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Articles

## Irregular Alliteration in Sir Gawain and the Green Knight

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### 0. Introduction

Sir Gawain and the Green Knight (henceforth, GGK), which is a famous alliterative poem in the Late Middle English (henceforth, LME) period, contains peculiar and interesting alliteration patterns, where fricatives and affricates are allowed to alliterate not only with themselves but also with a limited class of segments with a distinct phonetic value from them. The alliteration between different segments, however, has been left unanalyzed, although it cannot be seen as merely accidental. This paper therefore attempts to provide an explanation for such exceptional alliteration in GGK, called here "irregular alliteration".

Section 1 introduces some phonological aspects of GGK which are relevant to the discussion in the present paper. Section 2 is devoted to a descriptive task and provides a full illustration of the alliteration facts in GGK. Sections 3 and 4, which provide bases of an interpretation of the phenomenon, establish the status of the ME fricatives and affricates in its sound system on the basis of some devices utilized in current phonological theory. Section 5 presents an interpretation of the GGK alliteration facts. It is argued that the alliteration in GGK must have access to the underlying representation of a segment, and a new alliteration rule is proposed which is able to provide a unified account of both the regular and the irregular consonant alliteration facts, and even of the vowel alliteration facts, in GGK.

### 1. GGK: Stress and Metrical Structure

GGK is one of the representative alliterative poems in the LME period, which consists of 2530 lines and is written in the North-West Midland dialect in the late 14th century. Its lines consist of an undecided number of syllables and are further divided into two half-lines (an a-verse or a left half-line and a b-verse or a right half-line), which function as basic metrical units. Half-lines generally comprise at least two metrically prominent syllables, one of which must always contain in word-initial



stress. (The determining factors are complex, involving the rhythmical structure of the verse, the pattern of alliteration, semantic considerations, etc.)

- c. Articles, prepositions, conjunctions, auxiliary verbs, linking verbs, the verb have, pronominal adjectives, and pronouns (personal, demonstrative, indefinite, relative, and interrogative) do not receive metrical stress unless they occur at the end of the half-line.

The examples in (1)-(4) are all subject to rules (5a-c). In these examples, the nouns receive metrical stress, and the function words are all stressless. The finite verb haf in (1b) receives metrical stress for the alliterative requirement: the verb participates in alliteration as in (6), where the alliterating segments are underlined.

- (6) Bot þa þe énde be héuy háf ze no wónder (496)  
 But even if the end by heavy have you no wonder

The finite verb haden in (3b) and the past participle bigged in (4a) receive metrical stress for the rhythmic reason. Notice that both of them occur at the end of the half-line. They receive stress in order to construct a half-line with a full-fledged metrical structure, which has at least two metrically prominent syllables.

Having completed the introduction of phonological aspects of GGK relevant to the discussion here, I now turn to a consideration of its alliteration patterns, which is the main theme of this paper.

## 2. Facts about Alliteration and the Problem to be Resolved

Two sorts of alliteration rules have been assumed to be operative in GGK. The first kind of rule, which regulates the consonant alliteration, is formulated as in (7) (cf. Nakao (1972: 464)).

- (7) Word-initial consonants which have the same phonetic value may alliterate with each other.

This rule accounts for the alliteration facts in (8)-(19). In these examples, metrical stress is assigned in accordance with rules (5a-c), and the alliterating consonants are underlined.<sup>1</sup>

## Labials

- (8) a. [p]: þe péndauntes of páyttrure,                    þe próunde  
the pendants of breast-tapping of horse the splendid  
crópure (168)  
crupper
- b. [b]: For of bák and of brést al were his bódi stúrne  
because of back and of breast all were his body stern  
(143)
- (9) a. [f]: Mo férlyes on þis fólde han fállen here óft (23)  
more wonders on this land home happen here often
- b. [v]: And alle his vésture vérayley watz vcléne vérdure (161)  
and all his vesture truly was bright green

Dentals<sup>2</sup>

- (10) a. [θ]: His þró þózt watz in þat, þurȝ alle óþer  
his intense thought was in that beyond all other  
þýngez (645)  
things
- b. [ð]: no example
- (11) a. [s]: Siþen þe sége and þe assáut watz sésed at Tróye  
next the siege and the assault was ceased at Troy  
(1)
- b. [z]: no example
- (12) a. [t]: Tríus to Túskan and téldes begýnnes (11)  
Trius to Tuskany and houses begins
- b. [d]: Of þe dépe dóuble dích þat dróf to þe pláce (786)  
of the deep double ditch that drove to the dwelling

Palatals<sup>3</sup>

- (13) [š]: Then pay schéwed hym þe šéælde, þat was of šhýr  
then pay produced him the shield, that was of bright  
góulez (619)  
gules

