Patterns of analogy in the Canadian French verb system*

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ABSTRACT

Study of a large number of aberrant verb forms ('écarts de la norme') in Canadian French reveals a variety of pressures, paradigm levelling, markedness reduction and iconicity in particular, affecting the inflectional structures. These verb forms, when seen in the light of the theoretical proposals of Natural Morphology, permit a ranking of naturalness principles within that approach and contribute to proposals for the resolution of 'naturalness conflicts'.

I. INTRODUCTION

A large body of recent literature has explored the general organization of inflectional systems, with a view to establishing the structural and hierarchical relationships among inflectional categories. Rooted in studies of historical change, language acquisition, markedness or naturalness, a consensus appears to have emerged which sees the following scales as indicating relative markedness hierarchies:[1]

    In the phonological transcriptions throughout this paper, the typical Canadian French (CF) backing of /a/ to /ɑ/ has been indicated, but none of the other major phonetic properties of CF (high vowel laxing, lengthening, diphthongization, assibilation, etc.) has been included. Note, in certain forms, the presence of /e/ rather than the expected /ɛ/ in word-final position. For a summary of the major phonological properties of CF, see Walker (1984). The abbreviations used are standard and need little explanation: 1, 2, 3 indicate first, second and third persons singular; 4, 5 and 6 the corresponding plurals; present indicative, present subjunctive imperfect, future, conditional and imperative forms are abbreviated as PresInd, PresSubj, Imp, Fut, Cond and Imper; the non-finite infinitive, present and past participles are Inf, PresPart and PastPart.

[1] The ranking of persons (3 > 1 > 2) is not unanimously agreed upon, as Robert Murray has pointed out to me. Although in this respect I follow Bybee (1985), Mayerthaler (1988), among

(1) present tense > non-present tense
    indicative > subjunctive
    finite > non-finite
    third person > first person > second person
    singular > plural

'Markedness', in this context, is taken to involve the presence of an overt morphological marker, restricted distribution of the marked item compared to the grammatical category with which it contrasts minimally within a paradigm, and lesser frequency (cf. Bauer 1988: 178; Wurzel 1989: 195ff.). Thus, in (1), the statement 'x > y' is to be interpreted is 'x is less marked, more natural or lower on a scale of markedness than y'. Such markedness relationships, relevant to the understanding of verb systems, are claimed to hold on a general, language-independent basis. These relationships reflect structure on the semantic level and, under ideal circumstances at least, are paralleled by the relative complexity of their morphophonological expression.[2] In addition to the general patterns in (1), more complex patterns emerge when one considers the detail of language-specific systems. Natural morphologists, for example, draw a distinction between *system-independent* and *system-dependent* morphological naturalness.[3] The former concentrates on universals and universal tendencies which are independent of language or language-specific systems. The latter considers examples where phenomena either do not differ with respect to general naturalness or where a less natural solution is apparently preferred, and where supplementary explanations, dependent on specific properties of the language in question, must be sought.

A second type of complexity in patterning appears when the interactions of two or more of the rankings in (1) are examined. To consider one possibility, is a first-person form more 'influential' than a non-finite form in initiating or guiding analogical change? In this respect, the work of Bybee (e.g. Bybee 1980, 1988; Bybee and Brewer 1980) has demonstrated that there are specific patterns of influence within tenses as opposed to across tenses that help to sort out conflicting possibilities. For example, Bybee demonstrates that in general, 'stem alternations may correspond to person within tense, but they do not correspond to person across tense, aspect or mood categories' (1980: 47). Tense, in other words, outranks person for Bybee although, as we shall see, the Canadian French (henceforth CF) data do not

others, presents arguments in favour of the (relatively) unmarked status of first person forms, a status that is not unrepresented in some of the examples to follow, although it is outweighed by that of the third person forms. There may well be language-specific differences in this domain, which requires further exploration.

[2] See Bybee (1985, especially chapter 3), for one approach to the relationship between meaning and form in morphology. Mayerthaler (1988: 3–4) presents a number of diagnostic tests for determining markedness values.

[3] For a useful survey of Natural Morphology, see Dressler *et al.* (1987).

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always agree. Reflections on both types of complex interactions – potential conflicts between system-independent versus system-dependent markedness as well as overlapping patterns of influence determined by markedness hierarchies – occur in the CF material to be studied below, material that consists essentially of 'écarts de la norme'.

As Wheeler (1993) has made clear, Natural Morphology accepts that general system-independent principles such as uniformity and transparency[4] are 'subject to over-riding principles of system-dependent naturalness' (1993: 97), and that it is necessary to argue for the proper ranking of principles should they find themselves in conflict. In this vein, I will argue in what follows that the CF data permit us to rank paradigm levelling and markedness reduction (as reflected in the hierarchies in (1)) ahead of iconicity in any hierarchy of naturalness principles. If I am correct, this paper may then be interpreted as a contribution to the development of the theory of Natural Morphology.

In discussing some of the theoretical implications of this CF material, I will examine, against the background provided by Standard French, roughly 200 instances of structurally aberrant forms which illustrate the type of change that has taken or is taking place within the conjugational patterns of CF verbs. The data on which this study is based are drawn from the corpus of the Ottawa–Hull French Project described in Poplack 1989. They may be considered, at least as far as their morphological structure is concerned, as fully representative of the type of morphological patterning (persistent or innovative) which characterizes the vernacular French spoken in Canada.[5]

This is not to say, however, that these CF data reflect a state of complete

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chronological or sociolinguistic homogeneity. Certain forms cited below (e.g. *je vas, crère*) are archaic and have, for certain CF speakers, resisted normative pressures. Others (*sontaient, teindu, éteindu*) may well characterize a specific class; reflect a regional usage sporadically preserved in CF (*refrédir, seyent, suitais*); or be sufficiently widespread to be on the verge of standardization (*prenderiez, verreriez*). Still others (*voivait, dirons, réuniait*) might be claimed to reflect idiosyncratic lapses were it not for the fact that they are repeated in the corpus. In the study of various types of historical change or synchronic variability, one may obviously distinguish between the sporadic or even the first occurrence of a form and the broader diffusion of that form. The contexts in which these CF forms occur, their frequency, their status as speech errors or as widespread innovations, provide an interesting set of sociolinguistic problems, but ones of less relevance to those interested in the pressures affecting morphological structures. That is, even a single nonce occurrence suffices to illuminate the pressures on morphological structure or the effects of morphological structure on linguistic behaviour that constitute our topic below. Whether this behaviour subsequently generalizes is a separate question. In this respect, I adopt a treatment of these CF morphological forms which is parallel to that of Sankoff, Poplack and Vanniarajan (1990) in the treatment of nonce and loan words, i.e. one which recognizes a distinction between innovation and subsequent diffusion, but which, in the domain of innovation, need not consider frequency or distribution since there need be 'no effort to distinguish between nonce borrowings and established loans [read 'single versus generalized morphological abberations'] because [the] point is that there is no difference between them with respect to their morphological and syntactic integration into host language contexts' (Sankoff, Poplack and Vanniarajan 1990: 94).[6]

Thus, while a considerable amount of additional information is available concerning the examples to follow (their frequency and their distribution throughout the communities surveyed, for example), I will focus on the underlying morphological structures, with a view to clarifying the pressures currently operating within the CF verb system. Before this examination, however, it is necessary to review, albeit briefly, the general structure of the French verb, in particular the various inflectional categories which are relevant (as opposed, at this stage, to the specific formal realizations of these categories).[7]

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[6] For an application of this approach (i.e. the use of nonce forms) to the examination of suffixal innovation in French, see Pichon (1942). For further discussion from the loan-word domain, where the issue of distinguishing between nonce forms and borrowings is particularly relevant, see Poplack, Sankoff and Miller (1988) or Sankoff, Poplack and Vanniarajan (1990). I am indebted to Shana Poplack, John Archibald and the anonymous reviewers for detailed discussion of this point.

