Synchrony and diachrony of verb clusters in Pennsylvania Dutch*

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This paper presents the major synchronic facts about verb clusters in modern Pennsylvania Dutch (Pennsylvania German) and indicates how they have developed historically. Although Pennsylvania Dutch is descended from primarily Palatine German dialects, the behavior of verb clusters in the modern language is distinct from what is found in European German dialects. Focusing on three- and four-verb clusters in subordinate clauses, it is observed that Pennsylvania Dutch observes a strict rule whereby a maximum of one lexical verb may occur within a clause; additional lexical verbs are located to the right of the clause periphery. The analysis presumes that non-lexical verbs in verb clusters, specifically the finite auxiliary *hawwe* 'have' and a non-finite modal, form a single syntactic unit.

1. Introduction

One of the most vexing problems of the syntax of modern Continental West Germanic (Dutch, Frisian, German, and Luxembourgish) dialects is the analysis of what are known as *verb clusters*, that is, structures consisting of a finite verb with at least one,

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but often two or three additional nonfinite forms.[1] An example of a three-verb cluster from standard German is given in (1).

(1)   Susanne   weiß,   dass   er   nicht   hat   gehen   wollen
                                                1   3   2
      Susanne   knows   that   he   not   has   go   want
      'Susanne knows that he did not want to go'

The major challenge in the analysis of verb clusters is accounting for the linear order of the verb forms: although all dialects of Dutch, Frisian, German, and Luxembourgish, as well as genetically related extraterritorial varieties such as Afrikaans, Mennonite Low German (Plautdietsch), Hutterite German, and Pennsylvania Dutch, are underlyingly verb-final (OV) languages, the surface order of elements in verb clusters typically deviates from what we assume the underlying structure to look like. That is, in subordinate clauses, while the underlying order of verbal elements proceeds from most to least embedded (i.e. in numerically descending order), this is not what we find in most varieties at the surface. Taking the example in (1), a three-verb cluster in which the second element is an infinitive where we would normally expect a past participle ("Infinitivus pro Participio," IPP), all six logically possible orderings of the three elements in this structure are attested in Continental West Germanic varieties.[2]

The main purpose of this paper is a descriptive one, namely to present basic facts about two-, three-, and four-element verb clusters in Pennsylvania Dutch, a North American minority language descended from mainly Palatine German dialects

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1. The secondary literature on verb clusters in Germanic and other languages is an extensive one. Susi Wurmbrand has compiled a thorough bibliography of works up to 2006, which is accessible online: <http://wurmbrand.uconn.edu/Bibliographies/vc-bib.html>. Wurmbrand 2006 offers a good overview to the topic, including a review of the various generative theoretical accounts for cluster formation. Den Besten & Edmondson 1983 and Zwart 1996 are classic papers on verb clusters in Continental West Germanic. Selected works specifically on various German-related varieties include the following: Schmid & Vogel 2004 for multiple, mainly High German dialects; Lötscher 1978 and Schönenberger 1995 for Swiss German; Patocka 1997 for Austrian German; Dubenion-Smith 2008 and 2010 for West Central German; Kaufmann 2007 for Mennonite Low German; and Sapp 2006 for Early New High German. Abraham 2009 considers data from Dutch and multiple southern German varieties, including dialects spoken in northern Italy, and interprets differing cluster orders as indicative of a typological continuum between OV and VO basic word orders.

2. For modal IPP constructions, Schmid and Vogel (2004) document all possible orders except 2-3-1, though it should be noted that some orders are limited to very specific focus/stress conditions. For the varieties Wurmbrand (2006: [9]) investigated, only 2-1-3 is lacking. She notes that 2-3-1 is the norm in Afrikaans and marginally possible in West Flemish, both varieties of which were not considered by Schmid and Vogel since their study was limited to dialects of German. Likewise, 2-1-3 is found in German dialects that Wurmbrand did not consider.

brought to Pennsylvania during the colonial period.[3] We begin with a discussion of data from modern Pennsylvania Dutch varieties spoken by Old Order Anabaptist sectarians from two major regions, Lancaster County, Pennsylvania, and the Midwest (e.g. Ohio and Indiana). Although a number of lexical differences distinguish regional and generational varieties of Pennsylvania Dutch from one another, there is remarkable uniformity across them at the syntactic level, including with respect to verb clusters, which allows us to make descriptive generalizations that capture the grammars of most if not all individual sectarian Pennsylvania Dutch speakers. The data from modern Pennsylvania Dutch, discussed in Section 2, are followed in Section 3 by historical evidence of verb clusters derived from Frey 1941, which allows us to identify a limited amount of change from older to modern Pennsylvania Dutch. In both sections, the focus is on three-verb clusters in subordinate clauses. The paper concludes with discussion of a number of implications, as well as an incipient change in main-clause verb clusters in varieties of Pennsylvania Dutch spoken by younger Midwestern speakers.

2.   Verb clusters in modern Pennsylvania Dutch

As mentioned above, there is a remarkable degree of uniformity across modern Pennsylvania Dutch varieties in terms of which orderings of elements in verb clusters are grammatical. Further, for Pennsylvania Dutch speakers, unlike what has been documented in many European German varieties, there is no scale of acceptability across multiple orderings of the same verbal elements. That is, for individual Pennsylvania Dutch speakers there is typically only one grammatically possible order of elements for each verb cluster type.