(14) a. [č]: Þe cháuntre of þe chápel chéuved to an énde  
the shining of mass of the chapel came to an end  
(63)

b. [j]: ǰusted ful ǰólile þise ǰentyle kníǰtes (42)  
jousted full gallantly these gentle knights

#### Velars

(15) a. [k]: Þis kýng lay at ƿámylot vpon krýstmasse (97)  
this king lay at Camelot upon Christmas

b. [g]: Þen gréne ámayl on gólde glówande brýǰter (236)  
then green enamel on gold shining brighter

#### Liquids

(16) a. [l]: lángaberde in lúmbardie lyftes vp hómes (12)  
Langobards in Lombardy lifts up homes

b. [r]: rékenly of þe róunde Tábale alle þo rích bréǰer  
worthily of the round table all those rich brother  
(39)

#### Nasals

(17) a. [m]: With alle þe méte and þe mírþe þat mén coupe  
with all the food and the pleasure that men evident  
avýse (45)  
devise

b. [n]: ŋer nów ŋer néuer, his nédez to spéde (2216)  
now that his needs to get done

#### Glides

(18) a. [y]: A ǰére ǰernes ful ǰérne, and ǰéldes neuǰer lyke  
a year runs full year and brings back never similar  
(498)

b. [w]: wélneǰe of al þe wéle in þe wést íles. (7)  
almost of all the wealth in the west islands

#### Laryngeal

(19) [h]: I haue a háuberghe at hóme and hélmǰe þoǰe (268)  
I have a hauberk at home and helmet both

The second kind of rule, which regulates the vowel alliteration, is formulated as follows:

- (20) Word-initial vowels may alliterate freely even if they have different phonetic values.

The following cases exemplify the effect of this rule.

(21) vowel:vowel

- a. Forþi an áunter in érde | áttle to schawe (27)  
therefore an adventure in the world | intend to declare
- b. Withouten énde at any nóke | óquere fýnde (660)  
without end at any angle | anywhere find
- c. Þis óritore is ýgly, with érbez ouergrówen (2190)  
this oratory is ugly with herbs overgrown

In (21a), [aw], [e:], and [a] alliterate with one another. In (21b), [e] alliterates with [o]. In (21c), [o:], [u], and [e:] alliterate with one another. These three examples amply show that the phonetic value of a vowel is not crucial at all for the vowel alliteration in GGK.

It should be noticed here that there are five kinds of exceptions to rule (6) which have been left unanalyzed in previous studies on alliteration and must be given a proper treatment. The first kind of exception comes from the fact that the voiceless fricatives and affricates may alliterate with their voiced counterpart. This fact is shown in (22)-(24).

(22) [f]:[v]

Yérayly his vénysoun to féch hy<sup>m</sup> byfórne (1375)  
truly his venison to bring hi<sup>m</sup> before

(23) [s]:[z]

Quen Zéferus sylfes hyssélf on sédez and érbez (517)  
when Zephyrus hi<sup>m</sup>self on seeds and herbs

(24) [č]:[j]

He watz so jóly of jóyfnes, and sumquat childgered (86)  
he was so gay of youth and somewhat boyish

The second kind of exception is illustrated by the following line, where the palatal fricative [š] alliterates with the palatal affricate [č].

## (25) [š̥]:[č̥]

Now achéued is my cháunce, I schál at your wylle (1081)  
 now gained is my chance I shall at your will

The third kind of case which issues a challenge to rule (6) involves the alliteration between two fricatives which have different points of articulation and the alliteration between a fricative and a glide. Specifically, the dental [s] alliterates with the palatal [š̥], as in (26), and the labial [v] alliterates with the velar [w], as in (27).

## (26) [s]:[š̥]

- a. Schon schýrer þen snáuwe þat schédez on híllez (956)  
 shone brighter than snow that sheds on hills
- b. Set sádlý þe schárp in þe slót éuen (1593)  
 set firmly the sharp blade in the slot even

## (27) [v]:[w]

And after wénged with her wáLOUR and vóyded her  
 and after avenged herself with her valour and got rid of her  
cáre (1518)  
 grief

The fourth kind of exception to rule (6) is provided by a fact about the alliteration of [h]. [h] alliterates with vowels in a fair number of cases. Typical examples are given in (28) below.