[7] For a detailed recent treatment from a morphological perspective, see Morin (1986).

2. INFLECTIONAL PATTERNING IN VERB CONJUGATIONS

As has by now been made obvious by an extensive literature dealing with its conjugational paradigms, the French verb is inflected for first, second and third persons in both singular and plural. In the non-periphrastic 'tenses' (i.e. the amalgams of tense, mood and aspect which concern us here), the informal spoken language distinguishes the present indicative, present subjunctive, future, imperfect, conditional and imperative. Changes in the infinitive and the present and past participles (the three non-finite forms) will also be of concern.[8] Perhaps the single most important language-specific factor in the analysis of French verbs involves the classification of conjugations. Unlike the majority of traditional approaches, which divided verbs on the basis of the form of the infinitive (verbs in *-er*, *-ir*, *-oir*, *-re*, or variants of this approach), current work on the structure of French, including CF, works with the number of distinct *stems* which must be recognized in order to account for the relevant verb forms, and with the distribution of these stems.[9] In the simplest case, exemplified by *chanter*, *appuyer*[10] or *rire*, there will be a single stem which serves as the base for all (relevant) inflected forms. Many verbs have two stems showing either vocalic alternations (*appelle-appelons*, *meure-mourons*) on consonantal alterations, specifically the presence of a stem-final consonant in certain contexts (*finis–finissons*, *rends–rendons*). These alternations may signal (either partially or fully) differences between number and person (3sg. *rend* /ʀɑ̃/ versus 3pl. *rendent* /ʀɑ̃d/), or between tenses (3sg. indicative *rend* /ʀɑ̃/ versus 3sg. subjunctive *rende* /ʀɑ̃d/). The distribution of the different stems is also of crucial importance: singular indicative forms may show one stem, opposed to a general stem elsewhere (as in *rendre*), or the distribution may be more complex, with one stem occurring in the first and second plural indicative and subjunctive and throughout the imperfect, while the second occurs in all singular as well as third plural indicative and subjunctive forms and throughout the future and conditional (as is the case of *acheter*, for example). Many additional permutations and combinations are possible, especially when verbs with more than two stems enter the fray (consider, for example, *venir*, with the stems /vjɛ̃/ *vient*; /vjɛn/ *viennent*, *vienne*; /vən/ *venons*, *venais*; /vjɛ̃d/ *viendrai*, *viendrais*). This is not the place to consider the structure of

[8] Imperative forms are virtually absent from the set of forms to be considered here (three examples), as are present participles (two examples), but the innovations involved are consistent with the major types to be enumerated.

[9] For representative discussion, see (among many other possibilities) Dubois (1967), Gertner (1973), Isaac (1985), Martinet (1958, 1979), Pinchon and Coute (1981) or Séguin (1986), as well as the study by Morin cited earlier. Paradis and El Fenne (to appear) present (in a non-linear framework) a detailed phonologically-oriented analysis making use of floating consonants and of a reclassification of infinitive markers.

[10] The /j/ that occurs in certain forms (e.g. *appuyons* versus *appuie*) is fully conditioned by the phonological structure.

these various paradigms in detail, but one fundamentally important factor must be indicated. The presence or absence of a stem-final consonant (accompanied or not by vocalic alternations) play a major role in French verb inflection,[11] inasmuch as such a consonant is often an indicator, in iconic terms, of plural number on subjunctive mood, as well as appearing, here and there, in a variety of additional contexts (e.g. infinitive, present participle, imperfect stem). It will come as no surprise to learn that the CF innovations, to which we now turn, will involve stem-final consonants in a variety of ways.

3. ANALOGICALLY BASED PATTERNING IN CF VERBS

In the discussion to follow, two major types of innovation will be considered: **substitutions** and **formal modifications**. In substitutions, a form which is phonologically identical to one or another member of the paradigm is simply used in place of the expected form, as when we find *je va* (or *je vas* – both are pronounced /ʒvɑ/, parallel to *il va*) for standard *je vais*. Formal modifications, on the other hand, imply creativity in the sense that the innovative form does not exist elsewhere in the paradigm. In both cases, we would expect the changes to instruct us concerning the markedness or naturalness relations that presumably govern, at least in part, the structure of CF verbal paradigms.

3.1. Substitutions

The Ottawa–Hull corpus presents some 200 CF analogical changes to be investigated, of which roughly one-third involve substitutions as defined above. In such substitutions, one would normally expect two types of pressures. The first type, in keeping with standard analogical changes, would tend to reduce the amount of variation internal to the paradigm in question. Such reduction, however, might proceed in a number of directions, and we should also expect that the naturalness hierarchies of (1) above would play a role in determining patterns of influence. In fact, both predictions are borne out, although not without exception.

The largest number of substitutions involves third person plural forms, which manifest a striking tendency to be replaced by the corresponding third singular, either in the future, where the suffix *-ont* is replaced by *-a* (also homophonous, in fact, with second singular *-as*) or, in a large set of 'irregular' verbs, in the present indicative, as in *Il(s) viendra tous, les gars*. In the future, we thus find widespread use of *fera* for *feront*, *viendra* for *viendront*, *parlera* for *parleront*, and six other similar replacements (involving the verbs *demander*, *engager*, *haïr*, *pouvoir*, *prendre* and *vouloir*). In the present indicative,

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[11] As it does elsewhere – consider the complexities of liaison or of derivational morphology, longstanding (and unresolved) areas of debate in French morphophonology.

fully twenty-one different verbs (all, incidentally, from non-productive classes among non-first-conjugation verbs, in traditional terms, or from the class(es) where a marked latent consonant is imperfectly learned, in an approach such as that of Paradis and El Fenne (to appear)) show verbs in third plural contexts with third singular forms (*apprend, connaît, fait, lit, sait, vient* and over a dozen other singulars occurring with plural subjects). Finally, we may add *a, est* and *va* all used in place of *ont, sont* and *vont* respectively. Each of these substitutions corresponds to one set of expectations (assuming a change is to occur at all) in that a marked plural is replaced by the corresponding unmarked singular, and the number of distinct forms in the paradigm is potentially reduced by one.[12] (Note, however, that a second principle, that of constructional iconicity, is violated if marked plural and unmarked singular merge.)

The second principal category of substitutions involves first singular forms, particularly in the future, where the first singular suffix *-ai* /e/ is replaced by *-a* /ɑ/ (homophonous with second singular *-as*) in eleven forms (*j'aimera, j'aura, je fera, je pourra* and so on). As a consequence, there is now a single suffix *-a* for all singular futures, to which we may add the independent forms *a* for *ai* and *va* for *vais* in the indicative. Again, none of these substitutions is particularly surprising given the relative markedness of the first singular compared to the third singular.

