ABSTRACT

This paper examines the semantic factors involved in three crucial questions about suppletion in verbs: what verbs develop suppletion, what verbs contribute to suppletive paradigms, and how roots are distributed in suppletive paradigms. My analysis shows that the development of suppletion is more orderly than commonly believed. Speciﬁcally, semantic distance and other semantic factors facilitate explanations of suppletive patterns that earlier studies focusing on typological and morphological considerations could not account for. I apply semantic maps to well-known cases of suppletion in addition to underreported and previously unreported patterns, including Hungarian data displaying a previously unknown type of suppletion—non-aligned overlapping suppletion—where forms shared by separate lexemes belong to distinct parts of their paradigms. I contextualize semantic factors in the relationships between synchronic types and diachronic sources. My analysis reﬁnes our understanding of suppletion types and shows the logic behind suppletive distributions.

The seemingly haphazard patterns displayed by suppletive verbs have led to ‘the mainstream view of suppletion ... as random and exceptional’ and prompted the question of whether they ‘make sense’ . In this paper I claim that suppletion makes more sense semantically than it appears to make morphologically. Speciﬁcally, I argue that the semantics of the verbs that enter into suppletive relationships reveals a logic in the development and distribution of suppletive forms. Particular insight comes from the rare phenomenon of overlapping suppletion, in which two lexemes ‘share’ forms. Although suppletion inherently concerns the relationship between semantics and morphology, semantic issues do not always receive adequate attention in the literature. Both synchronic and diachronic typologies of suppletion will beneﬁt from the incorporation of semantic analysis into traditional approaches.

Speciﬁc morphological relations such as the strong ~ weak and overlapping ~ non- overlapping distinctions and important semantic considerations like semantic distance, semantic ﬁelds, deixis, and lexical semantics also merit

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JUGE – THE SENSE THAT SUPPLETION MAKES 391

attention. Ideally, it would be possible to analyse every case of suppletion with ample diachronic data and put that into typological context. Naturally, in many cases we lack diachronic data, especially regarding semantics; while reconstruction can frequently provide a great deal of information about unattested forms, the precise meanings of these roots are often elusive. Furthermore, deep study of every known case of verbal suppletion would constitute far more than a ‘research programme’—it would take a lifetime . I therefore examine these suppletive types in some richly attested languages and adduce data from others where possible in order to complement typological research like that of Veselinova and Corbett . In this paper I limit myself to suppletion in stems in inﬂectional paradigms1 in verbs.

In light of the potential confusion that can arise from the fact that diﬀerent researchers have used diﬀerent terms and concepts, I begin with a working deﬁnition of the term suppletion and a brief summary of the types of suppletion, which I will deﬁne as I go, followed by a review of the various sources of suppletion . Like Corbett , I use Mel’uk's deﬁnition as a starting point: ‘for the signs X and Y to be suppletive their semantic correlation should be maximally regular, while their formal correlation is maximally irregular’. For example, the semantic correlations between walk and walk-ed on the one hand and between go and wen-t on the other are perfectly regular, while the formal correlation between the ﬁrst pair is regular but the one between the second pair is highly irregular. An important consequence of the notion of maximal regularity is the possibility that the formal correlation between forms is not binary but rather gradable. For example, some forms may share no phonological material, while others may have some phonological material in common. In the former case, we have strong suppletion, and in the latter case we have weak suppletion. Thus, English be and am are strongly suppletive, while Latinfaci ~f ‘make.PRES .IND .ACT .1S~make.PRES .IND .PASS .1S ’ are weakly suppletive. As we shall see , the strong~weak2 distinction is partially independent of suppletion source.

Before further examining types and sources, it is important to emphasize that suppletion types are matters of synchrony, while sources belong to diachrony. When we examine the data from a given stage of a particular language, we can determine whether it exhibits suppletion and, if so, what type are represented. In this section, I identify suppletive patterns in terms of types, and I leave the identiﬁcation of sources for the next section. If suﬃcient information is available, we can analyse the development of suppletive patterns in terms of sources. In the well-known case of English go~went, the type is non-overlapping and the source is incursion, with went being the incursive form.

Careful attention to the distinction between suppletive types and suppletion sources prevents over-reliance on etymological information, which in many languages is scant or not available at all. As with many other analyses of the diachronic processes that give rise to given synchronic states, suppletive data in some languages will not be accompanied by suﬃcient information to determine with certainty which instances of suppletion are the result of which processes. In these cases, though, the correlations between type and source may provide enough information to draw tentative but useful conclusions.

Non-overlapping suppletion is the situation in which one or more forms of a paradigm do not belong to the same stem as the rest of the paradigm, nor do they belong to another paradigm. Perhaps the best-known example is the aforementioned case of the English verb go, where the forms go, going, and gone belong to one root and two stems and went clearly belongs to another stem from a distinct root. These exhibit non-overlapping suppletion because all the forms belong to this lexeme, with none being ‘shared’ with another lexeme. If any of the forms were shared with another lexeme, they would exhibit overlapping suppletion .

Overlapping suppletion is the situation in which one set of forms is suppletive with respect to other forms belonging to the same lexeme and identical to the corresponding forms of another lexeme. The forms in question need not be suppletive with respect to the other forms of the second lexeme .

Aligned overlapping suppletion is overlapping suppletion in which all shared forms belong to the same parts of the paradigms of all the lexemes involved. For example, in the Ibero- Romance languages, the forms of the Preterit of ser ‘be’ are the same as those of the Preterit of ir ‘go’ . Tables 2–8 show the other known cases of aligned overlapping suppletion. To the best of my knowledge, all previously identiﬁed cases of overlapping suppletion are instances of aligned overlapping suppletion. Non-aligned overlapping suppletion is currently attested in only a very small number of cases.