Let us begin with two superficially similar three-verb structures, the first (2) an IPP construction and the second (3) involving a verb of perception.

(2)   Sie   hen   gwisst,   as   ich   sie   heere   hab   kenne
                                                3   1   2
      they   have   known   that   I   them   hear   have   can
      'They knew that I could hear them'

(3)   Sie   hen   gwisst,   as   ich   sie   gheert   hab   schwetze
                                                2   1   3
      they   have   known   that   I   them   heard   have   speak
      'They knew that I heard them talking'

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3.   In Louden 2006 I give an overview of the current sociolinguistic situation of Pennsylvania Dutch, also known as Pennsylvania German. The two terms are synonymous, the latter being preferred by scholars and some language advocates; most speakers themselves use the former.

Although both these constructions involve a finite verb and two nonfinite elements, the structures underlying them differ, specifically as regards the structural position of the linearly final verb form in each. In (2), the infinitive to the immediate right of the finite verb, *kenne*, is the complement of the finite verb *hab*. In (3), on the other hand, the infinitive *schwetze* is the complement of the past participle *gheert*, so the adjacency of *hab* and *schwetze* is coincidental. That the two sentence-final infinitives in (2) and (3) occupy different structural positions is underscored by the fact that no word may intervene between the finite verb and its complement to the right, as in (2), whereas that is not the case for structures like (3). Consider (4), in which the finite verb is followed by the simple O–V constituent, *Deitsch schwetze* 'to speak Pennsylvania Dutch'.

(4) Sie   hen   gwisst, as   ich sie   gheert hab
     they   have   known   that I   them   heard have

     Deitsch   schwetze
     Pennsylvania-Dutch   speak

     'They knew that I heard them speaking Pennsylvania Dutch'

Key to understanding the structural difference between 3-1-2 and 2-1-3 clusters in Pennsylvania Dutch is the recognition that this language, like most spoken varieties of German, makes productive use of the so-called post-field (Nachfeld), that is, the syntactic "space" located beyond the rightmost clause periphery (rechte Klammer 'right bracket'), thereby minimizing the number of elements that may appear in the clause proper, that is, the inner field (Mittelfeld) and the right bracket.[4] Essentially, the modern Pennsylvania Dutch inner field contains only arguments (including subjects, objects, and a limited number of prepositional phrases that are verbal complements) and negation; other elements, including non-argument adverbials (especially PP-adjuncts) and some PP- and all non-PP complements (e.g. infinitival phrases, subordinate clauses), must be located in the post-field. Consider the brief text in (5), from the introduction to a book of children's Bible stories written in Pennsylvania Dutch (Vella Deitsh 1997: 7). The right periphery of each clause is marked with '|'.

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4.   The descriptive "topography" of the German clause is characterized by a verbal or clausal frame (Verbalklammer, Satzklammer) that defines the following structure: prefield (Vorfeld) – left bracket (linke Klammer) – inner field (Mittelfeld) – right bracket (rechte Klammer) – post-field (Nachfeld). In terms of X-bar phrase structure, the prefield is [Spec, CP] and the left bracket is [C, CP]. The right bracket consists of two verbal head positions, [V, VP] and [T, TP], in that order. The inner field contains all non-verbal elements between the left and right brackets. In main clauses the finite verb is located in the left bracket ([C, CP]), while in subordinate clauses it is in [T, TP], which marks the right periphery of the clause. The post-field begins immediately after [T, TP].

(5) Kinner gleiche | Schtories glese hawwe | zu sie.
children like stories read have to them

Die Schtories sin vun die Biwwel |
these stories are from the Bible

un waare gschriwwe | bei etlichi Leit vun die Gegend.
and were written by several people from the area

Mir wisse | as unser Schprooch net gleiche is | iwwerall
we know that our language not same is everywhere

in alli Heemet.
in each home

Dir sollet frei sei | fer eier eegni Wadde neiduh,
you (pl) should free be to your own words insert

so wie dir wellet |
as like you want

un die Kinner aa noch meh verzeele | weeich die Schtories.
and the children also yet more tell about the stories

'Children like to have stories read to them. These stories are from the Bible and were written by several people from the area. We know that our language is not the same everywhere and in every home. You should feel free to insert your own words as you please and to tell the children more about the stories.'

Returning to sentences (3) and (4), we can reasonably argue that the infinitive *schwetze* 'talk, speak' is located to the right of the clause periphery:[5]

(3′) Sie hen gwisst | as ich sie gheert hab | schwetze

(4′) Sie hen gwisst | as ich sie gheert hab | Deitsch schwetze

Other examples of clauses with postposed infinitivals are given in (6)–(8):

(6) …as sie gange sin | (Balle) schpiele
that they gone are ball play
'that they went to play (ball)'

(7) …as ich en gholfe hab | (Gscha) wesche
that I him helped have dishes wash
'that I helped him wash (the dishes)'

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5. Note that a subordinate clause in Pennsylvania Dutch (and German) that follows the main clause to which it is semantically "subordinate" is strictly speaking right-adjacent to the main clause and not embedded within it, as is the case with *as ich sie gheert hab* 'that I heard them' vis-à-vis *sie hen gwisst* 'they knew'. Hence the terms "subordinate" and "embedded" with respect to clause types are not synonymous.