Somewhat more complicated relationships, however, are at work in the remaining substitutions. We can first note the straightforward replacement of marked subjunctive by corresponding unmarked indicative forms, where *guérisse* becomes *guérit*, *sachent/sache* becomes *savent/save* (with a transparent consonantal adaptation in the singular), *suive* becomes *suit*, *veniez* becomes *venez* or *veuillent* is replaced by *veulent*. Once again, this loss of a marked form in favour of its unmarked partner is unsurprising in colloquial speech. It would be unusual, however, for the opposite change to take place: for a singular form to be replaced by a putative plural, or for a putative subjunctive to substitute for the corresponding indicative. Nonetheless, both types might conceivably be seen in the replacement of *connais* and *connaît* by *connaisse* /kɔnɛs/, of *(je m'en) fous* by *foute* /fut/,[13] *vient* by *vienne* /vjɛn/, *peut* by *peuve* /pœv/ and *bois* by *boive* /bwav/, all of which are attested. Despite their homophony with the corresponding plural or subjunctive forms, however, it is not necessary to interpret /kɔnɛs/, /fut/, /vjɛn/, /pœv/ and /bwav/ as substitutions replacing an unmarked present indicative by either the plural or the subjunctive. One can, instead, recognize a pressure to

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[12] 'Potentially' because, here and elsewhere, the substitutions do not affect every use of the relevant inflectional categories for all speakers – the change has not 'gone to completion' in sociolinguistic terms.

[13] The orthography, as in 'foute' or 'peuve' will occasionally have to be adapted to reflect the pronunciation, which will always be included in phonemic notation where necessary to situate the innovations in the relevant morphophonological context.

regularize, at least partially, the conjugation of certain verbs by extending the usual stem-final consonant to categories where it does not normally appear. Under this view, the phonological identification of singular forms with either plurals or subjunctives is a derivative consequence of the pressure towards stem regularization through generalization of a stem-final consonant, but not a cause of the substitution.

Two possible exceptions to this general situation involve the second singular present indicative form *comprennes* /kɔ̃pʀɛn/ for *comprends* and the replacement of *équivaut* by *équivale* /ekival/. Here, there is not just the simple presence of an added final consonant, but a vocalic alternation as well, both of which are characteristic of the third plural and the subjunctive. One might, then, argue, at least in the first case, that this is a true substitution of a subjunctive and/or third plural for the highly marked second singular, but again the pervasive nature of the 'inserted' stems (they are characteristic of the complete subjunctive as well as the third plural), as well as the usual stem-final consonant, buttress the argument for paradigm levelling over a marked substitution of a plural for a singular or a subjunctive for an indicative. We will turn shortly to a more detailed discussion of the pervasive influence of stem-final consonants; for the time being, we can simply say that the extension of such consonants leads to a homophony within the paradigm that reduces the number of stem allomorphs in a way which, for reasons apparently independent of the relative markedness of the forms in question, renders the singular or indicative identical to the plural or subjunctive. Once again, this loss of an iconic relationship between the unmarked singulars or indicatives opposed to the marked plurals or subjunctives (the move from an iconic to a non-iconic pattern) highlights in this case the conflict between iconicity and paradigm regularity,[14] and allows us to identify the latter as a dominant force, a System Defining Structural Property (SDSP) in the French conjugation (see, for example, Wurzel 1989 for discussion).

The last case where questions of markedness appear irrelevant involves the somewhat surprising substitution of *couvert*, /kuvɛʀ/, *ouvert* /uvɛʀ/ and *souffert* /sufɛʀ/ for the infinitives *couvrir* /kuvʀiʀ/, *ouvrir* /uvʀiʀ/ and *souffrir* /sufʀiʀ/ respectively. Since the relative markedness of the infinitive versus the past participle remains to be demonstrated, claims regarding the influence of markedness here are moot. Instead, we need simply cite the homophony of the new infinitives with the past participle, a characteristic of the numerically dominant and productive first conjugation that is pre-

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[14] Paradigm regularity is the reflection of a ubiquitous principle in both diachronic and synchronic studies, and is known by many names: 'principle of uniform encoding', 'Humboldt's universal', 'one meaning – one form', 'biuniqueness', 'avoidance of allomorphy', etc. For a discussion in the context of Natural Morphology, see Mayerthaler (1981); for extensive exemplification in a diachronic context, see Anttila (1972 *passim*; under the heading 'one meaning – one form').

sumably at work here as well. The use of *recouvert* for standard *recouvré* (Inf. *recouvrer*, not *recouvrir*) may also be attributed to the influences of both the more common *recouvrir* as well as the past participles just noted, even though the influence in this case comes from outside the paradigm of the regular verb.

There are four cases, however, where substitutions running directly counter to the hierarchy in (1) are involved. Consider the replacement of *va* by *vais*, *vont* by *aillent*, *font* by *faites* and *font* by *fassent*; that is, of the 3sg. indicative by the 1sg., of the 3pl. indicative by the 3pl. subjunctive, of the 3pl. indicative by the 2pl., and again of the 3pl. indicative by the 3pl. subjunctive. In each case, counterintuitively, we see a third person form replaced by a second person or an indicative by a subjunctive. These cases exemplify system–dependent naturalness, as well as a second major proposition of Natural Morphology, the possibility that independent naturalness principles may be in competition, and may lead to apparently contradictory results. In the first example, there exists work, especially that of Bybee (e.g. Bybee 1985), which shows that persons are ranked in the order third, first, second. It is not unknown for first person forms, especially in frequent constructions, to exercise an influence that surpasses even that of the third person. Given the increasing frequency of periphrastic futures in spoken French (those constructed with *aller* + infinitive) and the fact that *je vais* is a particularly frequent participant in the realization of this structure, one could see the first substitution at least as supported by frequency arguments and not dramatically contradictory in local markedness terms, especially since allomorphic complexity is not increased. The second, third and fourth examples, as well as the replacement of *font* by *fait* mentioned above, illustrate the instability of the isolated third plural forms of *aller* and *faire*. Although markedness relations are clearly violated, we can at least see a reduction in stem allomorphy, particularly in the *font-faites* case, where *faites* can be interpreted as the general stem *fai-* /fɛ/ appearing in the singular and the infinitive, plus a final consonant generally characteristic of the plural in many other verbs. And *aillent* /aj/ and *fassent* /fas/, at least, have the advantage of being uniform through all persons in the subjunctive. Thus, such local substitutions, reinforced by the frequency of the forms in question and by the general tendency to reduce the number of verb stems for specific verbs, can be seen as implementing the principle of paradigm regularization while conflicting with the markedness hierarchy. One might even be tempted to claim that a conflict between system–dependent and system–independent naturalness will normally be resolved in favour of the former. Just the same, the degree to which substitutions in CF respect the markedness hierarchy in (1) is striking. Much the same can be said for the formal modifications, which we will now consider.