The English case of go ~ went is nearly an instance of overlapping suppletion in that the relationship between forms like send ~ sent and bend ~ bent makes it plausible to posit a synchronic link between wend and went, even though the modern past of wend is clearly wended.

Some cases of aligned overlapping suppletion involve optional forms. Table 6 shows that in Catalan, the Participle of ser ‘be’ is either sigut or estat, the latter being identical to the Participle of estar ‘be’ and showing the same pattern as Italian essere and stare . The criterion for identifying optionality is the same as in other contexts: if two or more forms exist for the same morphological function , they

JUGE – THE SENSE THAT SUPPLETION MAKES 393

INF PRES .IND .1S IMPF .IND .1S PTCPL

essere sono ero stato stare sto stavo stato

can be considered optional. For example, the forms dreamt and dreamed are options for both the Past and the Past Participle of dream. As with cases of non-optional overlapping suppletion, it is not necessarily the case that all the shared forms will be suppletive with respect to the forms of both verbs. In the Catalan case just mentioned, for example, estat is non-suppletive with respect to most or all other forms of estar , but it is suppletive with respect to the other forms of ser, while sigut is suppletive with respect to forms of ser other than those of the Present Subjunctive and related Imperative forms. Table 7 shows a similar pattern in the Hungarian copula van, which has optional overlap with lesz ‘become’ in the Conditional and Past Participle . Among the relatively small number of known cases of optional overlapping suppletion, all are aligned.

Certain cases of overlapping suppletion do not show the alignment found in the previous examples. In Hungarian, for instance, the copula van shares forms with the verb lesz ‘become’. Table 8 shows that these verbs do not share past tense forms, but they do share subjunctive forms. Additionally, the forms of the Present Indicative of lesz are the same as those of the Future Indicative of van; therefore these forms illustrate non-aligned overlapping suppletion.

Traditionally suppletion has been thought of primarily as the result of the entry of forms of one lexical item into the paradigm of another. Clancy , for example, excludes other sources by describing suppletion as the situation ‘in which two more separate roots are used to

JUGE – THE SENSE THAT SUPPLETION MAKES 395

express a single concept in various contexts’. Some scholars, such as Corbett include sound change as a source of suppletion as well, but leave out other sources. Plank's division of the sources into dissimilatory change and combinatory change represents an improvement because it covers more cases, but it does not suﬃciently distinguish the various sources. Because a limited view is still common and—more importantly—because diﬀerent sources of suppletion correlate with diﬀerent suppletive patterns, this section reviews the sources of suppletion and how they relate to the various types of suppletion.

The term glomeration covers three processes whereby speakers combine elements of formerly separate lexemes in a suppletive paradigm. The best known of these is incursion, the replacement of a form in one lexeme with a form from another lexeme, as in the English case of went , which ‘invaded’ the paradigm ofgo, replacing ode. The other types of glomeration are coalescence—the melding of two incomplete paradigms—and lexical merger—the combination of two formerly complete paradigms into a single paradigm with the loss of some forms from both source lexemes. All cases of glomeration involve etymologically distinct roots.

Incursion is the entry of forms from one lexeme into another. Often only incursion—the ‘invasion’ of one lexeme by forms of another—is considered a true source of suppletion, other cases being relegated to the ‘irregular’ category. In addition to the case of English go mentioned above, textbook examples of incursion include the ‘invasion’ of the Latin verb ıre ‘go’ by forms from various lexemes and the entry of forms deriving from Latin esse ‘be’ into Ibero-Romance ir ‘go’. Prototypical incursion involves the incorporation of forms from one lexeme into the paradigm of a lexeme that has a full complement of forms, as in both of the examples cited above . The other forms of the donor lexeme typically fall out of use. If they do not, the result is overlapping suppletion . Figure 1 is a schematic presentation of incursion yielding non-overlapping suppletion, with some forms of the donor lexeme replacing some forms of the recipient lexeme. Table 9 illustrates non- overlapping suppletion in the Galician verb ir ‘go’ that resulted from the incursion of reﬂexes of vdere ‘rush’ into the Present of ıre ‘go’.

It is important to acknowledge, as Corbett does , that synchronic data may not allow us to determine which root is the ‘invading’ root. The Royal Galician Academy 2005) presents 66 cells for ir. As Table 10 shows, accounting for syncretism, ir has only ﬁfty seven distinct forms, of which twenty one are reﬂexes of Latin esse ‘be’, twenty six come from ıre, and ten are from vdere. Spanish ir shows a comparable distribution. In the absence of diachronic information, these data might lead the us the conclude that ıre is the original root. In French aller, however, 61 per cent of the forms come from \*allre, which might lead us to conclude that this is the original root.

Closely related to incursion is coalescence, the process whereby the forms of verbs with only partial paradigms come together as a single lexeme, as shown schematically in Figure 2. By

time r

recipient lexeme

donor lexeme

recipient lexeme donor lexeme

recipient lexeme

time r

time s

lexeme 1

unified lexeme

lexeme 2

JUGE – THE SENSE THAT SUPPLETION MAKES 397

partial paradigm I mean a verb that lacks some forms found in other verbs. Perhaps unexpectedly, such partial paradigms may or may not be considered defective. A paradigm that seems incomplete may turn out to appear defective only in retrospect, i.e. when viewed by the standards of a later stage of the language. For example, I have argued that, during the classical period, the Latin Perfect Passive Participle need not be viewed as fully incorporated into the inﬂectional system, whereas Romance verbs are generally expected to have corresponding forms . Thus a Latin verb with a ‘missing’ participle need not be seen as defective even though a Romance verb with a corresponding gap would count as defective.