(8)   …as   ich   gegliche   hab | (Deitsch)   schwetze
        that   I   liked   have   PD   speak
        'that I liked to talk (Dutch)'

We may thus formulate the following preliminary rule about the structure of sentences (3)–(4) and (6)–(8):

Preliminary verb cluster rule: Verbal complements containing an infinitive in Pennsylvania Dutch must be located to the right of the clause periphery.

So if the 2-1-3 order in sentences such as (3) has the structure 2-1 | 3,[6] what do we make, then, of the 3-1-2 IPP structure in (2)?

(2)   Sie hen gwisst | as ich sie heere hab kenne

If this structure were to behave according to the preliminary rule above, then we would expect the following 2-1 | 3 structure, which is ungrammatical.

(2′)   *Sie hen gwisst | as ich sie kenne hab | heere

In order to get at the structure in IPP constructions such as (2), let us begin by considering (9) and (10).

(9)   Sie   wisse | as   ich   sell   Buch   will
        they   know   that   I   that   book   want
        'They know that I want that book'

(10)   Sie   hen   gwisst | as   ich   sell   Buch   hab   welle
                                                        1   2
         they   have   known   that   I   that   book   have   want
         'They knew that I wanted that book'

In (9) and (10) *welle* is not functioning as a modal verb, rather as a main verb meaning 'to want (s.th.)'. Yet in the perfect tense, *welle* and all other modal-cum-main verbs show the IPP effect, that is, they appear as infinitives rather than participles (contra German, *wollen* ≈ *gewollt*, etc.). In perfect constructions in subordinate clauses such as (10), the only grammatical order of the verbal elements is 1-2 (i.e. *… as ich sell Buch welle hab*).

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6.   Wurmbrand (2006: [10]) mentions that others (e.g. Rutten [1991], Robbers [1997], and Wurmbrand [2001]) have also analyzed 2-1-3 orders as being the result of extraposition (i.e. 2-1 | 3). Note also the complementary analysis by Kroch and Santorini (1991) in the formalism of Tree Adjoining Grammar.

Let us now consider (11)–(15).

(11) Sie   wisse | as   ich gehe will
                           2   1
      they know   that I   go   want
      'They know that I want to go'

(12) Sie   hen   gwisst | as   ich gehe hab welle
                                     3   1   2
      they have known   that I   go   have want
      'They knew that I wanted to go'

(13) Sie   hen   gwisst | as   ich gange bin
                                     2   1
      they have known   that I   gone   am
      'They knew that I went'

(14) Sie   hen   gwisst | as   ich gange bin schwimme
                                     2   1   3
      they have known   that I   gone   am swim
      'They knew that I went swimming'

(15) Sie   hen   gwisst | as   ich gehe hab welle schwimme
                                     3   1   2   4
      they have known   that I   go   have want swim
      'They knew that I wanted to go swimming'

Sentence (14) resembles (6) in that the infinitival complement of *gange* 'gone', *schwimme* 'to swim', is located in the post-field. Both sentences share a 2-1 | 3 structure. How, then, may we analyze the 3-1-2-4 structure in (15), which would appear very difficult to derive, e.g. by rightward movement into the post-field. One solution to this problem would be to assume that *hab* and *welle* are both located under the same structural node, the same node under which *bin* is located in (14).

(14′)   Sie hen gwisst | as ich gange [bin] | schwimme

(15′)   Sie hen gwisst | as ich gehe [hab welle] | schwimme

This would mean that the 3-1-2 IPP structure is actually a 2-1 structure in which the "1" position is occupied by a complex element.[7] Thus a sentence like (2), where we began our analysis, would be structured as follows:

(2)   Sie   hen   gwisst | as   ich sie heere [hab kenne]
                                          2   1

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7.   In structural terms these [*hawwe* + modal] compounds would be complex heads located under the [T, TP] node.

To be sure, it is not possible to go so far as to argue that *hab* and *welle* (and other forms of *hawwe* 'have' and modals) comprise a single morphological word, since they occur discontinuously in main clauses, as in (16).

(16)   Ich hab gehe welle schwimme
       'I wanted to go swimming'

On the other hand, semantics supports the assumption that *hab* and *welle* occupy two branches under a single, functional verbal syntactic node, cf. the German and English one-word translations of these two Pennsylvania Dutch words, namely *wollte* and *wanted*. Further, there is an interesting morphosyntactic behavioral property of [*hawwe* + modal] that suggests an affinity between the two elements. When the auxiliary *hawwe* is inflected for the subjunctive mood, the stem of the modal infinitive is homophonous with the present subjunctive stem for that modal. Cf. examples for *welle* in (17).

(17)   a.   Mir   welle   gehe
            we   want   go
            'We want to go'

       b.   Mir   hen   gehe   welle
            we   have   go   want
            'We wanted to go'

       c.   Mir   wedde   gehe
            we   would-want   go
            'We would want to go'

       d.   Mir   hedde   gehe   wedde
            we   would-have   go   would-want
            'We would have wanted to go'

This phenomenon of subjunctive mood being marked on both the finite auxiliary and modal infinitive applies to all modals in Pennsylvania Dutch, not just *welle*, as shown in (18).