The CF innovations to which we now turn involve a certain type of creativity – there are no specific paradigm-internal inflected forms which are phonologically identical to the replaced forms, and explanations for the innovations are to be sought in more abstract properties of the morphological structures involved. Once again, it will be useful to proceed from more to less general changes and from greater to lesser transparency. Let us first examine a well-known change that affects vowel-final stems of the (traditional) first conjugation.[15]

3.2.1. Vowel-final stems

One well-known CF innovation involves the addition of the consonant /z/, less often /s/, to stems ending in vowels in order to indicate that the verb is in the third plural, distinct from the third singular. On occasion, the final inserted consonant in CF also marks the subjunctive. In Standard French, the two persons or tenses are homophonous in stems which end in vowels (as in, e.g., *oublie–oublient*, both /ubli/). Examples of the verbs in question are given in (2); other stems involved in the Ottawa–Hull corpus include *communier*, *étudier*, *jouer*, *louer*, *oublier*, *tuer*, although this list could be expanded to include virtually any vowel-final first conjugation verb in CF:

(2) Verb	Consonant (/z/, /s/)	Example	
confier	-z	/kɔ̃fiz/	6 PresInd
continuer	-s/-z	/kɔ̃tinys/	6 PresInd
		/kɔ̃tinys/	3, 6 PresSubj
		/kɔ̃tinyz/	3 PresSubj
ennuyer	-z	/ɑ̃nɥiz/	6 PresInd
fier	-z	/fiz/	6 PresInd
habituer	-z	/abityz/	3 PresSubj
marier	-s/-z	/maʀis/	3, 6 PresInd
		/maʀiz/	2 PresInd
		/maʀis/	1, 2, 3, 6 PresSubj
puer	-z	/pyz/	6 PresInd

The distribution of the inserted consonants in these verbs is not random. Only /z/ occurs with monosyllables, while both /z/ and /s/ may appear in polysyllabic stems, with /z/ still appearing to predominate. Given that /z/ is the major signal of plurality in spoken French and that the great majority of these innovations involves the plural (in both indicative and subjunctive), the source of the inserted consonant is not hard to discover.[16] There is, in

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[15] In fact, except for automatic alternations involving glides, all these verbs have only a single stem (prior to the changes in question).

[16] There are, moreover, frequent verbs that serve to reinforce this pattern: *dit–dise–disent*, *lit–lise–lisent* and so on. The productivity of this new category created by the addition of stem-final *-z/s* is further demonstrated by the fact that it has attracted (in the corpus in

addition, a ready source for the inserted /s/ as well, in that a large and at least marginally productive body of verbs (the traditional second conjugation in *-ir*) manifests the same alternation in the same morphological contexts (*finit/finisse/finissent*, etc.). Moreover, because of the obligatory thematic vowel *-i-* in this class, all of these verbs are polysyllabic, a factor which also no doubt influences the appearance of /s/.

Not only is the source of these inserted stem-final consonants apparent, the structural motivation is also transparent. Recall that insertion occurs in the morphologically marked categories of the third plural and the subjunctive. Homophony in such cases (at least in the context of the CF system) is non-iconic, to use the terminology of Natural Morphology (e.g. Mayerthaler 1981, 1988; Klausenburger 1992a, b).[17] Given the reasonable pressures that might be expected to operate in such cases to restore constructional iconicity by adding a formal mark to correspond to the semantically marked plurals or subjunctives, the CF solution appears optimum inasmuch as it employs patterns already exploited for this purposes in other verb classes. Once again, however, we see one natural tendency – that toward constructional iconicity – over-riding paradigm regularity, since the verbs in question shift from the category that presents only a single stem to one which now has two stem allomorphs. Unlike the case discussed above, however, this appears to involve two system-independent principles, with iconicity more influential in this case than paradigm uniformity, even if such uniformity reflects a SDSP in French. Pattern uniformity, however, will be seen to play a predominant role in the innovations of the next section.

3.2.2. *Paradigm-internal recombinations*

Paradigm-internal analogical changes involve the recombination of already existing stems with inflectional suffixes or suffix complexes to form innovative replacements for (usually) peripheral inflected forms – those members of an inflectional paradigm which are phonologically poorly integrated into the pattern in that they are unique, infrequent or the exponents of marked categories. A clear example is provided by *aperçoivait* for *apercevait*, where the strong (stressed) alternate *aperçoiv-*, which occurs in the singular and third plural as well as throughout the subjunctive, is extended to provide a base for the imperfect. The stems which recombine must occur as part of the finite verb conjugation; non-finite stems, although clearly related, do not normally have the close relationship that binds the finite members of an

question) four verbs from other classes: *guéris*[z]*e* 2 PresSubj, *guéris*[z]*ent* 6 PresInd for *guérisse, guérissent*; *répartis*[z]*ent* 6 PresInd for *répartissent, ris*[z]*ent* 6 PresInd for *rient* and *remplis*[z]*ait* 3 Imp for *remplissait*.

17 Mayerthaler distinguishes four degrees of iconicity: maximally iconic, minimally iconic, non-iconic and counter-iconic, linking degrees of naturalness to degrees of iconicity, where in the optimal case (maximum iconicity) there is a one-to-one relationship between semantic markedness and overt morphological marking. For an interesting evaluation of this work and an application to the history of French, see Klausenburger (1986).

inflectional paradigm. New non-finite forms (e.g. *pourru* for *pu* as the PastPart of *pouvoir*) may also be created by recombination, but (as is the case here with *pourr-*) the base must occur in a finite form; otherwise we will classify the change as a stem modification and deal with it in the next section. Representative examples of the changes to be considered as recombinations are given in (3), where an adapted orthographic representation is used unless a phonological transcription is clearly necessary. (This list is not exhaustive of the data contained in the corpus.)

(3) Recombinations

Recombination		SF equivalent
allent /al/	6 PresInd	vont
allent /al/	6 PresSubj	aillent
boivait /bwavɛ/	3 Imp	buvait
buver /byve/	Inf	boire
convainquer /kɔ̃vɛ̃ke/	Inf	convaincre
coudent /kud/	6 PresInd	cousent
dirons /diRɔ̃/	5 Imper	disons
envoyerai /ɑ̃vwajRe/	1 Fut	enverrai
éteindent /etɛ̃d/	6 PresInd	éteignent
éteindu /etɛ̃dy/	PastPart	éteint
mouru /muRy/	PastPart	mort
ouvri /uvRi/	PastPart	ouvert
plaindrent /plɛ̃dR/	6 PresInd	plaignent
prendent /pRɑ̃d/	6 PresInd	prennent
prennerai /pRɛnəRe/	1 Fut	prendrai
prenderiez /pRɑ̃dəRje/	5 Cond	prendriez
quérer /keRe/	Inf	quérir
quéré /keRe/	PastPart	(quéri)[18]
réuniait /Reynjɛ/	3 Imp	réunissait
savraient /savRɛ/	6 Cond	sauraient
soyant /swajɑ̃/	PresPart	étant
teindu /tɛ̃dy/	PastPart	teint
voirez /vwaRe/	5 Fut	verrez
verreriez /vɛRəRje/	5 Cond	verriez
vivé /vive/	PastPart	vécu

In each of the preceding examples (which comprise just over one half of those occurring in the corpus), an existing stem with clear links to a dominant member of the paradigm has been used to replace a peripheral stem.[19] Let us first examine recombinations resulting in non-finite forms:

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[18] Standard reference works indicate that *quérir* is a defective verb which 'ne s'emploie qu'à l'infinitif avec les verbes *aller, envoyer, venir, faire*.' (Séguin 1986: 193). This participle then indicates, along with the shift to the first category, a tendency to regularize the verb.

