extremely important characteristic of English phonological structure. The units tend to follow one another in such a way that the lapse of time between the beginning of their prominent syllables is somewhat uniform. Notice the more or less equal lapses of time between the stresses in the sentence *The 'teacher is 'interested in 'buying some 'books;* compare the timing of that sentence with the following one, and notice the similarity in that respect despite the different number of syllables; *'Big 'battles are 'fought 'daily* [Pike 1945:34].

The tendency to space stresses uniformly in time seems, then, to be a general characteristic of English, but it become a rigid obligation in simple verse.

⁵ It is easy to design four-beat lines that differ almost exclusively in the number of weak syllables in any particular position. For instance, the following four lines can be read with the same over-all rhythm, their only difference being the number of syllables between the second and third beats.

	1	2		3	4
	I think I see			two big boys.	
	1	2		3	4
	I think I see	a		little boy.	
	1	2		3	4
	I think I see	seven		little boys.	
	1	2		3	4
	I think I see	another		little boy.	

The last two lines would probably be more naturally read as:

<pre>
      1   2   3   4
      I think I see seven little boys
      1   2   3   4
      I think I see another little boy
</pre>

but it is possible to read them by squeezing the entire word "seven" or "another" into the time between the second and third beats.

It is also possible to design lines with the same distribution of both stressed and unstressed syllables, but in which the unstressed syllables have varying grammatical affiliations with the beat-carrying syllables that surround them:

<pre>
      1   2   3   4
      I think I see seven little boys.
      1   2   3   4
      I think I'm seeing a little boy.
      1   2   3   4
      I think I'm following little boys.
      1   2   3   4
      I think I see a retarded boy.
      1   2   3   4
      I think I see understanding boys.
</pre>

In all five of these cases there are two unstressed syllables between beats 2 and 3. It may be that there are subtle differences in the timing of the weak syllables in these various cases, and it might be rewarding to study them with modern acoustic equipment. Compare also the first lines of examples (2) and (3), which have nearly the same distribution of weak syllables but which seem quite different in rhythm. Nevertheless such differences seem to matter little in the over-all metrics of the line or verse.

⁶ One ought at least to question whether metrical feet have much real relevance to a good deal of far more sophisticated English poetry than nursery rhymes. In particular, the determination of the boundaries between one foot and the next seems to be quite arbitrary. To choose the most tritely famous example I can think of, the following line has conventionally been analyzed as consisting of five iambs (a weak syllable followed by a strong one) with a feminine ending (an extra weak syllable at the very end of the line).

<pre>
        1   2   3   4   5
      To be/ or not/ to be/ that is/ the question.
</pre>

The line could just as readily be divided into five trochees (strong syllable followed by a weak one) with an extra weak syllable at the beginning.

<pre>
        1   2   3   4   5
      To be or / not to / be that / is the / question.
</pre>

It would be still more natural surely, at least to the modern ear, to eliminate the stresses on the second "be" and on "is," place a stress on "that," and then recite this line (and similarly those that follow) isochronically, without concern for where the divisions between feet should be placed (Frye 1957:251):

<pre>
        1   2   3   4
      To be, or not to be: that is the question.
        1   2   3   4
      Whether 'tis nobler in the mind to suffer
          1   2   3   4
      The slings and arrows of outrageous fortune,
          1   2   3   4
      Or take up arms against a sea of troubles. . . .
</pre>

Larger considerations of this play, of Shakespeare's work in general, or of the entire history of English verse may give some support to the conventional interpretation of these lines as iambic pentameter, but the lines themselves can just as easily be interpreted in other ways. It may be that a good deal of iambic pentameter can be interpreted as consisting of four-beat lines, and perhaps it

is the interplay between the four beats and the iambic pentameter that gives such poetry much of its power.

[7] Several of my earlier examples might also be written with a different arrangement of lines. In particular, the four-beat units that I describe as having internal rhymes (including the "third" line of a limerick, and many others) are often split into two orthographic lines. When verses are arranged on paper in this way, this serves to make the rhymes explicit, but it leaves the rhythm to the intuition of the reader.

Limericks are constrained in other ways than by meter and rhyme, of course. In particular, certain syntactical forms (e.g., "There once was a ——— from ———") seem to be virtually obligatory. The rigidity of a limerick, then, is based upon metrical, phonological, and syntactic restrictions. But the phonological (rhyming) and metrical limitations are well within the bounds of other sorts of simple English verse, and although limericks are sometimes defined as "anapestic" (i.e., consisting of feet composed of two weak followed by one strong syllable), they do in fact display a wide latitude in the numbers of unstressed syllables just as do other simple types of English verse, as the reader may easily verify by reciting a number of limericks.

[8] The specific point of division between two musical measures also seems to be quite arbitrary. In all of western music the division between one measure and the next is considered to be immediately before the position of stress or accent. There seems to be no necessary musical reason why the divisions could not be placed immediately after the stress instead. In fact, conventional measure division has never inhibited musicians from writing one or two unstressed notes (anacrusis, or "upbeats") in an incomplete first measure before the first accented beat ("downbeat"), which begins the first full measure. It is curious to note that while musicians have arbitrarily (but conveniently, of course) divided measures immediately before the accented note, analysts of English poetry have been more apt to break lines into feet in which the stress occurs at the end (iambs, anapests). Either choice seems equally arbitrary. What is common to both music and poetry is a regularly recurring heavy beat. What happens between these beats can be as easily assigned to what precedes as to what follows.