(18)   mir dafe ≈ mir deifde; mir hen dafe ≈ mir hedde deifde
       'we are/would be permitted to; we were/would have been permitted to'

       mir kenne ≈ mir kennde; mir hen kenne ≈ mir hedde kennde
       'we are/would be able to; we were/would have been able to'

       mir misse ≈ mir missde; mir hen misse ≈ mir hedde missde
       'we have/would have to; we had/would have had to'

       mir solle/selle ≈ mir sedde; mir hen solle/selle ≈ mir hedde sedde
       'we are/would be supposed to; we were/would have been supposed to'

This use of "subjunctive modals" is the norm in modern Lancaster and Midwestern sectarian Pennsylvania Dutch, however it is not attested in older varieties of the

language, suggesting that it might be a relatively recent innovation. Regardless of the antiquity of this phenomenon, it does lend morphological support for the existence of a syntactic unit [*hawwe*$_{\text{FIN}}$ + IPP].[8]

Let us now consider our analysis of the apparent 3-1-2-4 cluster in (15′) as a 2-1 | 3 structure, given again here, in light of the preliminary rule formulated above, also repeated below.

(15′) Sie hen gwisst, as ich gehe [hab welle] | schwimme
                                       3   1   2   4
        ⇒   2   1   3

Preliminary verb cluster rule: Verbal complements containing an infinitive in Pennsylvania Dutch must be located to the right of the clause periphery.

If we analyze *gehe* as the complement of *welle* or [*hab welle*], then this rule must be modified. Since all verb forms in subordinate clauses in Continental West Germanic dialects are located in the clausal right bracket, the following generalization, based on the difference between lexical and non-lexical verbs (i.e. auxiliaries and modals), captures the facts of verb clusters in modern Pennsylvania Dutch most accurately:

Verb cluster rule: The right bracket in a Pennsylvania Dutch clause may contain no more than one lexical verb; additional lexical verbs must occur to the right of the clause periphery.

3. Verb clusters in earlier Pennsylvania Dutch

We turn now to the historical development of verb clusters in Pennsylvania Dutch. The earliest, most thorough description of Pennsylvania Dutch syntax in general is contained in the doctoral dissertation of J. William Frey (Frey 1941). Included in this description is an extensive discussion of verb clusters in main and subordinate clauses. Though based on his native dialect from eastern York County, Pennsylvania, Frey's observations about Pennsylvania Dutch syntax are in line with what we know from prose texts produced by native speakers from across the Pennsylvania Dutch-speaking area and dating as far back as the middle of the 19th century. In what follows we

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8. Jürg Fleischer (p.c.) has brought to my attention references to apparently similar "subjunctive modal infinitives" in European German dialects, namely in Moselle Franconian (Labouvie 1938: 105) and Lower Alemannic (Noth 1993: 330). Göz Kaufmann (p.c.) has documented the phenomenon in the (originally Rhenish-Palatine) Hunsrückisch spoken in southern Brazil. Pennsylvania Dutch, however, is not directly descended from input dialects from any of these areas, which suggests that these similarities are due to parallel development.

examine what Frey documents for verb clusters in earlier Pennsylvania Dutch and compare his data with parallel structures in the modern language. The data are divided into four groups, according to verb type: (i) modals; (ii) causatives; (iii) auxiliaries; and (iv) verbs of perception.

3.1 Verb clusters with modals

In IPP verb clusters containing a form of *hawwe* + modal infinitive + lexical infinitive, the 3-1-2 order attested in the modern language (MPD) is also what we find in earlier Pennsylvania Dutch (EPD).

(19) EPD/MPD: Ich wees | as er net kumme hot kenne | (Frey 1941: 234)
                                                3   1   2
        'I know that he could not come'

Frey also documents the same structure for the verb *brauche* 'need' in the "2" slot, which differs from what we find in modern Pennsylvania Dutch.

(20) EPD: Ich wees, as er net kumme hot brauche   (Frey 1941: 234)
                                      3   1   2
        MPD: Ich wees | as er net gebraucht hot | kumme
                                      3   1   2
        'I know that he did not need to come'

What has happened here is that *brauche* is no longer regarded as a modal verb in modern Pennsylvania Dutch, hence the need for its complement (here, *kumme*) to be located outside the clause.

In his dissertation, Frey also lists 3-1-2 structures in which the finite verb ("1") is a modal, "2" is *hawwe*, and in the "3" position is a lexical verb. Cf. (21).

(21) EPD: Ich wees, as er en gfange soll hawwe   (Frey 1941: 234)
                                    3   1   2
        'I know that he should have caught him'

No such inversion is possible in the modern language, which arranges the elements in a straightforward 3-2-1 way.

(21′) MPD: Ich wees | as er en gfange hawwe soll |
                                    3   2   1

Clearly, the modern structure is again obeying the verb cluster rule formulated above: after the modal *soll*, both *hawwe* and *gfange* 'caught' may remain within the clause since only *gfange* is lexical, thus the maximum of one lexical verb in the right bracket is not exceeded.