[19] Dominant forms are those which exhibit the greatest lexical strength in the sense of Bybee (1985: 117ff.); such forms may show greater or lesser degrees of autonomy, and may each influence other forms within the paradigm. In this context, many of the forms in (3) argue

infinitives, present and past participles. Three new infinitives have been created either by selection of an 'incorrect' suppletive stem or an already inflected form, with the ultimate result of a transfer to the productive -*er* category: *buver* (*boire*), *convainquer* (*convaincre*) and *quérer* (*quérir*, a defective verb). In each case, in addition to the assimilation to the regular -*er* conjugational class, the recombining stem contains a stem-final consonant characteristic of pre-vocalic position but absent in other instances (/v/ in *boire* – compare *boit–buvons*; /k/ in *convaincre* compare *convainc* (/kɔ̃vɛ̃/)- *convain-cons*; the question does not arise with *quérir*). The only difficulty occurs in *buver*, where we may legitimately ask why *buv-* rather than *boiv-* is generalized, especially given the numerical superiority of *boi(v)-*. Any suggestion, such as the importance of the stem found in the present or past participles, must confront immediate contradictory examples, and it appears that here we can simply appeal to a random choice among two major candidates. Such unpredictability, even within the structurally circums-cribed possibilities we have outlined, remains characteristic of this type of morphological change where there may be more than one autonomous ('underlying') form within a paradigm. Turning to the present participles, a single innovative example occurs in the data – *soyant* for *étant* – and here too the recombination is somewhat surprising, consisting as it does in the use of the subjunctive stem as the base for the new participle, particularly when the standard form follows one widespread pattern in being based on the stem of the infinitive. Once again, attempts at more detailed explanation appear futile.

Two patterns of innovation are apparent in the past participles. The first, parallel to the infinitives, consists in movement toward the productive -*er* group: *quéré*, *vivé* (plus *revivé*). The first example clearly demonstrates the productivity of the first conjugation, inasmuch as no standard past participle exists at all for defective *quérir*. The last two cases (or perhaps single case if the derivational relationship between the two verbs is considered) are transparent: the productive suffix is attached to the regular consonant-final stem. The second pattern consists in using -*u* as the general past participle suffix for all non-productive verbs, and in suffixing this -*u* to a regularized stem, usually that of the infinitive. *éteindu* (SF *éteint*), *mouru* (*mort*) and *pourru* (*pu*) exemplify this tendency. Finally, *ouvri* rather than *ouvert* is transparently related to the infinitive *ouvrir*.

Among the finite forms, we may make a useful distinction between those forms based on a present stem (PresInd, PresSubj, Imp, Imper) and those formed from a future stem (Fut, Cond). In the former, two recurrent

against the single or monomorphic underlying representations of classical generative phonology, since certain dominant forms (those which are extended or recombined) do not necessarily correspond to underlying forms, as in *apercoivait* or *voira*, where the diphthong is derived (Schane 1968: 28), or in *éteindent, plaindrent, prendent*, where the epenthetic /d/ is derived (Schane 1968: 119).

tendencies are again evident: the important role of a stem-final consonant (even if this consonant is absent from the unmarked PresInd singular forms), and the use of a regular stem, usually that of the infinitive. *alle(nt)*, *coudent*, *dirons*, *éteindent*, *plaindrent* and *prendent* replacing *aille(nt)*, *cousent*, *disons*, *éteignent*, *plaignent* and *prennent*, respectively, all manifest both of these trends in PresInd and PresSubj forms. *plaindrent*, in fact, is even more complicated, since it incorporates both the infinitive stem and the /R/ of the infinitive into the new present stem. In the Imp, three different types of pattern emerge. For *réuniait* (replacing *réunissait*), we may again see a shift from the *-ir* to the productive *-er* class, modelled on a hypothetical *réunier*. For *éteindait/ éteindaient*, the generalization of stem-final /-d/, taken from the Fut/Cond (as well as the Infinitive) to replace the standard /ɲ/, is again evident (recall *éteindent*, *éteindu*) and it is not impossible to see an infinitive *éteinder* in the background here as well (even despite the PastPart). *aperçoivait* and *boivait/ boivaient* show, yet again, the importance of the stem-final consonant in combination with the stressed form of the stem.

In forms based on the future stem (Fut and Cond), both idiosyncratic and structured innovations occur. If the morphological analysis of these tenses is considered to be infinitive + suffix complex, then *envoyerai* (plus *envoyerais*), *voirai* (plus *voira/voirez/voiront/voirais/voirait/voiraient*) all show a straight-forward recombination, while eliminating the irregular stems *enverr-* and *verr-* and in the former case manifesting the automatic phonological adjust-ments applicable in *-er* verbs (*envoyer* acting like e.g. *employer* in this instance). If, on the other hand, the analysis is stem + /R/ + suffix complex, then *savraient* presents the substitution of regular *sav-* for *saur-*, while *envoirait* indicates regularization of *enverr-* to *envoi-*. Finally, if the structure of the Fut/Cond forms is stem + /əR/ + suffix complex, then a series of changes in *prendre* and related verbs (*apprendre*, *comprendre*, *reprendre*) is explicable via the use of the stem (*a-/com-/re-*)*prenn-* /pRɛn/. This third analysis is confirmed in the forms *prenderiez* and *verreriez*, where *-eriez* recombines either with *prend-* (the stem for the infinitive and the regular Fut/Cond) or with the irregular Fut/Cond stem *verr-*. Since all three patterns of Future/Conditional formation are active in current French, it is not surprising to see each of them influencing analogical recombinations. Such recombinations are 'concrete' in the sense that they involve actually occur-ring stem (and suffix) allomorphs. Stem modifications, to which we now turn, bring into play more abstract patterns, inasmuch as new stem allomorphs are created, albeit on the basis of pressures which we have already seen.

3.2.3. *Stem modifications*
Stem modifications involve the creation of previously non-existent stem allomorphs on the basis of the patterns and pressures which we have already discussed: the role of stem final consonants, of frequent or dominant forms

within a paradigm, or of general theoretical considerations such as iconicity. Examples of the types of modified stems with which we will deal are given in (4), where once again we stipulate that the distinction between recombination and modification normally depends on the existence or non-existence of the stem within a finite paradigm; non-finite forms will not be taken as the source of modified stems. As we shall see, however, this distinction raises certain questions when newly formed infinitives apparently serve as the base for wholesale remodelling of a paradigm. In (4), we illustrate the different verbs involved in stem modifications, without listing the full set of specific person or tense forms extracted from the corpus.