The various Indo-European copulas exemplify coalescence with roots meaning BE , BE , BECOME, EXIST, LIE, REMAIN, SIT, and STAND . The Latin verb facere ‘do, make’ presents an important case of coalescence since the two roots involved,fac- andf-, are suﬃciently similar phonologically that it would be easy to overlook the fact that they come from separate sources, \*dheh1- ‘do, put’ and \*bheu- ‘be, become’, respectively . This case of coalescence yields weak suppletion because Proto-Indo-European /\*bh/ and /\*dh/ merge as /f/ in initial position in Latin . Thus, by chance, the Latin reﬂexes of the two roots share an initial consonant . Perhaps the two biggest diﬀerences between incursion and coalescence is that coalescence does not involve the replacement of forms and that there appear to be no cases of overlapping suppletion that result from coalescence. Brjars & Vincent group coalescence and lexical merger under the label ‘conﬂation’.

Lexical merger occurs when two or more full paradigms come together and leave behind a single paradigm, illustrated schematically in Figure 3. A good example is French e^tre ‘be’,

time r

time s

lexeme 1

unified lexeme

lexeme 2

where two Latin verbs furnish the various forms. Reﬂexes of esse ‘be’ survive in the Present Indicative, Passe Simple, Future, Conditional, and Present and Imperfect Subjunctive, while reﬂexes of stre ‘stand’ provide the remaining forms, namely those of the Imperfect Indicative and the Present and Past Participles .

If the lexemes merge completely and only one form survives in each paradigmatic cell , with other forms being lost, the resulting lexeme has two or more stems unique to that lexeme, i.e. it exhibits non-overlapping suppletion.

Certain cases do not provide adequate data to distinguish among these sources of suppletion, especially coalescence and lexical merger. As Joseph shows in his discussion of the defective Ancient Greek verb emı ‘say’, paradigms may be built up one form at a time, and thus we cannot know a priori what degree of defectiveness a given root might have had before entering into a suppletive paradigm.

Sound change can create suppletion when formerly allophonic alternations cease to be predictable due to other phonological or morphological changes. In some cases, sound change produces strong suppletion . The relationship between sound change and weak suppletion is somewhat more complicated. I have presented the changes that resulted in diﬀerences between the reﬂexes of Latin dıcere ‘say’ . Mel’uk's characterization of suppletion in terms of maximal regularity can be interpreted to include cases like digo~dices. Some traditionalists, however, may be hesitant to count such pairs as suppletive. I see this as being partly due to the outsized role of data from Indo-European languages in the development of suppletion as a subject of investigation. For example, Veselinova points out that 42 per cent of Mel’uk's languages are Indo-European. A great many such cases involve diachronic knowledge that researchers examining languages from other families often lack. Therefore, despite traditional tendencies, I ﬁnd it useful to treat cases like digo~dices as suppletive, even if very weakly so.

Two important factors inform this view of weak suppletion. The ﬁrst is the potential synchronic diﬃculties involved in identifying suppletion. Traditionally, suppletion has been deﬁned in terms of the existence of etymologically distinct roots within a single paradigm. But some paradigms with etymologically distinct roots are, as a result of phonological accident, only weakly suppletive, as in Latin faci ~ f ‘make.PRES .IND .ACT .1S~make.PRES .IND .PASS .1S ’ . If we did not have recourse to etymological information, we might be inclined to exclude these forms from discussions of suppletion, but doing so could deprive us of valuable data.

The second consideration, which may serve the intuitions of researchers who do not want to equate irregularity with suppletion, is the notion of uniqueness. If we require that cases of suppletion meet Mel’uk's semantic and formal criteria and that each one be unique among relationships within the language in question, then the Spanish pair digo~dices falls outside of

JUGE – THE SENSE THAT SUPPLETION MAKES 399

our scope, since the corresponding forms of hacer ‘do.INF ’ show the same alternation between /g/ and /s/ . For the speciﬁc purposes of semantic analysis at the heart of this paper, this issue is not of direct importance, since the key cases analysed here involve roots that are known to be etymologically distinct. For a broader understanding, however, an expanded version of this notion, including questions regarding how much of a paradigm analysts should examine, may merit further investigation.

Suppletion resulting from sound change is not strictly a matter of semantics except to the degree that limited documentation makes cases of suppletion caused by sound change and suppletion caused by incursion diﬃcult to distinguish. In such instances, scholars may have to rely on word families to diﬀerentiate these two sources. Naturally, some cases may not oﬀer suﬃcient information to assign a particular suppletive pattern to one of these rather than the other.

The problematic notion of analogy is applied to discussions of suppletion in a number of ways, and it is important to clearly distinguish among the various relevant concepts. First, it is commonly noted, as in Veselinova , that forms with high token frequency are often suppletive and resistant to analogical regularisation . This pattern relates to forms that are already suppletive, especially strongly suppletive forms.

However, analogy can also create suppletion . Some of the subtypes of analogy have been identiﬁed as sources of suppletion in work of mine and by Ronneberger-Sibold .

Proportional analogy is the well-known process whereby a relationship connecting three existing forms is expanded to create a fourth, previously unattested, form, hence the common name four-part analogy. This type of analogy is commonly thought of as a regularising force, but the Fisterran dialect of Galician illustrates suppletion created by proportional analogy. The key changes that led to weak suppletion in the verb ir ‘go’ under the inﬂuence of vir ‘come’ in the Imperfect Indicative are outlined in Figure 4 ; note that Galician-Portuguese is the common term for the medieval stage of both Portuguese and Galician . In these data, <nh> and <> represent /ɲ/, and <y> represents /i/). This case depends on the semantic connection between these lexemes and the ‘fortuitous’ outcome of certain regular sound changes involving intervocalic nasals .

