

Memoirs from Central America: A linguistic analysis of personal recollections of West Indian laborers in the construction of the Panama Canal

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1 Introduction¹

Research into language use in the Anglophone Caribbean has made use of historical written texts for quite some time. One of the best documented varieties is Sranan, with a substantial and digitally available corpus² dating as far back as 1707 and comprising a variety of text types such as Bible translations and hymns, transcripts of court proceedings, travel reports, and dictionaries and grammars (van den Berg & Smith 2013: 3, 13). Substantial collections of eighteenth- and nineteenth-century texts also exist for Jamaican (D'Costa & Lalla 1989; Lalla & D'Costa 1990), Trinidadian (Winer 1984, 1995, 1997; Winer & Rimmer 1994), Guyanese (Rickford 1987), Barbadian (Rickford & Handler 1994; Fields 1995), and St. Kitts Creole (Baker & Bruyn 1999). Even though some of these collections contain letters, the latter have not played a prominent role in the reconstruction of earlier vernacular usage in the Anglophone Caribbean. This is likely owed to the social conditions that obtained in Caribbean plantation societies, which made the production of personal letters by locals much less likely than in other colony types, and, in fact, a few researchers have drawn attention to the overrepresentation of non-native authors compared to other world regions in the above text collections (cf. Migge & Mühleisen 2010: 224). In view of this scarcity of data, the coming-to-light of a collection of letters written by former Panama Canal workers from the West Indies must be described as a stroke of luck.

In 1963, as the opening of the Panama Canal neared its 50th anniversary, the Isthmian Historical Society decided to collect narratives of personal experience from West Indians who had served in the labor force that built the Canal. In order to do so, it sponsored a competition “for the best true stories of life and work on the Isthmus of Panama during the construction years” ((Isthmian Historical Society n.d.: 3). A contest was advertised in local newspapers, by means of notices added to Disability Relief food packages, and in newspapers in Jamaica, Barbados, British Honduras, Trinidad, Antigua, St. Vincent, St. Lucia, and Grenada. The more than 100 entries that were received by the Isthmian Historical Society provide a compelling account of life in the Canal Zone during the peak of the building phase and of how West Indians labored, struggled, and died in one of the world's largest construction projects to date.

Apart from their historical value, the Panama letters also make for a unique source of earlier vernacular writing from the Anglophone Caribbean. My aim in this paper is to evaluate this source in linguistic terms. In order to do so, I first give a brief sketch of the sociohistorical

¹ I am very grateful to Catherine Laliberté for her tremendous help in digitizing the data and extracting and coding tokens.

² The Suriname Creole Archive (www.suca.ruhosting.nl) hosts this collection.

background surrounding the letters before turning to some theoretical and methodological considerations. The linguistic analysis starts with a feature overview and then zooms in on a single variable, i.e., the alternation between unmarked and inflected lexical verbs to express past temporal reference. Summary and outlook conclude the paper.

2 West Indians in the Canal Zone: A short sociohistorical sketch

Work in what was to become the Canal Zone began around 1850, under the authority of the Spanish government, with the construction of railroad tracks. It immediately involved labor from the Caribbean, mostly from Jamaica. During the first excavation period in the 1880s, which was headed by the French *Compagnie universelle du canal interocéanique de Panama*, a massive West Indian labor force was gathered. Advertisements were run in various Caribbean territories, depicting the Jamaican “Colón Man” or the “Panama Man” of Barbados, locals who had returned to their home countries rich and prosperous. The French, in fact, apparently “experienced little difficulty in obtaining a labor force which, in 1888, numbered 20,000 men. Nine-tenths of these were Negroes from the West Indies” (Westerman 1961: 340). Nevertheless, in 1889, the French Canal effort faltered. In 1904, the U.S. obtained sovereignty over the Canal Zone, which it exercised through the Isthmian Canal Commission.