(4) Modified stems

Aberrant form	Stem		SF equivalent
assir	/asi-/	Inf	asseoir
assis	/asi-/	1, 2 PresInd	assieds
assient	/asi-/	6 PresInd	asseyent
assisent	/asiz-/	6 PresInd	asseyent
assise(s)	/asiz-/	1, 2, 3 PresSubj	asseye(s)
assisais(-t)	/asiz-/	1, 2, 3 Imp	asseyais(-t)
assirais(-t)	/asi-/	1, 3 Cond	assiérais(-t)
crère	/kʀɛ-/	Inf	croire
créyer	/kʀej-/	Inf	croire
crée(nt)	/kʀɛ-/	1, 3, 6 PresInd	crois(-t)
crèrez	/kʀɛ-/	5 Fut	croirez
croivent	/kʀwav-/	6 PresInd	croient
dident	/did-/	6 PresInd	disent
doire	/dwa-/	Inf	devoir
faillissait[20]	/fajis-/	3 Imp	
faisent	/fɛz-/	6 PresInd	font
faissent	/fɛs-/	6 PresInd	font
faitent	/fet-/	6 PresInd	font
faise(nt)	/fɛz-/	1, 3, 6 PresSubj	fasse(nt)
faisse	/fɛs-/	3 PresSubj	fasse
faisez	/fəz-/	5 Imper	faites
faisrai(en)t	/fɛz-/	1, 3, 6 Cond	ferai(en)t
fairaient	/fɛ-/	6 Cond	feraient
faissrais	/fəs-/	1 Cond	ferais
lit	/li/	PastPart	lu
marillent	/maʀij-/	6 PresSubj	marient
néyer	/nej-/	Inf	noyer
onvaient	/ɔ̃v/	6 Imp	avaient
poursuire	/puʀsɥiʀ/	Inf	poursuivre

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[20] This form is used in the sense of 'manquer de' or 'manquer à', not in the sense of 'faire faillite', for which it would be fully correct. In the former meanings, the verb is defective and does not occur in the imperfect (Séguin 1986: 93). The innovation in this case then simply involves a change from defective status to the regular class of '-ir' verbs.

poursuit	/puʀsyi/	PastPart	poursuivi
refrédir	/ʀəfʀed-/	Inf	refroidir
seyent	/sɛj-/	6 PresInd	sont
seye(nt)	/sɛj-/	1, 3, 6 PresSubj	soi(en)t
sontaient	/sɔ̃t-/	6 Imp	étaient
suire	/syiʀ/	Inf	suivre
suient	/syi-/	6 PresInd	suivent
suitais	/syit-/	1 Imp	suivais
suira	/syi-/	3 Fut	suivra
vitent	/vit-/	6 PresInd	vivent
voyent	/vwaj-/	6 PresInd	voient
voivent	/vwav-/	6 PresInd	voient

Although the list in (4) contains some 40 individual forms, only 15 different verbs are represented (expandable to 18 if we include the derivatives *accrère*, *poursuire* and *refaire* alongside their non-prefixed counterparts), and of these 15, *assir*, *(ac)crère*, *(re)faire* and *(pour)suire* provide 27 of the specific tokens listed. (The proportions are comparable if we examine the full sample of 66 items.) Before considering these major participants, however, let us examine the various less dominant verbs. In each case, the modifications involve the insertion of a new stem-final consonant: /did-/ for /diz-/ in the 6 PresInd of *dire*; /lit/ for /ly/ as the PastPart of *lire*; /maʀij-/ for /maʀi-/ in the 6 PresSubj of *marier*;[21] /ɔ̃v-/ for /av-/ in the 6 Imp of *avoir*; /sɛj-/ for /sɔ̃-/ or /swa-/ in the PresInd or PresSubj respectively of *être*; /sɔ̃t-/ for /et-/ in the 6 Imp of *être*; /vit-/ for /viv-/ in the 6 PresInd of *vivre* and both /vwaj-/ and /vwav-/ for /vwa-/ in the 6 PresInd of *voir*, as well as /kʀwav-/ for *croient*, 6 PresInd. In each finite form, the presence of a final consonant is unsurprising, given the general considerations of iconicity we have already considered. Final /v-/, for example, is motivated by comparison to the verbs *boire* and *devoir*. Nor is the use of stem-final /j/ remarkable, given the presence of this vowel as an automatic hiatus-breaker in a variety of frequent verbs such as *voit-voyons*, *soit-soyons* as well as its extension as a plural or subjunctive marker on the basis of its occurrence in such frequent standard verbs as *aller* (*aille*, *aillent*) or *vouloir* (*veuille*, *veuillent*).

A second formal innovation in verb stems involves the replacement of the diphthong /wa/ by /e/ or /ɛ/,[22] though whether or not this is an analogical

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[21] We see here an alternate innovation in a vowel-final first conjugation verb: /j/ surfaces instead of /s/ or /z/. One plausible source for this /j/ involves the spread of the stem-final /i/ to the empty onset of the following syllable, with consequent /mari-je/ being reanalysed by some speakers as /marij-e/ containing an underlying stem-final rather than a derived glide. The morphological pressures, however, remain constant.

[22] The difference between /e/ and /ɛ/ in this data is largely phonologically conditioned: /e/ appears in open syllables, while /ɛ/ appears in closed syllables. (The one exception, *crèrez* for *croirez*, shows a typical variability in unstressed open syllables, as well as the effects of /ʀ/.) CF presents certain complications in this domain, since the constraint against /e/ in closed syllables has been weakened by loan words (*brake*, *steak*, etc. with e/__C$) and by additional innovations which have no effect on the problems under discussion here.

change remains open to debate. (The realizations of the diphthong *oi* in CF are of considerable complexity. For some discussion, see Walker 1984: 87–92.) In any case, a significant number of verbs is involved, including *noyer, refroidir, être* and, most strikingly, *croire*. In the first two, a simple replacement of /wa/ by /e/ accounts for the facts. In *être*, the substitution of /e/ for /wa/ accompanied by the addition of stem-final /j/ in 6 PresInd and the subjunctive will result in the *seye/seyent* forms. *Croire*, however, (including *accroire*) provides the largest number of tokens distributed throughout all the finite tenses. The single complication in this case is the variability with which /j/ appears in stem-final position, but such variability is to be considered normal in innovations of this type.

One might also wish to include *asseoir* in the list of verbs which have lost the diphthong /wa/, except that in this case, it is the conjugation marker, not the stem which is involved. An examination of the forms in (4) indicates that the stem has simply taken the uniform stem vowel /i/ (on the basis of the past participle *assis*, without doubt) and that tense formation has then proceded in normal fashion, following the pattern of other vowel-final stems which may insert a /z/ to signal plural or subjunctive forms. In this case, however, the insertion is both more and less regular, in that it occurs in 5 PresInd as well as 6 PresInd (*assizez*) and in the Imp, but that it also fails to occur in certain tokens where we might expect it to (*assient* /asi/ 6 PresInd). This being said, the modifications to this verb render it obviously more regular than the notoriously difficult standard pattern.

Similar to *assir* is the new infinitive *suire* for *suivre*, (as well as *poursuire, poursuit* for *poursuivre, poursuivi*) also no doubt based on the pattern: infinitive = 3 PresInd + /ʀ/ (parallel to any number of verbs, such as *croire, dire, écrire* and the productive conjugation represented by *finir*, etc.).[23] Given the stem /sɥi-/, the remainder of the forms for this verb follow the regular pattern for vowel-final stems, with the exception of *suitait* 3 Imp for *suivait*. Although /t/ does not normally surface as the inserted consonant in the innovations considered here (but recall *vitent* for *vivent*), it is a frequent participant in the so-called *pataquès* phenomenon, modelled on the linking consonant in inverted third singular forms, e.g. *donne-t-il*, and in plural forms as well: *parlent-ils, disent-ils.*

Before turning to the final set of modifications, two interesting 6 Imp forms must be considered: *sontaient* and *onvaient*. For the first, a standard pattern of Imp formation is evident: add the appropriate person/number suffix to the third person plural PresInd. This pattern is applicable in *-er* verbs (*chantent–chantaient*); *-ir* verbs (*finissent–finissaient*); and in a variety of so-called irregular verbs (*dorment–dormaient; rient–riaient, lisent–lisaient*, and so on). It is not surprising, therefore, that it should be available to such ubiquitous verbs as *être*, where the pattern is transparent. (Although they do

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23 Recall in this context the infinitive *doire* for *devoir*, classified as a recombination of the singular stem /dwɑ/ plus the infinitive marker /ʀ/.

not appear in the Ottawa–Hull corpus, it is nevertheless interesting to consider the additional forms *vontaient* and *fontaient*, well attested elsewhere in CF, which complete the series for the four verbs *aller, avoir, être* and *faire* with 6 PresInd in *-ont: vont, ont, sont* and *font*.) *onvaient*, in contrast to *sontaient*, reflects a two-stage analogical innovation: the stem-final consonant is adapted from the infinitive, while the morphological structure involves the third plural and the regular suffix. Such two-stage innovations are also evident in the final set of forms to be considered: the extensive modifications affecting the verb *faire*.