Regular changes caused the inﬁnitives of COME and GO to diﬀer only in the onset, setting the stage for analogical inﬂuence that created a weakly suppletive stem /iɲ-/ in the verb ir ‘go’.

This case also reminds us that possible changes need not take place, since the relevant phonological developments also occurred in Portuguese, but I know of no Portuguese variety with a corresponding analogical development.

Contamination is the inﬂuence of one form, commonly an item in a list, on an associated form, often another item on the same list . Well-known examples include the Balto-Slavic words for ‘nine’, which bear the initial /d/ of the following numeral rather than the expected /n/ . The signiﬁcance of the semantic patterns involved in suppletion created by proportional analogy and contamination are discussed in section 4.3.4.

The third principal type of analogy relating to suppletion concerns the spread of suppletive forms and patterns. Aski presents a template-based analysis of suppletion in GO verbs in French, Spanish, and Italian. Although her analysis has been cited favourably on a number of occasions , her claims regarding templatic determination of suppletive patterns do not ﬁt the data in these languages, and data from additional Romance languages only further weaken her analysis. I present here a shortened version of the discussion in Juge .

Veselinova presents Aski's analysis to ‘argue that the emergence of suppletive paradigms can be shown to follow analogical processes’. Veselinova frames her discussion in terms of frequency, stating that ‘probably the main trigger for the introduction of suppletive forms in a paradigm is type frequency and analogical re-structuring of paradigms rather than token frequency as commonly thought’ . Veselinova misrepresents the role of Latin ıre in the suppletive patterns found in Romance verbs of motion, since she implies that Latin ıre has a minimal presence in Modern Romance, stating that this verb ‘survives only partially e.g. in citation forms cf. Spanish ir and for future tense forms such as French irai , etc. and similarly Spanish ire ’. By ignoring languages with more robust representation of ıre, Veselinova suggests that these forms are more marginal than they are and distorts the distribution of reﬂexes of the various roots and thus misrepresents the types whose frequency she considers to trigger incursion. Table 14 illustrates the varied distribution of roots in Romance verbs meaning ‘go’. Note that the proposed roots \*allre and \*andre are highly disputed. Discussion and a variety of proposed etymologies can be found in the Dictionnaire E tymologique Roman3 (Buchi & Schweickard

JUGE – THE SENSE THAT SUPPLETION MAKES 401

Aski limits her discussion to the present tense, eliminating any chance of properly contextualising the patterns. Her argument also relies on ‘phonetic erosion’. While this idea may at ﬁrst seem to account for paradigms involving the short forms of ıre ‘to go’, it cannot explain longer forms also undergo replacement. Finally, the core of her argument centres on ‘paradigmatic pattern, or templates’, which closely resemble morphomes . She claims that when verbs develop new alternations, the ‘shifts are consistently to more populated templates’ . Her support for this claim comes primarily from a discussion of Present Indicative and Present Subjunctive forms that does not characterise the data accurately.

Improved understanding of these morphological patterns is a key component in ongoing eﬀorts to correlate semantic patterns with morphological patterns.

Not all of these sources lead to all types of suppletion. For example, when we examine the typology of synchronic morphological relationships that Corbett explores, we ﬁnd that strong suppletion comes only from glomeration or sound change and apparently never from any type of analogy.4 This is to be expected since analogy depends on a formal relation between a base and a new form while strong suppletion is characterized by a lack of shared phonological material. It appears that overlapping suppletion probably does not arise from any type of analogy, except perhaps due to phonological coincidence.

As a morphological phenomenon, suppletion naturally concerns semantics, as most deﬁnitions indicate, including the oft-cited formulation oﬀered by Mel’uk's . In this section I address some overlooked semantic factors that relate to how roots combine in suppletive paradigms. Speciﬁcally, I revisit my claim that a certain ‘semantic distance is a necessary factor in the development of overlapping suppletion’ . Ripamonti also highlights the contrast between the ‘ever-present’ role of semantic distance in these developments and the current lack of clarity surrounding this factor.

Corbett treats overlapping suppletion, as exempliﬁed by Ibero-Romance BE ~ GO, ‘as less fully regular in semantic terms than instances of nonoverlapping suppletion like go ~ went, where synchronically each stem belongs only to this lexeme’ . Corbett's synchronic study does not address the relationship between GO and BE in general terms, only within these paradigms and in light of the fact that the two lexemes do not have a semantic relationship of identity . While Corbett, like others, addresses distinctions that have semantic components, such as splits along aspectual, mood, and other lines, I will focus on how the lower degree of synchronic semantic regularity exempliﬁed by BE and GO corresponds to the relationships between source roots.

The issue of semantic distance raises two closely linked questions. First, what kind of semantic relations obtain between the lexemes involved in incursion, lexical merger, and coalescence and between those involved in analogical changes? Second, which of these semantic relations favour overlapping vs. non-overlapping suppletion? Veselinova addresses an important related question, namely the relationship between the presence or absence of suppletion and lexical semantics. That is, can we identify certain meanings that co-occur with suppletion and others that do not ? Do some meanings co-occur only with certain types and not others ? In contrast, my principal concern here addresses the range of meanings that contribute to a given suppletive lexeme. In the process, I aim to contribute to a more rigorous notion of semantic distance .