The actual building of the Canal was a massive undertaking of ten years, which, during its peak around 1910, employed over 60,000 workers (Zieger 2010: 513). About ten percent of them were white Americans; they constituted the vast majority of skilled railroad and construction workers, including steam shovel operators, as well as of clerics and medical personnel. Despite their reputation as “lazy and feckless” (2010: 514), West Indians soon made up the majority of the workforce again, performing the heavy, dangerous, and grueling parts of the work. The management of this labor force built upon a system that “mixed segregation, inequality, harsh discipline, and paternalism” (2010: 514) and crucially involved the “Gold” vs. “Silver” payment scheme. “Gold” payment, which was about thirty percent higher and also provided for better housing and paid sick and vacation time, was restricted to white Americans, while “Silver” status was assigned to all others, i.e., West Indians as well as African Americans (Brown 1997). Altogether, it is estimated that over 100,000 people (including not only registered laborers but also those who traveled on their own or followed family members) migrated to Panama from various West Indian territories between the mid-nineteenth century and the opening of the Canal in 1914. Even though most of them had not planned on staying, eventually tens of thousands “settled, married, had children, and became the largest immigrant group in the sparsely populated country” (Conniff 1985: 4).

A glimpse of the actual living and working conditions faced by the Caribbean migrants may be had from the letters themselves. Even though they were used to the tropical climate, the harsh terrain and dense jungle covering the landmass between Atlantic and Pacific Ocean made physical labor extremely challenging and strenuous. In the camps, racial discrimination extended to the living quarters and the food served, both of which were considerably worse for black than for white workers. These conditions were exacerbated by poor hygiene, which, even though it had improved after the American takeover of the Canal Zone and now

involved a major project to eradicate the potentially disease-carrying mosquitoes from the area, still presented a considerable health hazard. All of this meant that black workers were especially prone to disease and injury on the job.

Tropical illnesses, in fact, constituted one of the greatest challenges to the Canal project, even for the authorities in charge.³ Yellow fever and malaria were particularly common, and plenty of letter writers recall themselves or their colleagues falling ill, sometimes repeatedly and at short intervals. Others vividly remember trains brimming with coffins traveling up to Mount Hope Cemetery near Colón. As also attested in the letters, the “Silver” people often received second-class treatment, in wards located in the worst parts of hospital buildings and by incompetent or unsympathetic medical staff. At times, American medical officers seem to have regarded their West Indian patients merely as guinea pigs, either observing tropical diseases ravaging among them without providing treatment or experimenting with extreme doses of medication, their primary goal being “to analyze and tame the tropics in order to make them safe and comfortable – for whites” (Greene 2009: 136). Harrigan Austin, for example, describes the use of quinine, which was prescribed against malaria but has the known side-effects of tinnitus and impaired hearing:

[...] we had the malaria fever, and poorly trained doctors and nurses indeed many went to an early grave because of the lack of proper care and trained attendants who had any understanding of handling a sick human being [...] any one who happen to get sick and go to some of those dispensaries, quinine was prescribed until many persons couldn't even hear when the engineer blew the engine whistle to get them off the railroad track, and many were killed.

Work on the Canal was hard, often monotonous, and, above all, dangerous. Particularly dynamiting, in which all West Indians were involved at some time, had a high death toll. The actual excavation work, particularly in the Culebra Cut, was probably the most physically demanding type of work, and landslides often wiped not only out much of the progress that had been made but also the lives of scores of workers. Precarious scaffolds and falling materials made the locks no safer workplace, and even railroad workers sometimes suffered deadly accidents. Here is an excerpt from the letter by Albert Banister from St. Lucia:

I joine the [...] dipper dredge in the drydock after the repairing we depart and go to Culebra man die get blow up get kill or get drown during the time someone would asked where is Brown he dide last night and burry where is Jerry he dead a litte before dinner and buried so on and so on [...] in Culebra cut that is call Gilliard cut that was where the Goverment had the stiffest job which I and others never believe will ever put through because today you dig and it grow tomorrow beside it slides every day the Goverment wash down the hill give it a bath night and day untill the hill catch cramp then blass it up with dannimite that was done year after years.