## (28) [h]:vowel

- a. Hit watz Énnias þe áthel and his híghē kynde (5)  
 it was Aeneas the noble and his high kindred
- b. Áy watz Árthur herdest, as I haf hérde télle (26)  
 ever was Arthur heard as I have heard tell
- c. Þer háles in at þe hálle dor an ághlich máyster (136)  
 there comes in at the hall door a terrible lord
- d. Of hárde héwen stón ýp to þe táblez (789)  
 of hard heaven stone up to the tables
- e. Þat is hó þat is at hóme, þe áuncian lády (2463)

that is she that is at home the old lady

The last sort of exception to rule (6) comes from an alliteration pattern exhibited by the consonant cluster [hw]. [hw] alliterates with [w] in a number of cases. Typical examples are:

(29) [hw]:[w]

- a. For vnepe wátz þe nóyce not a whýle sésed (134)  
for hardly was the noise not a while ceased
- b. Whýssynes vpon quéldepontes þat koynt wér bóþe  
cushions upon quiled coverings that skillfully were both  
(877)
- c. What! hit whárred and whétte, as wáter at a  
what it whirred and made a gridingnoise as water at a  
múlne (2203)  
mill

We have now provided a full illustration of the GGK alliteration facts. Particularly interesting among them are the five kinds of irregular alliteration patterns exhibited by fricatives and affricates. In fact, the above-mentioned irregular alliteration patterns, though small in number, merit deep consideration because they cannot be seen as mere accidental phenomena for the following two reasons.

First, the irregular alliteration patterns in GGK are exhibited only by fricatives and affricates, not by stops. Therefore, they cannot be seen as so-called "eye-alliteration" as Nakao (1972: 464) observes. There is the possibility that they are due to the peculiarity of the ME fricatives and affricates, either universal or language-specific.

The second reason is that the alliteration of [h] with a vowel and that of [hw] with [w] are of more frequency than can be disregarded as accidental. Hence, we cannot ignore them, a natural consequence of the logic of linguistic description.

Previous studies on the ME alliterative verse (cf. Davis (1967), Nakao (1972), and Ono and Nakao (1980), and the references cited there), as far as I know, point out, but do not provide any theoretical characterizations

of, facts about irregular alliteration. We must therefore provide a theoretical characterization of the five classes of irregular alliteration patterns in GGK. Before providing the characterization, however, we must clarify the status of the segments relevant to the above-mentioned GGK irregular alliteration patterns in the sound system of LME. I will be committed to this task in the next two sections.

### 3. Consonant Fluctuations in a Word-initial Stressed Syllable

#### 3.1. Fluctuations between Voiceless and Voiced Fricatives and Affricates

In ME, voiceless fricatives and affricates fluctuate with their voiced counterpart in a word-initial stressed syllable without changing the meaning of a word. In particular, [f] fluctuates with [v]; [s], with [z]; and [č], with [ǰ]. Typical examples of this fluctuation are given in (30)-(32) (cf. MED).

(30) f/v fluctuation

- a. fair---vair 'fair, beautiful'
- b. fare---vare 'go, travel'
- c. faste---vaste 'firm'

(31) s/z fluctuation

- a. salt---zalt 'salt'
- b. sik---zik 'sick'
- c. seche---zeche 'seek'

(32) č/ǰ fluctuation

- a. chapen---japen 'deceive'
- b. chaumbe---jaume 'jam for a door or window'
- c. chavel---jawle 'jaw'

The facts in (30)-(32) suggest that the voiceless fricatives and affricates are in free variation in word-initial position. In other words, the distinction between [-voice] and [+voice] is not a distinctive property at least for word-initial fricatives and affricates. This naturally leads us to assume that voiceless fricatives and affricates and their voiced counterparts are derived from a common source. That is, it is not unreasonable to assume that one is derived from the other.

An alternation rule is formulated on the basis of the crucial assumption on the feature [voice]. I assume here, following Mester and Ito (1989: 279-82), that voicing is a universally privative feature. That is, "the feature [-voice] simply does not exist." More specifically, "phonological rules cannot (a) insert, (b) spread, or (c) delete [-voice], and (d) they cannot use it as a context predicate in nonassimilatory rules (Mester and Ito (1989: 280))".

If the assumption that voicing is universally privative is valid, then the ME voiceless fricatives and affricates also lack the specification [-voice], and their voiced counterparts have the feature [voice]. There now arise two possibilities of formulating a rule of the alternation between voiceless and voiced fricatives and affricates. One is to postulate the insertion of [voice], which implies that a voiceless segment exists underlyingly. The other is to postulate the deletion of [voice], which implies that a voiced segment is an underlying form. Here I adopt the former option and propose the following rule to insert the feature [voice].<sup>4</sup>

(33) [ ] → [voice]

The mode of application of (33) varies from word to word. The fluctuation had resulted from voicing of voiceless fricatives and affricates, and the diachronic sound change was in full progress in the fourteenth century, when *GGK* was written. The rule applies obligatorily to words beginning with a voiced fricative or affricate, optionally to words exhibiting the fluctuation in word-initial position, and does not apply to words beginning with a voiceless fricative or affricate.<sup>5</sup>

The reason for adopting the former option is as follows. As mentioned above, the fluctuations in (30)-(32) indicate that the feature [voice] is a nondistinctive feature for the ME fricatives and affricates. Recall here Archangeli and Pulleyblank's (1986: 13) proposal that redundant features do not exist in the underlying representation and are introduced at the latest stratum possible. If Archangeli and Pulleyblank's proposal is valid, the feature [voice] does not exist in the underlying representations of the ME fricatives and affricates. That is why I have adopted rule (33)

rather than a rule deleting [voice].