Veselinova's treatment of semantics mostly concerns either categories like aspect and number or which semantic ﬁelds are associated with suppletion. For example, she states that ‘more than half of the verbs which show this

JUGE – THE SENSE THAT SUPPLETION MAKES 403

kind of stem change express senses such as ‘be’, ‘come’ and ‘go’’ . Perhaps more revealing is evidence that particular meanings may favour suppletive development. For example, Veselinova presents cases of BECOME verbs developing into future copula forms that show a close connection between inchoative and future. Indeed, one of the most unusual cases in this study illustrates this relationship . Establishing principles of semantic development in suppletive development based on such data will certainly improve our understanding of suppletion.

Osthoﬀ proposes the notion of Nahbereich—what is salient from an experiential or cultural perspective—as a determinant of suppletion, i.e. those lexemes that express concepts that are more ‘basic’ or closer to the speaker are more likely to be suppletive. Although some have endorsed this notion, especially those working in Natural Morphology , others such as Veselinova and Nicholson have criticized it for its lack of rigour. This critique does not necessarily carry the sting that it might appear to, since quantiﬁability is not the sine qua non of historical linguistics. Indeed, the correlation between high-frequency items and suppletion suggests that the notion of a link between lexemes for basic—and therefore potentially more frequently mentioned concepts—and the development of suppletion is quite plausible.

Veselinova compares the development of suppletion to grammaticalization. One of the key similarities concerns lexical semantic analysis. Consider for example the well-known observation that verbs meaning GO often display suppletion and serve as future auxiliaries. Comparative Germanic data reveals that this generalization needs reﬁnement. For example, the semantics of the Norwegian verbs ga and komme do not match those of English go and come , since it is komme, not ga , that serves as a hypernym of other motion verbs. Like deictic markedness, hypernymy appears to correlate more closely with amenability to grammaticalization than do the less well-deﬁned notions like semantic markedness or generality mentioned by various scholars, including Veselinova and Bybee et al. , who state:

The more generalized movement verbs go and come, however, lack speciﬁcs concerning the nature of the movement and are thus appropriate in a much wider range of contexts. ... It is lexical items of this degree of generality that are used in constructions that enter into grammaticization.

Reﬁning such semantic notions facilitates exploring how suppletion types might correlate with semantic factors like semantic distance. Expanding upon Veselinova's discussion of semantic ﬁelds in an examination of a few case studies reveals a number of patterns.

In order to avoid confusion, I will now brieﬂy illustrate how my approach to semantic distance diﬀers from previous approaches that use similar terminology. Nicholson argues that semantic distance aﬀects what forms appear in suppletive relationships. For example, he claims that it is ‘fairly clear that in some way the semantic distance between I and me in English ... or idti and shel in Russian must be greater than the distance between, say, who and whom or ... delaju and delal . The morphological distance is manifestly greater compared with other similar words’ . This approach disregards suppletion types and seems to be entirely intuitive and therefore oﬀers no

means of ensuring that diﬀerent researchers will reach objective conclusions when evaluating the distance between forms within and across languages. Furthermore, this lack of rigour renders comparisons of semantic and morphological distance potentially circular.

In contrast, while my claim about semantic distance and suppletion types may also initially appear to be intuitive, close examination of several instructive cases shows that it facilitates establishing correlations that can then be reﬁned. The most familiar instances of suppletion—such as Gm. bin ~ ist ‘am ~ is’, Sp. voy ~ iba ‘I go ~ I went’, It. vado ~ andiamo ‘I go ~ we go’—show two or more roots whose semantics were very close even when they were separate lexemes.5 These are cases of non-overlapping suppletion result from incursion or coalescence. In some cases, the roots in question closely approach true synonymy even before becoming parts of a single paradigm.

While this treatment of semantic distance has a degree of ambiguity, it can be easily tied to standard lexical semantic relationships like synonymy and hyponymy. Therefore it oﬀers the possibility of independent determination of relationships between suppletive roots and of identifying correlations between suppletive patterns and other semantic relationships.

Brjars & Vincent propose a reﬁnement to the role of synonymy in the development of suppletion. They argue that rather than true synonyms, suppletion involves a dominant and a recessive lexeme, with the former being the lexeme that absorbs forms from the recessive lexeme . This claim ﬁts well with most of the cases discussed here, though it may not account for the exact distribution of forms in each case. In French, for instance, we saw that 61 per cent of the forms of aller ‘to go’ are from the unattested root \*allre, which might be expected to count as recessive vis-a-vis dominant ıre. I address the diﬃculty of evaluating unattested forms at the end of this section.

Cases of overlapping suppletion tend to show meanings that are easier to distinguish than in instances of non-overlapping suppletion. Consider Spanish soy ~ voy ~ fui ‘I am ~ I go ~ I was/went’ and Surmeiran vign ~ vast ~ vignst ‘I go/come ~ you go ~ you come’ . Perhaps it is easier to make such distinctions in part because, by deﬁnition, overlapping suppletion concerns two or more lexemes that are still in use and that are thus easier to examine in terms of contexts of use . Likewise, cases of contamination—as in Galician ser ~ sen~a ‘be.INF ~ be.SUBJ ’ show similar patterns.