[9] Germanic scholars have not been united in their interpretation of early Germanic metrics. If I interpret their positions correctly, it appears that some have tended to emphasize "quantity," that is, timing, and to assert that the "lifts" were spaced evenly in time, while others have attempted to classify lines by the position of the "lifts" with respect to the linear order of syllables without the assumption of isochronism (Lehmann 1956:37 ff.). If the analogy with modern popular verse is of any relevance, the "quantitative" view seems more reasonable. At least this would make it possible to regard early Germanic poetry as remarkably similar to modern popular verse.

[10] My Chinese examples come from two sources. Miss Li remembered all except (24) and (28) from her own childhood in Peking, and she recited, recorded, and transcribed them for me. The other two are from a little booklet, P'u Ch'üan-Ch'ün, *Ming-Ch'ing Min-ke Hsüan* (A Collection of Ming and Ch'ing Folk-songs), Shanghai, 1956. This booklet contains a collection of 74 "Children's Songs of Peking" (pp. 131–142), and Miss Li read them all aloud and recorded them also. Only a minority of this group were familiar to Miss Li, but though they were written only in characters, she had no more difficulty reading them with a regular metrical beat than English speakers have in reading simple, but unfamiliar verses. Since we went more thoroughly over the poems that she herself recalled, and analyzed them more carefully, I give more of them as examples, but I draw upon the larger sample to some extent in my generalizations and conclusions about Chinese children's verse.

[11] My colleague Norma Diamond pointed out to me that the frequency of this particular pattern in Chinese children's verse may help to explain how Ingrid Bergman was able to teach so many Chinese children in *The Inn of the Sixth Happiness* to sing

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    1      2    3        4
This old man, he played one,
    1         2         3          4
He played nick nack on my thumb.
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[12] In the printed collection of 74 poems, all but 69 of the 355 lines are unambiguously four-beat lines. Even the 69 deviant lines certainly include a number that seem odd only because of stumbling in the particular reading, and others that are clearly degenerate, like the fifth line of

"This little pig went to market," and were never intended to have any meter or rhythm. This leaves about 35, possibly about a tenth of the total number of lines, that seem to have a different number of beats than four. Six-beat lines seem to be most frequent among these, and they sometimes occur at the beginning of a verse as in (26), but 3- and 5-beat lines also seem to occur, sometimes in quite irregular positions. Further analysis of these lines is clearly required, but I have no doubt of the dominance of the four-beat line.

[13] The Bengkulu examples were transcribed by Mr. Halim in his conventional orthography, which I think will be rather transparent. He and I went over his transcriptions to analyze the rhythm, and we recorded the examples on tape. By the time I began working on Bengkulu, I had a rather clear idea of the patterns I was looking for, but I was careful not to explain these to Mr. Halim until we had finished examining his poems. Even so, he had written all eight of his examples in a satisfying four lines, and in spite of the rather weak stress of the language, he was able to beat time to these verses with complete consistency and precise regularity.

[14] I am indebted to Judith Becker for pointing out to me that certain musicologists have been puzzled by what seem to be rests at the very beginning of phrases in much of the music of Japan and Southeast Asia, including that of Indonesia. Logically, we would suppose, a rest could hardly be recognized at the very beginning of a poem or song. A rest at the very end seems less implausible to us, since by that time a pattern can become established that requires a rest to complete it. One can hold that no pattern can have been established before the song even begins. Yet in much of Indonesian and Japanese music, the subsequent musical patterns seem to require that a rest had in fact started the piece off.

[15] I would be willing to hazard the guess that most oral poetry, including in particular the earlier Indo-European epics, can be interpreted as consisting of four-beat lines. My hunch is that in the absence of writing only the four-beat line allows accurate enough memory and repetition to be accurately passed from generation to generation. Unquestionably one can memorize a rigid sequence of words more easily if the words are arranged in a simple metrical pattern, though it seems less than completely obvious to me why this should be so.

Even classical Greek and Latin hexameter is not unreasonably interpreted as having four-beat lines, although classical hexameter is always described as "quantitative" verse, meaning that it depends upon vowel length, and in this way is supposed to contrast sharply with English. The classical hexameter line is described as having six long syllables and, depending upon the particular period or writer, a more or less variable number of short syllables. The line was divided at the center by a caesura, or rest, and another rest came at the end of each line. Thus it is easy to regard each of these lines as a sequence of two shorter lines, each having four beats, the first three marked by a long syllable, the fourth by a rest. Such an interpretation still deviates from the usual interpretation of English poetry, since the beats are marked by long syllables rather than by stressed syllables, though even this may be less of a difference than it first appears. The precise phonetic characteristics that set beat syllables apart from others are not entirely clear even in English, let alone in the other languages considered in this paper, and length, stress, pitch, and possibly other features may all be involved together.

[16] Fitzgerald's famous rendition of the Rubaiyat is an obvious example of the preservation of original metrics under translation, and recent attempts to produce Haiku in English show that it is possible to borrow a metrical form from a very different cultural tradition. Attempts by anthropologists to translate the poetry of primitive people seem to have generally been quite innocent of metrics, however, and even such a sophisticated essay at translation as that of Hymes (1965) scarcely mentions meter or rhythm. In his article, to be sure, Hymes relied exclusively upon earlier published sources of American Indian poetry, and these fail utterly to indicate the meter. One cannot even be sure if the originals were metrical, though the very fact that someone judged them to be poetry suggests that they were. The lack of attention to metrics, both by Hymes and by the authors from whom he gathered the poems, means that it is quite impossible to tell how true Hymes's translations are to the original, in spite of his many sensible suggestions about other features of the verses.

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