Numerous West Indian workers resisted such conditions, either by returning home, if possible, or by attempting to change jobs, either within the Canal Zone itself or in Panama at

³ Such diseases are said to have been responsible for a majority of the roughly 20,000 deaths that occurred during the French construction period (<http://ocp.hul.harvard.edu/contagion/panamacanal.html>) and at times even halted the construction of the Panama Railway owing to the lack of healthy workers.

large. Many of them also refused to accept the second-rate housing and food that were provided for them by the authorities, instead setting up communities of their own, often outside the Canal Zone, where they led lives they were more accustomed to in terms of social structure and diet. Eventually, their insistence “on living within a familiar family environment [...] compelled canal officials to permit wives, mothers, and sweethearts to come to live in the Zone” (Zieger 2010: 516), which sowed the seeds for today’s vibrant community of Panamanian “Silver” people (cf. Newton 1984; Engle 2014).

3 The Panama letters: Theoretical and methodological considerations

The present letter collection does not represent a corpus in the strict sense in that it was not compiled for linguistic purposes, according to language-external principles, and therefore cannot be assumed to be representative. Also, the sample is small, and its composition is non-random and heavily skewed in terms of speaker characteristics. A total of 113 letters, ranging in length from 25 to 4,916 words (average = 766 words, median = 400 words), were sent in for the competition. Of these, 110 were in English, three in Spanish. Obviously, the latter were excluded from the present investigation, as was another, brief letter by a contestant named Bertrand Harnais, who indicated that, as he was French, he was not a proficient speaker or writer of English. The total word count of the remaining 109 letters is 83,453. Given the historical events underlying them, male writers are extremely overrepresented; in fact, only two letters were sent in by female contestants, Mary Couloote from St. Lucia and Albertha Headley, whose origin is unclear.⁴ While the Panama letters thus constitute a somewhat problematic linguistic sample, I nevertheless argue that they serve as a valid starting point for a study of earlier Caribbean vernacular English.

The first question to be answered in this context is in how far the language represented in the letters actually exemplifies vernacular usage. It is widely acknowledged that letters “provide material for the study of language variation and change in the past” (Nevalainen 2007: 2), thus alleviating the “bad data” problem (Labov 1994: 11). Personal letters are commonly considered the results of “involved” production, their writers’ purposes being primarily affective and interactive (Biber 1988: 107-8); the occurrence of vernacular forms of language in such texts has been amply demonstrated (e.g., Nevalainen & Raumolin-Brunberg 2003). The present sample, however, does not even consist of personal letters in the strict sense. First, their addressee was a collective consisting of (an unspecified number of) members unknown to and hence maximally distant from the writers in terms of mutual relationship; second, the difference in social status (and hence power) between the members of this collective, an institution of learning, and the old-age former manual laborers who authored the letters could not have been larger. Nevertheless, it is precisely on the latter count that we may expect vernacular language features to occur. The letter writers

⁴ Whether we are actually dealing with a female author appears doubtful in the case of Albertha Headley, as she also writes about “the two times in my life as young man.” Albertha Headley might actually have been a female scribe taking down a male author’s words, even though this is not explicitly stated. For more on the author vs. scribe problem, cf. below.

were all members of the working class; even though many of them were skilled workers,⁵ they would not have received much or even any education past the primary level, as such was out of reach for the vast majority of black West Indians during the colonial period (cf., e.g., Gordon 1963: 92-3, 108-13). Apart from having proven very mobile in relocating to Panama, the letter writers thus come fairly close to the stereotype of the traditional NORM informant (cf. Chambers & Trudgill 1998: 29).