Petre presents suppletion in Old English copular forms in terms of my approach to semantic distance, noting that the Spanish data ‘is exactly paralleled in the Old English relation between IS, BI, and WÆS ’ . In fact, Petre expands on this notion, asserting that the English data show that semantic shift can eliminate semantic distance, prompting a shift from overlapping suppletion to non- overlapping suppletion.6

Consider motion verbs in Romance. It appears that every language retaining reﬂexes of Latin ıre also uses forms from at least one other root, with some showing two total , others three , and four in French (e^tre supplies optional passe simple forms, as in Je m'en fus 1s.SBJ 1S .REFL PART

JUGE – THE SENSE THAT SUPPLETION MAKES 405

be.1S .PAST .PFV ‘I went away’).7 Recall that Table 14 shows a total of eight motion roots in suppletive lexemes in Romance. Forms of esse ‘be’ also appear in some GO verbs, as discussed in section 3.1.1. Of the motion roots, the four that appear in non- overlapping suppletion with forms of ıre were either synonyms or hyponyms of that verb.

Maiden has identiﬁed morphomic patterns in suppletion and other alternations, but he has claimed that ‘Romance suppletions have paradigmatic distributions that almost never “make sense”’. Rhaeto-Romance oﬀers data that challenge this view both synchronically and diachronically. Surmeiran, Puter, and Vallader show a suppletive pattern not addressed in Maiden's recent book. In these languages, reﬂexes of veni occur in the 1s Present Indicative of the GO verb, with the other forms coming from ıre and vdere. In earlier work I have pointed out the special deictic relationship shared between COME and GO in the ﬁrst person, the focal point of these cases of overlapping suppletion. In these languages, the 1s Present Indicative is the only part of GO that shows incursion from and overlap with COME . These verbs do not show the common pattern of the 1s Present Indicative as the basis for the Present Subjunctive. In contrast, in another Rhaeto- Romance variety, Surselvan, the verb mere ‘go, pass’, provides the 1S, 1P, and 2P Present Indicative forms and, as expected, the forms of the Present Subjunctive; it also furnishes the forms of the Imperfect Indicative. Thus, this distribution appears to be a counterexample to the general trend captured in Maiden's claim.

and Maiden both address developing suppletion in Romanian.

As mentioned earlier, I have also argued for a semantic basis underlying which lexemes show overlapping suppletion . Speciﬁcally, I claim that there is greater semantic distance between the contributing lexemes in cases of overlapping suppletion than in cases of non-overlapping suppletion. Petre endorses this claim in his analysis of suppletion in Old English, stating that ‘the merger of IS and BI conﬁrms Juge's view that overlapping suppletion is only viable if there is suﬃcient semantic distance between the two verbs’. I have also discussed the semantics behind the pattern of overlapping suppletion in the Ibero-Romance languages . Although the number of known cases of overlapping suppletion is currently rather small, the available data suggests that its development is guided by the semantic relationship between the lexemes.

In the example of the Ibero-Romance GO~BE verbs, I have rejected earlier arguments based on morphological and phonological motivations, especially regarding the notion of lack of phonetic substance . Much more important is the connection between having gone to a place and having been there—she has been there in most cases entails she has gone there. This semantic connection is strongest in the Perfect and it is this Latin TAM category from which the Romance perfective pasts come. Two changes largely obscure this connection, however, in the modern languages, especially Spanish. Latin esse had many copular functions, including location, but estar often has this function in the modern language, having nearly ousted locative ser in Spanish. The growth of estar as a locative copula obscures the semantic relationship that existed between the BE and GO verbs at the time of the replacement of forms of ıre by forms of esse. Second, the Latin Perfect had both a present perfect sense and a past perfective sense, the former being mostly lost in Romance. This loss, especially in Spanish, further reduces the transparency of the BE ~ GO relationship . Changes of this type illustrate the need to closely examine as many individual diachronic developments as possible.

Not only have copulas contributed to suppletive paradigms in motion verbs, as discussed in the previous section, they also serve as some of the best-known cases of suppletion resulting from glomeration. The Romance and Germanic languages illustrate this particularly well. In these cases, two key PIE roots contribute to the various paradigms. One, \*h1es-, is often presented as a ‘colourless’ root, though the semantics of being suggest that a full analysis will require a far more sophisticated treatment. For the purposes of this discussion, it is suﬃcient to consider it to have simply meant ‘be’. The other principal root, \*bheu-, is usually glossed as ‘become’. Shields assumes that these two roots were already part of a suppletive copula by the time of ‘Common Indo-European’.

Importantly, the BECOME sense of \*bheu- can be thought of as a perfective value of ‘be’ in that perfectives often mark the beginning of an action or a state, and if something begins to be a certain way, then it is becoming that way. It is not surprising, then, that the Latin reﬂexes of this root are perfective forms belonging to esse ‘to be’8 . Not all reﬂexes of this second root, however, are perfective. A number of Germanic languages show forms coming from this root, such as German bin ‘am’ and English be. A full account of these forms will need to provide more in-depth aspectual analysis. As indicated above, part of that story appears in Petre's treatment of Old English copulas.

JUGE – THE SENSE THAT SUPPLETION MAKES 407

Further evidence of the connection between becoming and being comes from Uralic. The Hungarian copula shows overlapping suppletion with a verb meaning ‘become’. As Table 18 illustrates, the two lexemes share the Inﬁnitive, Subjunctive, Conditional, Potential, and several participles. This is a case not only of overlapping suppletion but also, in some slots, of optional overlapping suppletion.

Copulas also often derive some of their forms from verbs indicating spatial relations and/or posture. In Romance, for instance, the reﬂexes of Latin stre ‘stand’ and sedre ‘sit’ have contributed forms in several ways. In the Ibero-Romance languages , one copula, ser, results from the lexical merger of esse and sedre, the latter furnishing the Present Subjunctive , Inﬁnitive/ Future-Conditional stem ser, Imperative , the Gerund and the Participle sido .10

As mentioned in section 3.1.3, the French copula e^tre also results from lexical merger, but in this case the source verbs are esse ‘be’ and stre ‘stand’; the Imperfect Indicative and the Present and Past Participles come from stre, while the rest are from esse . In most other Romance languages stre has survived as a separate lexeme .