One final comment about verb clusters containing modals in earlier Pennsylvania Dutch is in order here. Frey (1941: 233) notes that when modals occur without a complement and in the perfect tense in subordinate clauses, the order is always 1-2, as is still the case in the modern language.

(22)　EPD/MPD: Sie hot ihre Kinner griege misse | de bescht Weg | as sie hot kenne |
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　1　　2

　　　'She had to get her children the best way (that) she could'

3.2　Verb clusters with causatives

In earlier and modern Pennsylvania Dutch, the verbs *losse* 'let' and *mache* 'make' may function as causative verbs and take infinitival complements. In earlier Pennsylvania Dutch, these two verbs behaved identically to modals, participating in IPP constructions and occurring in 3-1-2 structures.

(23)　EPD: Ich wees, as er ihn geh hot losse　　　　　　　　(Frey 1941: 234)
　　　　　　　　　　　　　　　3　1　2

　　　'I know that he let him go'

(24)　EPD: Ich wees, was ihn schreiwe hot mache　　　　　(Frey 1941: 234)
　　　　　　　　　　　　　　3　　　1　2

　　　'I know what made him write.

In modern Pennsylvania Dutch, *losse* and *mache*, like *brauche* above, no longer behave as modal verbs (i.e. they do not show the IPP effect), but the order of the elements in the verb clusters in which they appear depends on whether they are interpreted as lexical verbs or not. Cf. (23′) and (23″), and (24′) and (24″).

(23′)　MPD: Ich wees | as er ihn geh glosst hot |
　　　　　　　　　　　　　　　3　2　　1
　　　'I know that he (just) let him go'

(23″)　MPD: Ich wees | as er ihn glosst hot | geh
　　　　　　　　　　　　　　　2　　1　3
　　　'I know that he gave him permission to go'

(24′)　MPD: Ich wees | was ihn schreiwe gmacht hot |
　　　　　　　　　　　　　　　3　　　2　　1
　　　'I know what moved him to write'

(24″)　MPD: Ich wees | wer ihn gmacht hot | schreiwe
　　　　　　　　　　　　　　　2　　1　3
　　　'I know who compelled him to write'

In clauses in which there is clear agency behind the action expressed by the verb, as in (23″) and (24″), the causative verb is regarded as lexical and its complement is postposed. Where agency is deemphasized, the causative is not lexical, therefore its complement is allowed to remain adjacent to it within the right bracket of the clause, as in (23′) and (24′).

3.3   Verb clusters with auxiliaries

Frey (1941) identifies a number of auxiliary verbs in three-verb clusters of the form 3-1-2, including *hawwe* 'have' and *sei* 'be' in the past perfect tense. Cf. Examples (25) and (26).

> (25)   EPD: Ich wees, as er sell geduh hot ghatt   (Frey 1941: 234)
>   3 1 2
>   'I know that he had done that'

> (26)   EPD: Ich wees, as er heem gange is gwest   (Frey 1941: 234)
>   3 1 2
>   'I know that he had gone home'

Not surprisingly, in modern Pennsylvania Dutch these clusters have the order 3-2-1, since the participles *ghatt* and *gwest* are not lexical forms. Cf. (25′) and (26′).

> (25′)   MPD: Ich wees | as er sell geduh ghadde hot |
>   3 2   1

> (26′)   MPD: Ich wees | as er heem gange gwest is |
>   3   2   1

Frey mentions that some of the speakers he interviewed also inverted the finite and participial forms of *hawwe* in two-verb clusters, as in (27).

> (27)   EPD: Wie waer sell, wammer noch Schpuke do rum hedde, wie sie als fer
>   alders hen ghatt?   (Frey 1941: 232)
>   1 2
>   'How would that be if we still had ghosts around here as they used to have in the old days?'

Frey (1941: 233) does comment, however, that such 1-2 orders are less common than the 2-1 order (*ghatt hen*), which is the norm in modern Pennsylvania Dutch.

  Aside from perfect auxiliaries, Frey (1941: 236) mentions another auxiliary verb that participated in 3-1-2 structures in earlier Pennsylvania Dutch, namely *griege* 'get,

receive'. Although this is a native (Palatine German-derived) construction, its semantics parallels that of the English construction *get* + direct object + past participle (e.g. *to get something done*). Cf. example (28).

(28)   EPD: Un wie sie alles ausgepaeckt hot grigt,   (Frey 1941: 236)
                                3   1   2
        hot sie die Hensching net finne kenne.
        'And when she had gotten everything unpacked she could not find the gloves'

Since *griege* in this construction is not interpreted as a lexical verb in modern Pennsylvania Dutch, its participle remains in the right bracket with its complement (here, the participle *ausgepaeckt*), as in (28′).

(28′)   MPD: Un wie sie alles ausgepaeckt grigt hot | …
                                3   2   1

There is one final verbal auxiliary in earlier Pennsylvania Dutch that occurred in 3-1-2 structures, namely the passive auxiliary *warre* (cf. German *werden*). Frey (1941) points out, however, that there was variation with this verb, as Examples (29) and (30) show.