In Standard French, *faire* presents one of the most complicated conjugational patterns, with no less than six phonologically different stems: /fɛ fɔz fɛt fɔ̃ f(ə) fas/. Of these, two (/fɛt/ and /fɔ̃/) are limited to a single person in a single tense (*faites* and *font*). Also of note are the three different stem-final consonants: /z/, characteristic of 4 PresInd and the Imp, /s/ from the PresSubj, and /t/ from a variety of sources,[24] as well as three different stem vowels (excluding /ɔ̃/): /ɛ ə a/. It is by no means surprising, therefore, that the isolated stems be eliminated, or that both stem vowels and consonants be mixed in innovative ways, particularly in ways which involve influences from two different sources (parallel to the *onvaient* case above). Thus, *faisez* /fəze/ for *faites*, parallel to standard *faisons* /fəzɔ̃/, makes a great deal of sense. In a slightly more complicated fashion, when *font* is regularized in the 6 PresInd, we find the normal vowel /ɛ/ taken from the singular, but all three possible final consonants: *faisent, faissent* and *faitent*. In the Subjunctive, *faise* and *faisent* /fɛ̃z/ in the place of *fasse(nt)* 1, 2, 3, 6 PresSubj conforms to patterns with which we are already familiar, particularly in the use of final /z/ added to the singular PresInd stem, but *faisse* /fɛs/ 3 PresSubj is also transparent, combining the same stem with the existing signal of the subjunctive. It is the Cond which provides the greatest irregularity. Alongside the transparent *fairaient* 6 Cond, which is a straightforward recombination of the infinitive with the conditional suffix, we find both /fɛz/ and /fəs/ serving as Cond stems. Although the various components of these stems are present elsewhere in the paradigm (/fɛ/ and /fə/ in the PresInd and Fut/Cond respectively; /z/ and /s/ in the PresInd and PresSubj), their combination in the innovative stems in *faisrais/faisrait/faisraient* (/fəz-/) and in *faissrais* (/fɛs-/) appears more random than motivated by clear-cut morphological pressures. (Nowhere do /s/ and /z/ appear in a standard form built on the future stem, although a general semantic link between the Subj and the Cond, subsequently reflected in the use of a common formal mark, is not difficult to justify (see Bybee 1985: 188).) In any event, the variety of innovations manifested in the changes in *faire* reflects the full range of morphological pressures which appear to be active in the CF conjugation, to say nothing of verbal paradigms in general. Let us

[24] These sources include 3 PresInd *fait* (in inverted constructions), 5 PresInd *faites* and the PastPart *fait* (often pronounced /fɛt/ in CF).

now examine some of the broader implications of the material which we have described.

4. CONCLUSIONS

A key division in the material presented here has involved the distinction between the substitution of one member of a verbal paradigm for another, as opposed to the formal modification of verb forms (via novel combinations of allomorphs or the creation of entirely new forms). One can first ask whether this division is justified in more than expository terms. Recall that in the overwhelming majority of substitutions, two of the best-known pressures in diachronic morphology play a key role: the levelling of variation within the paradigm and the substitution of an unmarked form for a marked counterpart. Thus, when *vient* is used for *viennent* or *suit* for *suive*, not only do we see a plural or subjunctive replaced by a corresponding singular or indicative; we also note the reduction in the number of surface allomorphs within the paradigms of these verbs. But the role of these two pressures contradicts a third tendency in morphological change that has recently been brought to the fore by Natural Morphology: the important role of constructional iconicity, where what is 'semantically more' is preferentially realized by overt morphological markers. Needless to say, the substitutions with which we have dealt result in a non-iconic realization of person and tense in CF. Inasmuch as conflicts between what is natural on one parameter and what is natural on another inevitably arise, it remains an urgent task of Natural Morphology to attempt to reduce the number of possible outcomes in such cases of conflict, or, as Bauer puts it in an excellent summary of the question, to predict 'which parameter will win out under what circumstances in the case of naturalness conflicts.' (1988: 198). At least in the domain of substitutions, the CF material permits us to establish, in line with Bauer's desideratum, that there is a hierarchical ranking of the natural tendencies involved: paradigm levelling and markedness reduction exceed the pressures for iconicity. Such a ranking also supplies, in turn, evidence for the appropriateness of the distinction between substitution and formal modification.

While the partition initially used in the discussion of formal modifications, that between recombination and stem modification in 3.2.2 and 3.2.3, was useful for organizing the data in the second major class of innovation (formal modifications as opposed to substitutions), it will not be pursued here since the same type of consequences for an analysis of morphological structure do not seem to follow. In particular, formal modifications appear to involve a continuum of possibilities drawing on properties of single or multiple base forms (including latent or liaison consonants), non-finite as well as finite forms, and affixes which may all combine in influencing the shape ultimately presented by an analogical innovation. Recombinations and stem modifications, in other words, are not always distinguishable, are not in any case

sufficient to partition the data completely, and are best incorporated into a larger set of parameters of historical change.

In addition to indicating one way to help predict the resolution of naturalness conflict, the CF material also bears on a number of recent claims (especially in Bybee 1980, 1985, 1988; Bybee and Brewer 1980) concerning the organization of inflectional paradigms. Bybee has been able to demonstrate that the degree of semantic relatedness between forms is reflected in the structure of paradigms. Since, for example, tense/aspect changes have more influence on the semantics of the verb than do person/number markers (they are both more relevant and less general, in Bybee's terms), we would expect to see morphological and morphophonemic effects of this greater influence diagrammed synchronically in and between paradigms and effective in variation or diachronic change. In more concrete terms, it would be preferred for a single stem to exist for all persons within the same tense than for such stems to cross tenses in order to be correlated with the same person. Diagrammatically, we see this in (5):

(5) Preferred pattern   Disfavoured pattern

(Lines enclose similar forms or indicate direction of influence.)

Figure 1

In particular, we would expect to observe the elimination of morphophonemic alternations within sets of more closely related forms, e.g. among person/number markers or stems within the same tense, rather than among distinct stems in different tenses for the same person/number.