Some suppletive copulas, such as those in Romance, reﬂect close relationships among posture verbs like SIT, STAND, and LIE that are paralleled in other languages like Dutch and the Scandinavian languages, where SIT, STAND, and LIE mark location according to shape , eﬀectively subdividing the semantic space of single verbs like English be or Spanish estar. Since many of the best-known examples of suppletion come from languages in which shape is more lexical than grammatical, these examples may not leap out as relevant, but shape has grammatical status in some classiﬁer systems , and it is worth considering how these Germanic data might foreshadow suppletive patterns and relate to classiﬁer systems and other phenomena cross-linguistically.

a. Din-a glas- g-on sitte-r pa ns-an.

your-P glass-eye-P sit-PRS on nose-DEF .ART .C

‘Your glasses are on your nose.’

b. Bord-et sta-r i hrn-et.

‘The table is in the corner.’

c. Sverige ligge-r i Skandinavi-en.

Sweden lie-PRS in Scandinavia-DEF .ART .C

‘Sweden is in Scandinavia.’

In fact, Veselinova points out that some Indo-European copulas feature position roots as in Catalan/Ibero-Romance estar ‘be’ < PIE \*st- ‘stand’. To these we can add Spanish ser < PIE \*sed- ‘sit’. She continues along similar lines, illustrating such patterns with data from diverse languages . Just as the presence or absence of shape as a grammaticalized category may aﬀect whether a given language will display suppletion, she presents examples from Lango in which locative- existential and possessive utterances use the verb tıe ‘be present’ for present time reference, while past or future reference requires a position verb or the verb onwoNo11 ‘ﬁnd’. She concludes that this pattern ‘would have been classiﬁed as suppletion in a language that has tense coded on the rest of its verbs’ . Since Lango verbs do not encode tense distinctions, ‘postulating suppletion is not justiﬁed in a strictly formal sense but functionally the verbs.. .in eﬀect ‘supply’ each other in diﬀerent time-frames’ , where her use of the word supply emphasizes the similarity of such alternations to suppletion.

The patterns of suppletive development suggest that SIT is closer to BE than STAND is in that SIT seems more likely to enter into non-overlapping suppletion with BE, while STAND seems more likely to enter into overlapping suppletion with BE . For instance, in the Ibero-Romance languages, the SIT root contributes forms to the BE verb ser. As just noted above, the twist here, though, is that STAND—just mentioned as a contributor to the French copula e^tre—is in some cases a separate verb meaning BE .

Optional overlap also appears in the Catalan and Portuguese verbs for KILL and DIE , though it is not clear at this time how this relates to Haspelmath's ﬁnding that sixteen of twenty one languages in his sample had diﬀerent roots for DIE and KILL .

As discussed in section 3.3, several types of analogy, including proportional analogy and contamination, can create suppletion. Both of these types of change reveal important information about how semantics relates to suppletion types. Let us ﬁrst brieﬂy examine some typical examples of contamination.

JUGE – THE SENSE THAT SUPPLETION MAKES 409

In addition to the Balto-Slavic example of numeral contamination mentioned in section 3.3.2, Germanic numerals show contamination in the words for ‘four’, which have non- etymological /f/ under the inﬂuence of the words for ‘ﬁve’. Among verb paradigms, Galician and Sardinian provide several examples.

In the Fisterran dialect of Galician, both of the copulas, ser and estar, exhibit the contaminative inﬂuence of the verb ter ‘have’. In this dialect Present Subjunctive forms display a non-etymological medial /ɲ/ <> not found in standard Galician .

As mentioned earlier, Osthoﬀ's notion of Nahbereich—experiential and cultural saliency— may be helpful in understanding suppletion even though it has been criticised as insuﬃciently rigorous. In this section I tie together the previous semantic analyses with methods aimed at increasing the reliability of semantic analysis of suppletion. Among these techniques are semantic maps and the incorporation of thesaurus-like structures. First, however, I address an issue concerning potential ambiguity in the identiﬁcation of suppletion, especially overlapping suppletion.

Spanish presents a case of overlap in the form viste, which is shared by vestir ‘to dress’ and ver ‘to see’, where it is the Third Person Singular Present Indicative and the Second Person Singular Informal Preterit, respectively. Although this is clearly not overlapping suppletion for the simple reason that the form in question is not suppletive vis-a-vis the other forms of either of the verbs, it is important to examine brieﬂy how this diﬀers from overlapping suppletion. We might at ﬁrst suppose that an overlap involving only one form would not qualify as suppletion, but that would contradict the case of Surmeiran eir ~ neir ~ vign ‘to go ~ to come ~ I go/I come’, where the 1s Present Indicative—and nothing else —is shared . In this case , there is clear evidence of overlapping suppletion motivated by a semantic connection rather than semantically unrelated forms with diﬀering morphological structures that happen to have identical surface forms he dresses’). The accidental overlap between French aller ‘go’ and ailler

language

Catalan Portuguese

verb

‘to kill’

matar

matar

non-shared form shared form

past participle

matat mort

matado morto

second verb

‘to die’

morir

morrer

‘add garlic to’ is even more relevant in that some suppletive forms of the present subjunctive of aller match those of the ailler.

Furthermore, we might postulate that a case of overlap cannot be legitimate if the functions that the form serves in its separate paradigms are so diﬀerent, but that leads us back to the case of non-aligned overlapping suppletion in Hungarian, where the Future forms of the copula van are the same as the Present forms of lesz ‘become’.