(29)   EPD: Ich wees, as er doot gmacht is warre   (Frey 1941: 234)
                                    3   1 2
        'I know that he was killed'

(30)   EPD: Ich wees, as en Faecktri gschtaert warre is   (Frey 1941: 235)
                                        3   2   1
        'I know that a factory has been started'

Speaking of frequency, Frey (1941: 235) comments that the inverted (3-1-2) order for *warre* in three-verb clusters is (was) more common than the non-inverted order (3-2-1, as in Example [30]). But *warre* also used to invert on occasion in two-verb clusters, when used as the lexical verb meaning 'to become'. In this case, though, Frey (1941: 233) states that the 2-1 order was the more frequent of the two. Cf. Example (31).

(31)   EPD: Ich hab net gwisst, as er grank is warre/warre is   (Frey 1941: 233)
                                            1 2   2   1
        'I did not know that he became ill'

In modern Pennsylvania Dutch, there is still more variation between (3-)1-2 and (3-)2-1 orders with *warre* than with any other verb cluster type, though younger speakers especially favor the latter. The likely reason for this variation has to do with the phonetic shape of the verb. The infinitival and past participial forms of *warre* are

homophonous, and unlike in standard German, which has two different participles for *werden* depending on whether the verb is lexical or a passive auxiliary (i.e. *geworden* vs. *worden*), Pennsylvania Dutch has never distinguished the two phonetically. Because of this identity between infinitive and past participle, some speakers may unconsciously assign *warre* to the IPP (modal) class of verbs, which invert (i.e. take 1-2 orders) in both two- and three-verb clusters.

3.4   Verb clusters with verbs of perception

Finally, the verbs of perception *sehne* 'see' and *heere* 'hear', both in earlier and modern Pennsylvania Dutch, participate in 2-1 | 3 structures, though in the older variety, according to Frey (1941: 235–236) these verbs could either appear as infinitives in the perfect (i.e. IPP) or as past participles. Examples are given in (32) and (33). Frey documents the same variation for the verb *helfe* 'help' (cf. [34]).

(32)   EPD: Ich wees, as er mich heere/gheert hot | singe   (Frey 1941: 235)
                                  2   1   3
         'I know that he heard me singing'

(33)   EPD: Ich wees, as er mich sehne/gsehne hot | kumme   (ibid.)
                                  2   1   3
         'I know that he saw me coming'

(34)   EPD: Ich wees, as er ihm net helfe/gholfe hot | schaffe   (ibid.)
                                       2   1   3
         'I know that he did not help him work'

In the modern language, only the participial forms occur with *sehne*, *heere*, and *helfe* when they take an infinitival complement. This suggests that today only true modal verbs, as opposed to other non-lexical and lexical verbs, may participate in IPP structures.

3.5   Summary: Change from earlier to modern Pennsylvania Dutch

Taking stock of what we have just observed, the following general observation can be made about the difference between earlier and modern Pennsylvania Dutch regarding verb clusters. In the earlier language, 3-1-2 structures included a more diverse range of verb types and verb forms; in today's Pennsylvania Dutch, by contrast, only IPP modal constructions take the order 3-1-2 in subordinate clauses. Other, formerly 3-1-2 clusters have been reanalyzed as either 2-1 | 3 or 3-2-1 structures. This is summarized in the table below.

Table 1. Three-verb clusters in earlier and modern Pennsylvania Dutch

Earlier PD		Modern PD
Modals:		
3-1-2 (INF – V – IPP)	=	3-1-2 (INF – V – IPP)
kumme hot kenne		*kumme hot kenne*
3-1-2 (INF – V – IPP)	>	2-1 | 3 (PTC – V | INF)
kumme hot brauche		*gebraucht hot kumme*
3-1-2 (PTC – V$_{MOD}$ – IPP)	>	3-2-1 (PTC – INF – V$_{MOD}$)
gfange soll hawwe		*gfange hawwe soll*
Causatives:		
3-1-2 (INF – V – IPP)	>	3-2-1 (INF – PTC – V)
geh hot losse		*geh glosst hot*
schreiwe hot mache		*schreiwe gmacht hot*
		2-1 | 3 (PTC – V | INF)
		glosst hot geh
		gmacht hot schreiwe
Auxiliaries:		
3-1-2 (PTC – V – PTC)	>	3-2-1 (PTC – PTC – V)
geduh hot ghatt		*geduh ghadde hot*
gange is gwest		*gange gwest is*
ausgepaeckt hot grigt		*ausgepaeckt grigt hot*
gmacht is warre[9]		*gmacht warre is*

Recalling the verb cluster rule formulated in Section 2, no more than one lexical verb may be located in the right bracket of a clause in modern Pennsylvania Dutch: additional verbal complements must be postposed, yielding 2-1 \| 3 structures. We also note that the formerly modal verb *brauche* has been reanalyzed as a lexical verb, hence its participation in the 2-1 \| 3 pattern. Finally, it is clear that 1-2 inversion in subordinate clauses in the modern language of the *hab welle* type is limited exclusively to modals (the only class of non-lexical verbs that may appear in IPP constructions): non-modal auxiliaries in both their historical IPP (e.g. *hawwe*, *losse*, and *mache*) and participial forms (e.g. *ghatt*, *gwest*, *grigt*, and *warre*) may no longer occur in 1-2 inverted structures.