### 3.2. The Fluctuation between [v] and [w]

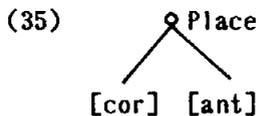
The ME [w] exhibits the fluctuation with [v], as illustrated in (34) (cf. Nakao (1972: 84)).

- (34) a. wicht---vicht 'vigorous'  
 b. wode---vode 'wood'  
 c. water---vater 'water'

The fluctuation in (34) does not affect the meaning of a word, either. It naturally follows, then, that [v] and [w] are not distinctive from each other at least in word-initial position. In fact, it is highly likely that one is derived from the other.

The crucial difference between the two segments lies in the place of articulation: [v] is taken as a labial fricative, whereas [w] is taken as a velar glide. To take a detailed look at the crucial difference between the two segments, I assume here the place of articulation theory of feature geometry and the theory of radical underspecification.

The place of articulation theory assumes that features concerned with place of articulation, which, behaving as an autonomous unit, are dominated by the single node, called the place node, have the following internal structure (Honma (1991: 2) and Cho (1991: 160)).

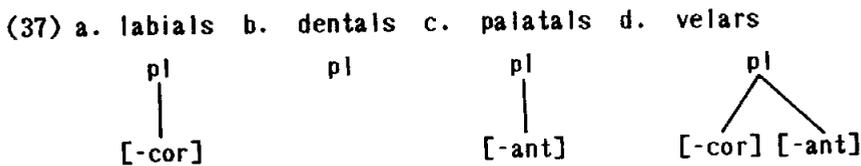


The theory of radical underspecification is a theory which "includes only unpredictable values for features in the underlying representation (Archangeli (1988: 192))". In particular, one of the two values (either + or -) is decided to be a predictable value on either universal or language-specific grounds and is excluded from the underlying representation. The other value is automatically decided to be an unpredictable value and exists in the underlying representation. This is guaranteed by the follow-

ing requirement (Honma (1991: 3)).

- (36) Only one value for a feature (per specifiable context) may occur underlyingly.

In ME, there are four places of articulation with respect to the oral consonants, as mentioned in (8)-(18): labial, dental, palatal, and velar. I assume here that dentals are most unmarked and most underspecified with respect to the place of articulation.<sup>6</sup> This implies that the features [+ant] and [+cor] do not exist in the underlying representation. Given this assumption and the formalism in (35), the four major places of articulation are represented as in (37) (cf. Honma (1991: 3) and Cho (1991: 171)).<sup>7</sup>



(37) shows that other things being equal, the crucial difference between labials and velars is that the latter segments have the feature [-ant] in the underlying representation, while the former do not.

Since in ME the fricative [v] and the glide [w] are not distinctive from each other in word-initial position, it is quite reasonable to assume here that in ME the feature [-ant] is redundant at least for the word-initial [v] and [w]. It follows, then, that the feature [-ant] does not exist in the underlying representation of [w]. The feature is supplied by a rule such as (38) during the course of phonological derivation.

- (38) [ ] → [-ant]

This rule has the same nature as rule (33). That is, it also serves as a rule operative at a superficial level in phonology. It applies obligatorily to words beginning with [w], optionally to words exhibiting the fluctuation between [v] and [w] in word-initial position, and does not

apply to words beginning with [v].

### 3.3. Two Kinds of Fluctuations Exhibited by [š̥]

The ME [š̥] exhibits two kinds of fluctuations in a word-initial stressed syllable. One is the fluctuation with the dental voiceless fricative [s]. Typical examples are given in (39) (cf. MED).

- (39) a. shadwe---sadwe 'shadow'  
 b. shauwe---sauwe 'wood'  
 c. shar(e)---siere 'portion, share'

The facts in (39) clearly show that [š̥] and [s] are not distinctive at least in word-initial position. Since, as shown in (37b) and (37c), the crucial difference between dental and palatal fricatives lies in the fact that palatal fricatives have the specification of [-ant], for which dental fricatives lack, it is quite natural to assume here that the feature [-ant] has the status of a nondistinctive feature for the ME dental and palatal fricatives. Thus, the feature [-ant] does not exist in the underlying representation of the ME palatal fricative. It is supplied by an optional rule such as (40), a rule identical to (38).