A related question concerns the “Diachrony Problem” (Poplack 2000: 3), i.e., the question in how far the Panama letters may be taken to faithfully embody nineteenth-century Caribbean vernacular English. Given that the individuals represented in the collection all worked in the Canal Zone during the peak building phase, i.e., between 1904 and 1914, as (young) adults, all of them must have acquired their vernacular before 1900. If we believe in the apparent-time hypothesis (Bailey et al. 1991), which assumes that the vast majority of features of vernacular language are acquired during childhood and that vernacular speech remains relatively invariant during an individual’s lifetime once that individual is past adolescence, the writers of the Panama letters should, in fact, have been speakers of late nineteenth-century Caribbean vernacular English. In their emigrant community in Panama, they would have continued to speak this variety as their normal language of intra-group communication; the fact that this happened in a Spanish-speaking environment would have minimized influence from other forms of English, including standard English. In analogy with the Samaná and Nova Scotian speakers investigated by Poplack, Tagliamonte, and their associates (e.g., Poplack 2000; Poplack & Tagliamonte 2001) as representative speakers of earlier African American Vernacular English (AAVE), we may thus consider the West Indians in Panama a diaspora community of speakers of earlier Caribbean vernacular English and their variety a transplanted form of the former.

Most of the Panama letters were handwritten. The Isthmian Historical society did not edit them but reproduced them “exactly as they were written,” with undecipherable words simply omitted and marked. Even “unfamiliar spellings” were not adjusted but left to indicate “where the entrants wrote as they speak” (Isthmian Historical Society n.d.: 4). Competition regulations permitted that “[a]nyone who is infirm may have his story written for him by someone else, but in this case it must be stated on the entry that it has been written for him in his own words by someone else” (Isthmian Historical Society n.d.: 3). Only two (brief) letters (by Isaiah H. Hibbert from Jamaica and John A. Holligan from Barbados) mention the help of assistants; the question of authorial vs. scribal usage (cf. Bergs 2015) thus appears not to be relevant. The Panama letters have been published online as part of the University of Florida Digital Collections; they may be found at <http://ufdc.ufl.edu/AA00016037/00115/pdf> (last accessed March 13, 2017).

⁵ As Caribbean governments had had to repatriate many workers at great cost after the French excavation period, during the U.S. construction phase the Jamaican government imposed a one-pound sterling tax on emigration to Panama, which only skilled workers could afford. Barbados, by contrast, permitted free recruiting, so that at some point between 30% and 40% of the country’s adult men were said to be employed in Panama, i.e., a much broader cross-section of the male working-age population than in Jamaica (cf. http://www.bbc.co.uk/history/british/victorians/panama_gallery_04.shtml; last accessed March 9, 2017).

4 The Panama letters: A linguistic analysis

In order to provide an impression of the range of language use evident in the letters, I will quote and comment on a few more excerpts. The first is the beginning of the victorious letter, written by Bahamian Albert Peters.

I was born in Nassau Bahamas February 10th 1885 (a Carpenter by trade). One day while reading the daily paper I saw where they were digging a Canal from ocean to ocean on the Isthmus of Panama and needed thousands of men. I and two of my pals read it over and we suggested to take a trip over. We were all eager for some adventure and experience. My parents were against the idea. They told me about the Yellow Fever, Malaria and Small pox that infested the place but I told them that I and my pals are just going to see for ourselves. Well we arrived in Colon August 31st 1906, I was 21 years and there I got my first surprise, board walks for streets. We moved around the place a couple of days then took the train for Tabernilla where they had just started the new relocated track.