Finally, we note that the historical 2-1 \| 3 pattern with verbs of perception and *helfe* is maintained in modern Pennsylvania Dutch, the only difference being that causatives, as non-modals, may no longer take an IPP form in the perfect.

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9. We recall here that Frey (1941: 235; see Ex. [30] above) mentions that a minority of his consultants also produced 3-2-1 clusters with *warre*, suggesting that the change to the modern pattern was already underway at the time of his study.

Table 2. 2-1 | 3 structures in earlier and modern Pennsylvania Dutch

Earlier PD		Modern PD
sehne, heere, helfe:		
2-1	3 (INF/PTC – V | INF)	>	2-1	3 (PTC – V | INF)
heere/gheert hot singe		*gheert hot singe*
sehne/gsehne hot kumme		*gsehne hot kumme*
helfe/gholfe hot schaffe		*gholfe hot schaffe*

4. Discussion

The major observation that emerges from a consideration of the synchrony and dia-chrony of three-verb clusters in Pennsylvania Dutch subordinate clauses is that the number of verbs that occur in 3-1-2 clusters has decreased since the 1930s and 1940s, when J. William Frey conducted his fieldwork. Whereas non-finite forms (both infini-tives and past participles) of apparently all non-lexical verbs (modals, auxiliaries, and perception verbs) could invert with the finite verbs that dominated them (finite forms of the perfect auxiliaries *hawwe* and *sei*, as well as finite modals, e.g. as in Ex. [21]), today only modal verbs may do so (with a finite form of *hawwe*). Further, these modal verbs only ever appear as infinitives in the perfect tense, even when used lexically, and are today the only verbs that show the IPP effect. The reanalysis of formerly 3-1-2 clusters under the constraint of the modern verb cluster rule formulated in Section 2 has led to the expansion of 3-2-1 and 2-1 | 3 structures.

We recall, however, that in order to account for apparent 3-1-2-4 structures such as (15), we need to assume that the finite form of *hawwe* and its modal IPP comple-ment form a structural unit [*hawwe*$_{FIN}$ + IPP]. Following this assumption, there are in essence no "four-verb clusters" in Pennsylvania Dutch; 3-1-2-4 orders are in fact 2-1 | 3 structures.

(15)   Sie hen gwisst, as ich gehe hab welle | schwimme
                            3   [1 2]   4
        ⇒   2   1   3

That means, then, that 3-1-2 clusters (e.g. *gehe hab welle*) are themselves really just 2-1 structures, as discussed earlier. The system that reveals itself is thus a simple one for modern Pennsylvania Dutch verb clusters in subordinate clauses: the underlying 2-1 order is preserved in all surface orders, and if the number of lexical verbs within the clause exceeds one, then the most deeply embedded infinitive ("3") is extraposed.

Table 3. Two- and three-verb clusters and 2-1 | 3 structures in modern Pennsylvania Dutch

2-1	PTC + V_{AUX}	… *gange bin*
		… *gheert hab*
	INF + V_{MOD}	… *gehe will*
	INF + [V_{AUX} + IPP]	… *gehe hab welle*
3-2-1	PTC – INF – V_{MOD}	… *gfange hawwe soll*
	INF – PTC – V_{AUX}	… *geh glosst hot*
	PTC – PTC – V_{AUX}	… *geduh ghadde hot*
2-1 | 3	PTC – V_{AUX} | INF	… *gebraucht hot kumme*
		… *glosst hot geh*
		… *gheert hot singe*

As mentioned at the outset of this paper, the main goal here has been a documentary one, that is, to give a thorough description of the Pennsylvania Dutch data from both synchronic and diachronic perspectives. A future task is to consider the theoretical implications of these data in the context of the larger discussion about verb clusters in Continental West Germanic. In particular, the most radical claim here is that the finite form of *hawwe* and its modal IPP complement form a syntactic, if not a morphological unit of structure. While it may be possible to derive 3-1-2 orders via movement or reanalysis (cf. the theoretical discussion going back at least to Haegeman & van Riemsdijk 1986), 3-1-2-4 structures remain a problem. The elegance of a solution based on a unit [*hawwe*$_{FIN}$ + IPP], which is supported by the fact that these two lexical items only ever occur in "inverted" (apparent 1-2) order in subordinate clauses, as well as by the behavioral phenomenon related to subjunctive inflection, is compelling. It remains to be seen, however, whether there are parallels in closely related European German dialects.[10] In any case, the analysis here should be evaluated against the backdrop of the larger generative theoretical discussion on verb clusters.