- (40) [ ] → [-ant] (= (38))

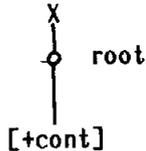
The other fluctuation exhibited by the word-initial [š̥] is the one with the palatal voiceless affricate [č̥], as illustrated in (41) (cf. MED).

- (41) a. scharp---charp 'sharp'  
 b. chalk---schalk 'chalk'  
 c. chauncel---shancel 'chancel'

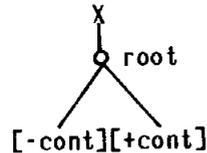
The facts in (41) show that in ME the palatal voiceless fricative and the palatal voiceless affricate are not distinctive from each other because the fluctuation between the two segments in word-initial position does not change the meaning of a word. The crucial difference between [š̥] and [č̥] can be seen in continuancy. The fricative [s] has the feature [+cont].

The affricate [č] has a more complex structure (cf. Sagey (1986: 93-9): it behaves as a stop to its left-side and as a fricative to its right-side. The difference between the two segments is represented formally as in (42) (cf. Sagey (1986: 94)).<sup>8</sup>

(42) a. fricative



b. affricate



If the representations in (42) are universally adequate, the feature [-cont] is nondistinctive for the ME voiceless affricate. Thus, the feature does not exist in its underlying representation. It is supplied by rule (43) at a later stage of derivation.

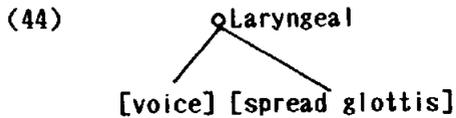
(43) [ ] → [-cont]

#### 4. The Status of [h] in ME

Having completed the phonological characterizations of the ME fricatives and affricates, I now turn to a phonological characterization of the ME [h], which is also relevant to the irregular alliteration in GCK.

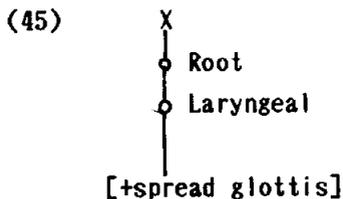
In the first place, I assume, following Lass (1976: 156-9), that [h] is a laryngeal voiceless fricative, which completely lacks the oral features through the history of English. Second, I assume that through the ME period, [h] is the only laryngeal segment, because, as far as I know, there is no strong evidence that the laryngeal stop [ʔ] behaved as a distinctive segment in ME.

If Lass's proposal is valid, laryngeal specifications count crucially in distinguishing [h] from the oral consonants in ME. For the investigation to be made, the laryngeal node is assumed to contain the two features [voice] and [spread glottis]. This is shown in (44) (cf. Pulleyblank (1988)).



Consider here laryngeal specifications of the oral consonants in (8)-(18). First, the ME fricatives and affricates do not have the feature [voice] in the underlying representation because as shown in section 3.1, they exhibit the fluctuation between the voiceless and the voiced counterparts. Second, the ME liquids and glides are redundantly voiced, and do not have the specification [voice] in the underlying representation. Third, the stops [p], [b], [t], [d], [k], and [g] are the only group of segments that require the specification [voice] in the underlying representation. None of the pairs exhibit the fluctuation, and the voiced stops have the specification [voice] in order to be distinguished from their voiceless counterparts. Finally, the above-mentioned segments are all redundantly [+spread glottis], and do not have its specification in the underlying representation.<sup>9</sup>

These four facts lead us to propose that the specification of [+spread glottis] for the ME [h] is enough to distinguish it from the other ME consonants. In particular, the ME [h] has the following underlying representation.



## 5. The Interpretation of the Irregular Alliteration Patterns in GGK

Having established the phonological status of the segments relevant to the GGK irregular alliteration patterns, we are now in a position to provide an interpretation of them.

First of all, let us consider the irregular patterns exhibited by the following pairs of consonants: [f]:[v], [s]:[z], [č̥]:[č̣], [š̥]:[ṣ̌], [s̥]:[ṣ], and [v]:[w]. The fluctuation facts presented in sections 3.1-3.3

clearly show that the distinction between the two segments in each pair is not crucial in the underlying representation. In fact, the two segments in each pair have the same underlying representation, the difference being derived by supplying either a feature or a feature value at a later stage of derivation. Specifically, [v], [z], and [ʝ] are derived from their respective voiceless counterparts; [č̣], from /ṣ̌/; [ṣ̌], from /s/; and [w], from /v/.

Given this fact, I suggest the following hypothesis on the alliteration in GGK.

- (46) The alliteration in GGK has access to the underlying representation of a segment.

On this hypothesis, we can interpret the above irregular cases as regular cases. The alliterations between [f] and [v], [s] and [z], [č̣] and [ʝ], [ṣ̌] and [č̣], [ṣ̌] and [s], and [v] and [w] are interpreted as the alliteration of /f/, /s/, /č̣/, /ṣ̌/, and /v/, respectively. Thus, I propose the following rule for the alliteration in GGK.