While this excerpt is written entirely in standard English and does not contain any features of vernacular Caribbean usage,⁶ the following passage, which comes from the letter sent in by John F. Prescod from Barbados, evidences a number of non-standard features at the morphosyntactic level: unmarked past participles (*a boat call the Solon, Canal his finish*); *name* as an intransitive verb meaning 'to be called' (*The boss name Mr. Culter, At Obispo boss name Mr. Billing*; cf. Hackert 2004: 128); variation in the use of copula/auxiliary *be* (*1907 was in Obispo cut, Canal his finish, what the hell I am going to do now vs. the pay check that coming, one man in the gang eating flour dumpling, the canal finish*), variable past inflection (*came vs. Go, last, walk, work, Drink, say, tell, drop, finish, have*), unmarked plural forms (*at 10 cent per hour, one pair boot*), articleless noun phrases (*boss name Mr. Billing, Big boss Mr. Hagon*), and an uninverted question (*what the hell I am going to do now*). A phonological feature to be observed is /h-/ insertion (*Canal his finish*). There are also numerous phenomena connected with informal, spoken usage, such as subjectless (*Drink plenty wine tonic Work in all the cut from 1906 to 1914, drop out of his mouth*) and highly elliptical (*Plenty malaria fever*) sentences, direct quotations (*Big boss Mr. Hagon say who the hell tell you*), swearing (*what the hell*), and exclamations (*what sir!*). Moreover, missing punctuation as well as phonetic spellings (*bear foot*) testify to the author's lack of experience in writing letters.

I came from Barbados BWI June 1906 on a boat call the Solon. They put me off at Tabernilla Go to work on the dump at 10c per hour The boss name Mr. Culter. 1907 was in Obispo cut working at the steam shovel in mud and water One pair boot last me one day In the afternoon walk to the camp bear foot At Obispo boss name Mr. Billing. 1908 work in the drilling gang in Empire cut as drill runner at 10 cent per hour I work in Lascascadas cut Culebra cut Boss name Mr. Whitehead Plenty malaria fever Drink plenty wine tonic Work in all the cut from 1906 to 1914. [...] Big boss Mr. Hagon say who the hell tell you to put that machine up there take it down Canal his finish. I say what the hell I am going to do now no money only the pay check that coming

⁶ The letter sent in by Peters is fragmentary but becomes considerably more vernacular toward its end.

now one man in the gang eating flour dumpling drop out of his mouth what sir! the canal finish I have no money.

In order to more thoroughly assess the value of this collection of letters as a source of earlier Caribbean vernacular English, I turned to a single linguistic variable: (-ed), i.e., the alternation between inflected and unmarked past-reference lexical verbs, as in the following excerpt written by G. Mitchell Berisford, also from Barbados.

Sir I **came** to the soil of Panama from Barbados **landed** in Cristobal docks on the 21st of April 1909 between 1 to 2 pm with the last trip of the S.S. Solent I *was taken care of* in the Cristobal camps then my first work *was* at Mindie railroad working with Mr. Busby the foreman, acting as water boy at 7 cents per hour for a period or time then my elder brother **took** me to tavanilla section where he **seek** a job for me in the mess kitchen peeling potatoes but I *could not stand* the smell of the vearias pots they **give** me bad feelings so I **had to** leave and **went** on the dump as yard's boy carring reports to the Engineers, but a pair of shoes *could not last* me longer than two weeks on the accout of the thick mud and water so I **had to** leave that job. then **return** back to Colon and *gotted* work on the docks – working shipside. After many months I **came** in contact with a friend and he **took** me to a foreman in the timber yard of Cristobal and I **work** there as water boy.

As seen in this excerpt, the variable (-ed) is very frequent and thus well suited to quantitative and statistical analyses. It is also one of the best-researched variables in variationist sociolinguistics and creole studies and thus offers ample opportunity for cross-variety comparisons. As summarized in Hackert (2008: 132), (-ed) has been studied for all of the major varieties presumably used by the letter writers: Jamaican Creole (Patrick 1991, 1999), Trinidadian Creole (Winford 1992) and English (Deuber 2014), Barbadian Creole, or Bajan (Blake 1997), and Bahamian Creole (Hackert 2004).