Additional tasks for future work include a closer look at both the historical record of Pennsylvania Dutch, as well as at what is perhaps a change in progress in verb clusters among younger sectarian speakers. Regarding older data, it will be important to compare Frey's data from adult speakers who were living in the 1930s and 1940s with evidence from speakers from earlier generations. Quite fortunately, we have hundreds of Pennsylvania Dutch prose and poetic texts produced by native speakers as far back

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10. My own suspicion is that the micro-level phenomena described here are probably unique to Pennsylvania Dutch, or at the very least not the result of inheritance from Palatine German source dialects. It seems unlikely that the many 1-2 structures in earlier Pennsylvania Dutch, which almost certainly would have also been found in Palatine dialects, all took the syntactic form [1 + 2].

as the middle of the nineteenth century and earlier. Owing to the vernacular, oral character of the language, most Pennsylvania Dutch texts were produced without regard for prescriptive norms either coming from within the Pennsylvania Dutch community or from without (e.g. from standard German). These texts therefore hew quite closely to the naturally spoken language. My preliminary comparison of Frey's data with data from older speakers has yielded relatively few differences thus far, but those I have found are quite interesting.

To take one example, we can consider the idiolect of Edward H. Rauch, a native Pennsylvania Dutchman who was born in Lancaster County, PA, in 1820 and died in Carbon County, PA, in 1902. Over the course of his long career as a political activist, newspaper editor, and language advocate, Rauch produced a number of lengthy prose texts in Pennsylvania Dutch that comprise a rich corpus for syntactic analysis, one collection of which is Rauch 1868. In terms of verb clusters, the data from this collection are generally in line with what Frey found among speakers who would have been born two or three generations after Rauch. That is, Rauch's data, like those in Frey 1941, include more types of (3-)1-2 clusters than what we find in the modern language. There is at least one inversion construction in Rauch, however, that Frey did not document, namely with the verbs *geh* 'to go' and *kumme* 'to come'. See Examples (35) and (36).

(35)   un   alli   Mol   getriet   hot   er,   wann   mer   anne   is   gange
                                                                      1   2
                                                                 (Rauch 1868: 3)
       and   every   time   treated   had   he   when   one   to-there   is   gone
       'and he treated every time one went there'

(36)   wie   mer   awwer   an   sei   Haus   sin   kumme …   (Rauch 1868: 4)
                                              1   2
       as/how   we   but   at   his   house   are   come
       'but when we came to his house …'

Compare these examples to (37) and (38).

(37)   wie   es   am   Readinger   Singerpescht[11]   gange   is   (Rauch 1868: 15)
                                                      2   1
       as/how   it   at-the   Reading   Singers-Festival   gone   is
       'how it (things) went at the Reading Singers Festival'

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11.   Rauch is engaging in wordplay here, substituting the noun *Pescht* 'plague' for *Fescht* 'festival'.

(38)   sidder der Johnson frei kumme is   (Rauch 1868: 12)
                                      2   1
       since the Johnson free come is
       'since Johnson was set free'

In Rauch's idiolect, the participles *gange* and *kumme* invert with the auxiliary *sei* (here, *is*), but only when the verbs *geh* and *kumme* are used non-figuratively, that is, meaning literally 'to go' and 'to come', as in (35) and (36). In (37) and (38), where *geh* and *kumme* have figurative meanings, 1-2 inversion does not occur. This is an intriguing fact suggesting semantic restrictions on inversion in earlier Pennsylvania Dutch that should be investigated in further research.

Just as important as adding to our understanding of the historical record of verb clusters in Pennsylvania Dutch is noting possible changes in progress among today's youngest speakers. To date, I have not observed any variation in contemporary Pennsylvania Dutch in the order of elements in three-verb clusters in subordinate clauses, the primary focus of the present paper, however there is variation with main clauses. See Examples (39) and (40) from Vella Deitsh 1997, pp. 61 and 63, respectively.

(39)   Der laahm Mann, wo   nie   net recht   laafe hot kenne,
                                                    3   1   2
       the lame man   who never not properly walk has can

       hot nau laafe un   schpringe kenne
       1   3   3   2
       has now walk and   run   can

       'The lame man, who never was able to walk properly, was now able to
       walk and run.'

(40)   Sie hen nix   meh   duh kenne fer ihre Sache recht mache,
            1   3   2
       they have nothing more do   can   to   their things right make

       awwer die annri Leit   hen kenne sehne, was   Blatz gnumme hat
                                   1   2   3
       but   the other people have can   see   what place taken   has

       'They could do nothing more to make amends, but the other people could
       see what had happened.'

In three-verb clusters in main clauses, in earlier and modern Pennsylvania Dutch, the normal order is 1 … 3-2, as in (39) and in the first main clause in (40). Some younger speakers, however, produce 1 … 2-3 orders (cf. the second clause in [40]). Pending further investigation, it seems likely that pragmatic factors are at work here. That is, in a focused or otherwise discourse-prominent clause, the main (lexical) verb is extraposed

for emphasis. This would mean that the 1 … 2-3 order in such sentences would be represented more accurately as 1 … 2 | 3. To be sure, this extraposition of the lexical verb is not mandatory according to the modern verb cluster rule, since there is only one lexical verb in the clause ("3", in [40] *sehne* 'to see'), yet it may well be that the grammar allows for optional extraposition for pragmatic reasons. Likewise, since the main clause 1 … 2 | 3 order is analogous to the 2-1 | 3 order in subordinate clauses (albeit with non-IPP constructions), the diachronic trend toward increasing productivity of the latter structure might suggest an eventual reanalysis of 3-1-2 clusters in subordinate clauses. Such a reanalysis is purely speculative at this point, in the absence of further data.

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