Needless to say, these expectations are borne out in a variety of ways in the material at hand. In terms of P/N suffixes, for example, the frequent subsitution of *-a-* /ɑ/ for either *ai* /e/ 1 Sing or *-ont* /ɔ̃/ 3 Plural in the future shows the tense internal levelling (governed as well by markedness relations) that Bybee's principles would lead us to expect. Much the same, in terms of stems, can be said of the typical levelling involving *allent* for *vont* in the 6 PresInd of *aller* or the generalization of *sej-* as a subjunctive stem for *être*, among many different examples.[25] More problematical for this view,

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[25] The series *fontaient*, *onvaient* (which may be found elsewhere as *ontaient*), *sontaient* and *vontaient* also illustrates the influence of the imperfect across an irregular set of person forms.

however, are the several cases where a third plural stem in one tense, for example, extends to the third plural in other tenses, while leaving different persons in the same tense undisturbed. A family of such changes occurs in the verbs based on *prendre* (including *apprendre, comprendre, reprendre*), where the 6 PresInd extends to the Future and the Conditional, in violation of the pattern of (5) above: *prennent*, the normal 6 PresInd (stem *prenn-/* /prɛn/) replaces the Future and Conditional stems, even though other PresInd stems (*prend, prenons*) remain stable. The same type of replacement occurs in the three additional verbs indicated, and in a variety of other recombinations (e.g. *boivait/boivaient*), indicating that the constraint in (5) may be frequently violated in CF. If, however, we interpret Bybee's constraints, in terms of Natural Morphology, as system–independent naturalness requirements, the explanation for the CF behaviour may lie in *system-dependent properties* of CF, specifically in its system-defining structural properties (SDSPs, cf. Wurzel 1989: chapter 4). These properties, reflecting a particular inflectional type, include in particular the predominant role played throughout various French conjugational paradigms by final consonants and by the distribution of stems (where the 'strong', i.e. stressed, stem is most frequently the basic form). As a general comment on this situation, it is worth quoting the following remarks from Klauenburger (1990: 330):

It is important to underline that both the 'universal' version of Natural Morphology, involving iconic considerations, and the language-specific model make use of markedness oppositions in language. The former would claim that morphological structure tends to develop iconic relations, overt reflections of the markedness of categories or features; the latter suggests that words tend to acquire default paradigms, which are the results of the markedness relations among subsets of the morphological structure of a particular language.

In this CF material, as in some of the patterns which Klausenburger analyses, we see the predominant role played by language-internal (but still natural) pressures, among which we may identify the importance of productive patterns ('first conjugation' or single stem verbs), of stem–final consonants and strong or stressed stems, as well as the sporadic influence of frequent, highly salient individual verbs (or specific members of their paradigms). Thus, the quantity and the diversity of analogical innovations within the verbal paradigms of Canadian French provide an appropriately challenging testing ground for the claims of those interested in morphological change, permitting the strengthening of certain claims on the basis of a significant corpus, while requiring the modification of others. Throughout this study, however, the approach reflected in the still-developing theory of Natural Morphology may be seen to provide a particularly fertile means of understanding the numerous systematic and idiosyncratic pressures at work in relatively complex inflectional systems.

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REFERENCES

Anttila, Raimo (1972). *An Introduction to Historical and Comparative Linguistics*. New York: MacMillan.

Bauer, Laurie (1988). *Introducing Linguistic Morphology*. Edinburgh: Edinburgh University Press.

Bybee, Joan (1980). Morphophonemic change from inside and outside the paradigm. *Lingua*, 50: 45–59.

Bybee, Joan (1985). *Morphology: a Study of the Relation between Meaning and Form*. Amsterdam: Benjamins.

Bybee, Joan (1988). Morphology as lexical organization. In Michael Hammond and Michael Noonan (eds.), *Theoretical Morphology: Approaches in Modern Linguistics*. Orlando: Academic Press, 119–141.

Bybee, Joan and Brewer, Mary (1980). Explanation in morphophonemics: changes in Provençal and Spanish preterite forms. *Lingua*, 52: 201–242.

Carstairs, Andrew (1987). *Allomorphy in Inflexion*. London: Croom Helm.

Dressler, Wolfgang, Mayerthaler, Willi, Panagl, Oswald and Wurzel, Wolfgang (1987). *Leitmotifs in Natural Morphology*. Amsterdam: Benjamins.

Dubois, Jean (1967). *Grammaire structurale du français: le verbe*. Paris: Larousse.

Gertner, Michael (1973). *The Morphology of the French Verb*. The Hague: Mouton.

Isaac, Luc (1985). *Calcul de la flexion verbale en français contemporain*. Geneva: Droz.

Kilani-Schoch, Marianne (1988). *Introduction à la morphologie naturelle*. Berne: Lang.

Klausenburger, Jurgen (1986). Two aspects of morphological naturalness. *Canadian Journal of Linguistics*, 31(4): 327–342.

Klausenburger, Jurgen (1990). Geometry in morphology: the Old French case system. *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung*, 43: 327–333.

Klausenburger, Jurgen (1992a). Explaining French morphology 'naturally'. *Romance Philology*, 45(3): 410–422.

Klausenburger, Jurgen (1992b). The morphology of schwa in the history of French. *Lingua*, 86: 223–233.

Martinet, André (1958). De l'économie des formes du verbe en français parlé. In Anna G. Hatcher and Karl L. Selig (eds.), *Studia philologica et litteraria in honorem L. Spitzer*. Berne: Francke, 309–326.

Martinet, André (1979). *Grammaire fonctionnelle du français*. Paris: Crédif.

Mayerthaler, Willi (1981). *Morphologische Natürlichkeit*. Wiesbaden: Akademische Verlagsgesellschaft Athenaion.

Mayerthaler, Willi (1988). *Morphological Naturalness*. Ann Arbor: Karoma.

Morin, Yves-Charles (1986). Remarques sur l'organisation de la flexion des verbes français. *ITL Review of Applied Linguistics*, 77–78: 13–91.

Paradis, Carole and El Fenne, Fatimazohra (to appear). French verbal inflection revisited: constraints, repairs and floating consonants. To appear in J. Durand, M.-A. Hintze and A. Battye (eds.), *New Trends in French Phonology and Phonetics*.

Pichon, Edouard (1942). *Les Principes de la suffixation en français*. Paris: D'Artrey.

Pinchon, Jacqueline and Coute, Bernard (1981). *Le Système verbal du français: description et applications pédagogiques*. Paris: Nathan.

Poplack, Shana (1989). The care and handling of a mega-corpus: the Ottawa–Hull French project. In Ralph Fasold and Deborah Schiffrin (eds.), *Language Change and Variation*. Amsterdam: Benjamins, 411–451.

Poplack, Shana, Sankoff, David and Miller, Christopher (1988). The social correlates and linguistic processes of lexical borrowing and assimilation. *Linguistics*, 26: 47–104.

Poplack, Shana and Walker, Douglas (1986). Going through (l) in Canadian French. In David Sankoff (ed.), *Diversity and Diachrony*. Amsterdam: Benjamins, 173–198.

Sankoff, David, Poplack, Shana and Vanniarajan, Swathi (1990). The case of the nonce loan in Tamil. *Linguistic Variation and Change*, 2: 71–101.

Schane, Sanford (1968). *French Phonology and Morphology*. Cambridge, MA: MIT Press.

Séguin, Hubert (1986). *Tous les verbes conjugués*. Montreal: Centre Educatif et Culturel.

Walker, Douglas (1984). *The Pronunciation of Canadian French*. Ottawa: University of Ottawa Press.

Wheeler, Max (1993). On the hierarchy of naturalness principles in inflectional morphology. *Journal of Linguistics*, 29: 95–111.

Wurzel, Wolfgang (1989). *Inflectional Morphology and Naturalness*. Dordrecht: Kluwer.