- (47) Consonants which have the same underlying representation may alliterate with each other.

This rule is able to explain not only the irregular patterns but also the regular patterns exhibited in (8)-(19). That is because in ME word-initial consonants with the identical surface representation always have the same underlying representation. It follows that rule (47) takes the place of rule (7).

It should be noticed, however, that rule (47) does not provide an explanation for the two irregular alliteration patterns exhibited by [h]: the alliteration between [h] and a vowel and that between [hw] and [w]. The laryngeal fricative [h] does not have an identical underlying representation with any vowels. Since place specifications count crucially for them, vowels are universally redundantly voiced and [+spread glottis] and have no underlying laryngeal specifications. In the same vein, [h] is not identical with [w] in either the underlying or the surface represent-

ation. The glide [w] is also redundantly voiced and [+spread glottis], and does not have any underlying laryngeal representations. Even if rule (47) is postulated, the two irregular alliteration patterns exhibited by [h] still remain puzzles of alliteration.

To undo the two puzzles, I propose here the notion of "null consonant".<sup>10</sup> It is defined as follows:

(48) Null consonant

The null consonant is an abstract entity which does not have any linguistically significant surface realizations, and always exists immediately before a word-initial segment, whether it is a vowel or a consonant. In addition, it is assumed to have the specification [+spread glottis].

The formal representation of the null consonant is:

(49) Null consonant: [+spread glottis]

Representation (49) means that the null consonant is a floating [+spread glottis], which is not linked with any X-slots and hence is not incorporated into any syllables.

The assumption that the null consonant has the specification [+spread glottis] receives (indirect) support from the default physiological state of the glottis. It is spread, not constricted, when no linguistic sound is articulated in order for air to stream through it. In addition, the null consonant as defined above does not seem to have any important roles in "normal" phonological phenomena. Rather, it has the status of a "metrical device", which means here a device activated only in the poetic licensing of a verse line.

Given the notion of null consonant, the two puzzles posed by [h] can be solved. Recall here that [h] has only the specification [+spread glottis] in the underlying representation (cf. (45)). This indicates that the underlying feature specification of [h] is completely identical with the abstract entity null consonant. In fact, the null consonant is postulated before a word-initial vowel and even before a word-initial

consonant. Therefore, the alliteration between [h] and a vowel and that between [hw] and [w] are both interpreted as the alliteration between /h/ and the null consonant. If this interpretation is correct, rule (47) works quite well in explaining the two *prima-facie* peculiar alliteration patterns exhibited by [h].

The introduction of the notion null consonant has another advantage. It sheds fresh light on the interpretation of the vowel alliteration facts, where as mentioned in section 2, vowels may alliterate freely with each other even if they are different from each other in both the underlying and the surface representation. Recall again that the null consonant is assumed to exist before a word-initial segment, either a vowel or a consonant. Thus, words beginning with a vowel are said to be headed by the null consonant. The vowel alliteration facts are now interpreted as the alliteration between the two null consonants. This implies that rule (20) is dispensed with. The vowel alliteration in GGK is also regulated by rule (47).

It is now clear that the alliteration in GGK is regulated by a single rule, namely, rule (47). The explanation of the phenomenon by rule (47) is much superior to other possible explanations in that it is able to provide a unified account of both the regular and the irregular alliteration patterns in GGK. Notice here that there are at least three issues to be settled. The first issue is raised by rule (47). The rule predicts that [f] and [s] are allowed to alliterate with [w] and [č̣], respectively. This prediction stems from the following derivational relations between the two ME consonants in each pair, which have been demonstrated in section 3.

- (50) a. [w] is derived from /v/, and [v] is derived from /f/.  
 b. [č̣] is derived from /ṣ̌/, and [ṣ̌] is derived from /s/.

Thus, [w] and [č̣] is derived ultimately from /f/ and /s/, respectively, and the two consonants in each pair have the same underlying representation. In fact, however, [f] does not alliterate with [w] in GGK. Nor does [s] with [č̣]. We must therefore constrain the application of rule (47) in some way or another.

Notice here that the consonant pairs [f]:[w] and [s]:[č̣] are crucially

different from the consonant pairs exhibiting a fluctuation in word-initial position. The two segments in each pair, which do not exhibit the fluctuation, are distinguished from each other by two surface feature specifications. The crucial difference between [f] and [w] is that [w] has the feature [-ant] and [voice], both of which [f] lacks (cf. section 3). The crucial difference between [s] and [ʃ] is that [ʃ] has the feature [-ant] and [-cont], both of which [s] lacks. These two facts, together with the fact that neither of the pairs is licensed as an alliteration pair, force us to formulate a constraint such as (51).