The term *inflection* in the present context refers to three different morphological processes: suffixation, as in *landed in Cristobal docks*, vowel change, as in *came to the soil of Panama*, and suppletion, as in *went*. As the following analysis is restricted to lexical verbs,⁷ it excludes periphrastic forms employing preverbal markers or auxiliaries, as in *was taken care of* or *could not stand*. Copula structures, as in *was at Mindie railroad*, are excluded, too, as are non-standard forms of inflection, as in *gotted work*, historical present forms marked -s, ambiguous forms such as *cut*, *quit*, or *put*, and tokens occurring in unclear contexts. Semantically, the envelope of variation is restricted to verb situations with absolute past-time reference, as it is only in those contexts that the unmarked verb interacts with the standard English simple past in CECs and other vernacular varieties (cf. Hackert 2008: 134-5). In the previous excerpt, forms included in the following analysis are marked in bold, whereas those excluded are italicized. For more details on “count” and “don’t count” cases and reasons for the exclusion of particular structures, cf. Hackert (2004: 118-38). Altogether, 3,783 verbs were analyzed.

⁷ As is customary in analyses of (-ed), two of the “primary” verbs (Quirk et al. 1985: 96) are included, i.e., *have*, both as a main verb and as the “semi-auxiliary” *have to* (1985: 137), and main-verb *do*.

My primary aim in this study is to compare the patterns of past inflection evident in the Panama letters to those found in previous studies of CECs and related varieties. Much comparative work of this kind has centered around frequencies. Differences in overall rates of variant occurrence, however, are not particularly reliable indicators of actual variety differences, as they can be owed to any number of linguistic and extralinguistic factors, such as the methods employed in data collection and the composition of the sample in terms of text type (cf. Hackert 2004: 157-60). Such complications can be avoided if we attend not to sheer frequencies but to the more abstract conditioning of variability, i.e., the configuration of the constraints influencing it in terms of direction, strength, and significance, which should remain constant regardless of the extralinguistic circumstances under which the data were sampled. This idea is at the heart of the comparative sociolinguistic enterprise (cf. Tagliamonte 2013) and will be exploited in the following analysis as well. Since the vast majority of earlier studies on past inflection in CECs and related varieties have employed Varbrul, it seemed appropriate for me to do so here, too.⁸

The factors I tested are the ones that have been described in the literature: lexical and morphological verb category, grammatical aspect, lexical aspect, temporal disambiguation by means of adverbials and/or conjunctions, and – for regular consonant-final verbs – preceding and following phonological environment. In order to obtain an impression of whether writers from countries where conservative creoles exist (e.g., Jamaica) would show more vernacular patterns than those from countries where only intermediate creoles are spoken (e.g., Bahamas, Barbados; Winford 1993: 4), I included writer's country of origin as a social factor.⁹ Table 1 reports the results of an analysis of the entire data set including all grammatical and social factors.

⁸ Varbrul is a computer package that builds on raw frequencies in any corpus of performance data and uses maximum likelihood estimates in the context of a logit-additive model in order to determine the strength and direction of the various constraints affecting the application of a variable linguistic rule, such as the occurrence of past inflection. The program version used here is Goldvarb X (Sankoff et al. 2005). In Varbrul, each independent variable is called a "factor group;" each factor group consists of various "factors." The results of the statistical analysis are reported in the form of "factor weights," i.e., probabilities ranging between 0 and 1. These probabilities are established in a stepwise logistic regression analysis ("step-up/step-down"), in which each factor group is systematically added and removed in order to determine if its presence makes a significant contribution (at $p < 0.050001$) to the model of variation. Factor weights closer to 1 indicate favoring effects, those closer to 0 disfavoring ones. Square brackets around factor weights show that Varbrul has discarded the factor group because it does not contribute significantly to the observed variation. Additionally, Varbrul reports the so-called "input probability," which indicates the overall likelihood of the rule to be applied, as well as various measures of the model's goodness of fit, including the log likelihood. For details on the theory and practice of Varbrul, cf., e.g., Tagliamonte (2006: 128-57).