It is important to analyse these cases carefully so that genuine instances of suppletion with unexpected semantic relationships can receive due attention. Maiden presents such a case in the Ligurian dialect of Monaco, where forms of \*andre ‘go’ have replaced forms of valre ‘be worth’. He remarks, ‘It is possible that phonological similarity may sometimes facilitate suppletive coalescence of etymologically distinct lexemes’, as in the case of Old Italian escire ‘go out’ and the loosely semantically-related noun uscio ‘doorway’, which illustrates his point that, in cases with phonological similarity, ‘the original semantic gap between suppleting lexemes may be greater than is generally observed in suppletion’ . He discusses other cases with less semantically-similar roots, but the \*andre/valre case12 presents an even greater challenge. He identiﬁes the ‘pivot’ as the accidental homophony of the 3S .PRES .IND in the formerly independent verbs. In contrast with the Spanish case of viste, the \*andre/valre case is remarkable in that a single homophonous pairing resulting from sound change suﬃced to ‘drag’ the exponents of multiple TAM categories from one lexeme into another.

Suppletion researchers have at least two other resources for measuring semantic distance. The ﬁrst is the semantic map, which Georgakopoulos & Polis describe as ‘a way to visually represent the interrelationships between meanings expressed in languages’. The other tool that I will address is the structure underlying thesauri. Both of these tools oﬀer important beneﬁts but also suﬀer from signiﬁcant limitations, the most important of which lies in the nature of the data involved in the study of suppletion, namely the necessary reliance on poorly documented or reconstructed etyma. The need to work with such forms deprives historical

JUGE – THE SENSE THAT SUPPLETION MAKES 411

LIE

SIT

STAND

POSTURE

BE

BECOME EXIST

MOVE

COME

WALK PASS RUSH RUN

linguists of much of the lexicographic detail available for other endeavours. For example, many Romance suppletive forms have disputed etymologies. French aller and Italian andare do not have conﬁrmed etyma. Naturally it is impossible to expect ﬁne-grained analyses of the semantics of such forms.

This creates diﬃculties with both semantic maps and thesauri, though the degree of diﬃculty depends on the exact techniques involved. Semantic maps, for example, aim at universality but vary not only in their construction but also in their sampling. The key distinction is that some semantic maps are constructed by hand, usually with intimate knowledge of the languages used, e.g. Clancy's maps of BE and HAVE in Slavic. Wlchli & Cysouw , on the other hand, exemplify the approach of using large numbers of languages, in this case versions of the Gospel of Mark in 100 languages. These approaches, if executed properly, will point in the same direction, but they will inevitably yield diﬀerent insights on certain facets.

Traditional thesauri represent semantic relationships not usually revealed by dictionaries. An excellent example is Buck's indispensable treatment of synonyms in Indo- European. Despite its name , this work is structured as a thesaurus, presenting forms according to their semantic categories and then by etymon. The entries most relevant to the examples studied here come from Chapters 9, 10, and 12. Even in the face of an unfortunate title , Chapter 9 captures the close relationship between BE and BECOME . Chapter 10 provides clear support for the seemingly obvious closeness of WALK, RUN, GO, and COME . The posture verbs that ﬁgure prominently in Romance appear in Chapter 12: SIT and STAND . The fact that all these entries cluster together in chapters near each other correlates with the suppletive patterns presented here. Perhaps more importantly, their organisation in Buck supports the claim that overlapping suppletion is more likely with lexemes that have greater semantic distance than with lexemes that are semantically closer.

With these considerations in mind, I present in Figure 6 a semantic map of the meanings involved in the suppletive patterns studied here. While this map does not capture all the complexity of the patterns presents in this paper, it does correlate well with other research and supports my claims regarding how semantic factors shape the development of suppletion.

Typologies of suppletion tend to focus on morphological traits, but deeper insight into suppletion requires greater attention to semantics, especially hyponymy/hypernymy and

deictic relationships. In this paper I have examined my claim that overlapping suppletion requires roots with greater semantic distance than those shown in non-overlapping suppletion and argued that the claim generally holds. However, to resolve the complications posed by cases of optional overlapping suppletion not covered by my earlier analyses, I propose that semantic distance be viewed as a continuum , with certain semantic diﬀerences falling into an intermediate zone that may yield overlapping suppletion, optional overlapping suppletion, non-overlapping suppletion, or separate lexical items. As with many other gradient distinctions, individual languages will reﬂect their own divisions. This diversity of formal expression of recalls the diﬀerent ways languages treat aspectual diﬀerences—lexically , inﬂectionally , and derivationally .

Connections between glomeration and analogy—especially contamination and propor- tional analogy—also favour the view that semantic distance aﬀects the likelihood of overlap between suppletive paradigms. The identiﬁcation of semantic patterns in suppletive paradigms and those found among lexemes, such as posture verbs in some Germanic languages, lays the groundwork for establishing independent corroboration of the relation- ships between semantics and suppletive types. Further research along these lines may strengthen my claim that, although suppletive patterns may not ‘make sense’ morpholog- ically, semantic relationships reveal a previously unidentiﬁed logic to suppletive patterns.

Future research on suppletion and meaning would beneﬁt from an examination of social meaning. In contrast to Veselinova's claim that ‘suppletive forms are completely non-functional,’ certain alternations between suppletive and non-suppletive forms are stigmatized , while others are not . It appears that stigmatization applies to non-normative forms, as we would expect, irrespective of whether the norm calls for a suppletive form or a regular form.

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