- (51) Two consonants which differ from each other by two surface feature specifications must not serve as an alliteration pair.

The second issue is raised by the notion null consonant. The definition in (48) is, though plausible, too strong in that it has the possibility of allowing a segment to alliterate freely with every segment. In fact, however, this is incompatible with fact. We must also constrain the use of the null consonant in an effective way. I propose here that the null consonant serve as the "last resort" in poetic licensing. Specifically, I propose the following constraint on the use of the null consonant.

- (52) The null consonant is activated only when two consonants underlyingly identical with each other cannot be found in a verse line.

(52) constrains in an effective way the use of the null consonant in GGK. It guarantees that the device is activated only in the following three cases: the alliteration between [h] and a vowel, [hw] and [w], and vowels. In the other GGK cases, two underlyingly identical segments are always found.

The two constraints proposed above, together with rule (47), succeed in delimiting the range of the possibility of alliteration. It, however, awaits a further investigation whether these constraints are derived from a more general phonological principle or not.

The last issue is concerned with the hypothesis that alliteration has

access to the underlying representation of a segment. One might argue against this hypothesis. Notice, however, that there are some famous alliteration and rhyme facts where an abstract level of phonological representation plays a crucial role. For example, the alliteration in Finnish Kalevala and Sanskrit Rigveda must have access to an intermediate stage of phonological derivation (cf. Kiparsky (1970; 1972)). A second example comes from Modern Turkish rhyme facts, where two vowels are licensed as a rhyming pair if their underlying underspecified representations are identical with each other. Their difference in surface realization is irrelevant to the licensing of rhyming pairs (cf. Malone (1988)). Notice further that the alliteration facts in Old English alliterative verse also have the possibility of verifying the significance of an abstract level of representation in alliteration (Lass and Anderson (1975) and Okazaki (in progress a)). If these characterizations of the three facts are valid, the underlying and the intermediate representation of a segment are quite significant in alliteration and rhyme. The access to an abstract phonological representation must be regarded universally as core linguistic knowledge of the speaker, in particular, of the poet.

## 6. Conclusion

In this paper, I have been concerned with a characterization of the five irregular alliteration patterns observed in GCK. I have argued that the irregular alliteration pairs, though they have different surface realizations, have an identical underlying representation. On the basis of this argumentation, I have proposed that the alliteration in GCK have access to the underlying representation of a consonant. This proposal enables us to treat in a unified manner both the regular and the irregular alliteration patterns exhibited by consonants. I have also proposed the notion of null consonant with the specification [+spread glottis]. This notion makes it possible to provide a natural explanation for the irregular alliteration patterns exhibited by [h] and for the peculiarity of vowel alliteration patterns, by the proposal that the alliteration in GCK have access to the underlying representation of a consonant.

It should be noticed finally that there is a further issue. It is whether the basic idea of this paper is naturally extended to an explana-

tion for the irregular alliteration patterns observed in other ME alliterative poems like Cleanness and The gest hystoriale of the destruction of Troy. But to tackle this issue is far beyond the scope of this paper, and it is to be left for detailed future investigation.

#### NOTES

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<sup>1</sup> The consonant inventory of ME is given below:

	obstruent	nasal	liquid	glide
labial	p b f v	■		
dental	t d s z θ ð	n	l	
palatal	ç j š ʝ		r	y
velar	k g x	ŋ		w
laryngeal	h			

Notice that [ç], [x], and [ŋ] do not occur in word-initial position. Thus, they are irrelevant to the discussion in this paper.

<sup>2</sup> In GGK, there is only one word beginning with [z]. The word is the proper noun Zeferus 'Zephyrus, the West Wind'. However, this word takes part in the alliteration with [s] (see example (23)), and this fact is characterized in section 5.

<sup>3</sup> Through the ME period, the palatal voiced affricate [ʝ] did not exist in its sound system. It naturally did not occur in word-initial position.

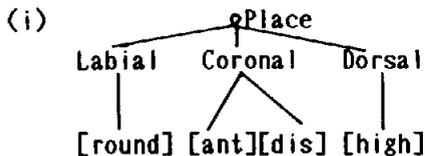
<sup>4</sup> There may arise here the problem whether rule (33) is a context-free or a context-dependent rule. But I will not discuss the problem for its irrelevancy to the discussion here. It suffices to say that the feature [voice] does not exist in the underlying representation of the ME fricatives and affricates, and is supplied later during the course of derivation. The same holds for rules (38), (40), and (43), which are

postulated later.