⁹ While it is true that disregarding individual-speaker variation overestimates the significance of social factors such as country of origin (cf. Johnson 2009: 363), for this pilot study, I decided against including the former by means of a mixed-effects model, as I was primarily interested in the linguistic patterning of past inflection evident in the Panama letters.

Table 1: Varbrul analysis of grammatical and social factors influencing past inflection in the Panama letters

	N	%	Factor weight
VERB CATEGORY			
<i>go</i>	220	85.9	0.621
<i>have</i>	339	90.0	0.763
<i>make</i>	31	93.5	0.806
<i>do</i>	30	83.3	0.690
<i>say</i>	127	90.6	0.730
<i>get</i>	208	84.1	0.683
vowel change only (e.g., <i>come</i>)	829	81.3	0.530
vowel change plus (e.g., <i>buy</i>)	56	76.8	0.432
doubly marked (e.g., <i>tell</i>)	261	81.6	0.525
vowel-final regular (e.g., <i>play</i>)	174	81.6	0.583
consonant-final regular (e.g., <i>work</i>)	1,162	62.4	0.329
syllabic regular (e.g., <i>want</i>)	305	71.5	0.392
devoicing (e.g., <i>send</i>)	41	70.7	0.373
<i>Range</i>			477
GRAMMATICAL ASPECT			
perfective	2,571	83.1	0.591
habitual	1,212	61.7	0.314
<i>Range</i>			277
LEXICAL ASPECT			
stative	475	86.1	0.641
non-stative	3,308	74.8	0.479
<i>Range</i>			162
TEMPORAL ADVERBIAL			
none	2,369	76.7	[0.493]
position	1,040	78.0	[0.498]
duration	245	67.8	[0.586]
frequency	112	67.0	[0.461]
relationship	17	88.2	[0.614]
<i>Range</i>			153
TEMPORAL CONJUNCTION			
no	3,485	76.6	[0.503]
yes	298	71.8	[0.466]
<i>Range</i>			37
COUNTRY OF ORIGIN			
Antigua	43	72.1	0.487
Bahamas	131	95.4	0.845
Barbados	934	76.9	0.485
Colombia	9	100.0	
Dominica	36	33.3	0.140

Gorgona ¹⁰	7	100.0	
Grenada	304	87.2	0.612
Jamaica	570	82.3	0.584
Martinique	9	100.0	
Nicaragua	70	60.0	0.291
Panama	216	80.6	0.514
St. Lucia	200	43.0	0.163
St. Vincent	20	100.0	
Trinidad	208	44.7	0.166
unknown	1,026	80.4	0.373
<i>Range</i>			705
Total/p_i	3,783	76.3	0.808

Log likelihood = -1,702.677, significance = 0.000

One of the best-known and most consistent results from the study of past inflection in AAVE and CECs is that membership in a particular morphological category is the “strongest and most significant of all linguistic factors in structuring the variation between inflection and non-marking” (Patrick 1999: 226). This is evident in Table 1, too, where verb category shows the largest factor weight range¹¹ (477) of all linguistic factor groups analyzed. Another consistent finding is that particular high-frequency verbs must be treated individually to avoid skewed results. Thus, *have* and *go* tend to appear in inflected form, whereas *say* has often shown a preference for unmarking (cf., e.g., Patrick 1999: 227; Hackert 2004: 144-5), which has been traced to the influence of a widespread, invariably unmarked use of *say* as a serial verb with a “complementizer-like function” in CECs (Winford 1993: 292). *Get* again tends to be marked frequently, at rates that are significantly higher than those of its corresponding morphological verb category, i.e., verbs showing vowel change only, which might be owed to an elevating effect of the many stative, invariant uses of *got* on the verb’s general frequency of inflection (cf. Hackert 2004: 132-2). With the exception of *say*, which, at a factor weight of 0.730, actually favors marking,¹² the behavior of individual lexical items in the Panama letters confirms what has been found in previous studies of past inflection in CECs and related varieties.