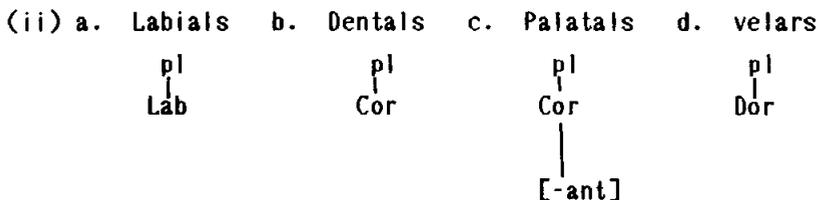
<sup>5</sup> The stop consonant pairs [p]:[b], [t]:[d], and [k]:[g] do not exhibit the fluctuation, which indicates that the feature [voice] is distinctive for these segments. Thus, the voiced stops [b], [d], and [g] have the specification [voice] in their underlying representations.

<sup>6</sup> It should be admitted here that there is no direct evidence found in ME phonological phenomena to exemplify the assumption that in ME dentals are most unmarked. This assumption, however, does not raise any disadvantage as far as the ME consonant fluctuations are considered. In fact, it seems to have universality on the ground that dentals can be assumed to be most unmarked in languages like Sanskrit and Korean (cf. Cho (1991)).

<sup>7</sup> An alternative characterization of four major places of articulation can be proposed in terms of the articulator theory, which is competitive with the place of articulation theory. The articulator theory assumes the following internal structure of the place node (Honma (1991: 2) and Cho (1991: 160)).



Given the theory of radical underspecification and the assumption that dentals are most unmarked, the four major places of articulation are represented as in (ii) (Honma (1991: 3)).



The representations in (ii) are indeed able to capture the fluctuation between the dental [s] and the palatal [š], but cannot capture the

fluctuation between the labial [v] and the velar [w]. Labials and velars have distinct class nodes, which shows that they are not at all related to each other. That is why I am adopting the place of articulation theory instead of the articulator theory.

The same line of empirical argument against the articulator theory is given by Cho (1991: 160-4) on the basis of Old English Lenition, where the velar [Y] turns into [y] by palatalization.

<sup>8</sup> Notice that there is much controversy over the position of the feature [cont]. But I will not be committed to the controversy, for its position does not affect the discussion here. The crucial difference between fricatives and affricates has only to be clarified. For this issue, see Honma (1990) and the references cited there.

<sup>9</sup> The linguistic situation in ME is very similar to that in Tiv, a Niger-Congo language of Nigeria. Pulleyblank (1988: 310) observes:

...Prenasalized consonants are redundantly voiced, fricatives are redundantly voiceless, and sonorants are redundantly voiced. The only class of segments that require underlying voicing specifications are the stops. The segment [h] is therefore in a class of its own in that the only feature required to specify it ([+spread glottis]) is not required for any other segment. By the specification [+spread glottis], [h] is uniquely identified, making any non-laryngeal specifications superfluous.

For the underlying feature specification of [h], see also Sagey (1986: 42), who discusses the laryngeal consonants in Yawelmani.

<sup>10</sup> The notion "null consonant", strictly speaking, originates from Jakobson (1963), who argued that the vowel alliteration in Icelandic verse must be interpreted as the alliteration of the null consonant. But he did not specify the content of the null consonant.

This notion is also developed by studies on the alliteration in Old English alliterative verse such as Halle and Keyser (1971), Russo (1987), and Fujiwara (1990). Among them, Fujiwara (1990) provides a substantial discussion of the content of the null consonant.

Fujiwara (1990: 205f.), who argues that the least sonorous consonant

in a word may alliterate, claims that the null consonant, which is incorporated into a syllable, functions as the least sonorous consonant in words beginning with a vowel. He (206) further observes that it is reasonably identified as the laryngeal stop [ʔ].

Aside from the problem whether it is incorporated into a syllable or not, however, his identification of the null consonant as [ʔ] is problematic in the following two respects. First, there is no compelling evidence that the laryngeal stop [ʔ] existed before a word-initial vowel.

The second and more critical problem is that the null consonant as [ʔ] cannot provide any explanations for the peculiar alliteration pattern exhibited by [h]. As shown in (i), it is allowed to alliterate with a vowel in Late Old English verse.

- (i) á to ðam ælmihtigan. Gefrægen ic ða Hólofernus  
 ever to the almighty asked I them Holofernus  
 (Judith 7)

Notice here that the laryngeal stop [ʔ] is distinct from the laryngeal fricative [h] in that the former requires the constriction of the glottis, while the latter does not. They are not at all identical with each other at any levels of phonological representation. Therefore, the alliteration fact in (i), which still remains a mystery, constitutes a counterexample to Fujiwara's observation that the null consonant is taken to be [ʔ].

If, on the other hand, the null consonant is identified as [+spread glottis], the alliteration fact in (i) is interpreted in a quite natural way as the alliteration between /h/ and the null consonant. In fact, this interpretation does not raise any disadvantage in interpreting any other alliteration fact in Old English.

For further details of this issue, see Okazaki (in progress b).

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