The overall picture that emerges from Table 1 is one of three broad groups of verbs and verb categories: (1) high-frequency individual lexical items, all of which favor marking, (2) irregular and vowel-final regular verbs, which, at factor weights hovering around 0.5, neither favor nor disfavor it, and (3) consonant-final and syllabic regular verbs as well as the small

¹⁰ *Gorgona* is the name of an island off the coast of Colombia but here refers to one of a number of Canal Zone towns. It was kept as a separate place of origin because the letter author, H.B. Clayton, described himself as a second-generation Canal Zone resident, having been born there “of West Indian parentage.” As a categorical factor, it did not figure in the Varbrul calculations for writer’s origin anyway.

¹¹ The range of factor weights within a factor group is a measure of that factor group’s relative strength. It is calculated by subtracting the lowest from the highest factor weight within the group (cf. Tagliamonte 2006: 242).

¹² Curiously, there are no uses of complementizer *say* in the Panama letters.

group of devoicing verbs, all of which disfavor the application of past inflection. That high-frequency verbs evidence the highest marking rates should not come as a surprise. After all, their token frequency endows irregular past forms with considerable “lexical strength” (Bybee 1995: 428), which makes such forms easy to access in the mental lexicon and resistant to change historically. The uniform behavior of group (2) is interesting and confirms the analysis proposed in Hackert (2004: 146-8), which, in contrast to other studies (e.g., Winford 1992: 322; Patrick 1999: 231), treats all irregular verbs as a single category, regarding vowel change alone as sufficient for the indication of past temporal reference.¹³ The low marking rate evidenced by group (3) will be treated in more detail below.

The second linguistic factor group in terms of effect strength is grammatical aspect, which distinguishes between perfective and habitual verb situations. While a perfective verb “will typically denote a single event, seen as an unanalyzed whole, with a well-defined result or end-state, located in the past” (Dahl 1985: 78), habituais describe situations that are “characteristic of an extended period of time” (Comrie 1976: 27-8). Both may be zero-marked in CECs and take the simple past in standard English (cf. Hackert 2004: 70). In AAVE and CECs, habituais have repeatedly been found to strongly disfavor marking (e.g., Winford 1992: 335; Hackert 2004: 170). This has been explained with the fact that a habitual verb situation “is nonspecific and often involves induction and generalization” (Patrick 1999: 187) – two dimensions that are epitomized in generic sentences, which crosslinguistically are rarely overtly and unequivocally marked (Dahl 1985: 99-100). Again, this pattern can be observed in the Panama letters, too.

Arguably the most controversial factor in analyses of past inflection in AAVE and CECs is stativity.¹⁴ The attention that stativity has received is clearly owed to Bickerton’s (1981: 58) idea of a “prototypical” creole tense-mood-aspect system, in which stative verbs must be marked to express past temporal reference, whereas non-statives occur in their base form, as in Guyanese Creole *Dem bin gat wan lil haus* 'They had a little house' vs. *Di pikni kliin di hool plees bifoo shi go a skuul* 'The child cleaned the whole place before she went to school' (1975: 35-6). Numerous studies have attempted to replicate this pattern, and, in fact, stativity has generally been found to favor past marking in both AAVE and CECs, whether by means of preverbal particles or through inflection. As seen in Table 1, the same effect obtains in the Panama letters.

Closer inspection of other data sets, however, has also revealed that the marking rates of stative verbs approximate those of non-statives when certain high-frequency items such as *have*, *think*, and *want*, which are not only predominantly stative but also very frequently inflected, are removed (cf. Hackert 2008: 147). Lexical identity thus underlies not only the inflectional behavior of particular morphological verb categories but also the effect that stativity has on past marking. A look at the behavior of *have* itself confirms this. If stativity

¹³ A chi-square test confirms that the small difference that separates the vowel-change plus verbs from other irregular ones is not statistically significant (chi square = 0.746, df = 2, p = 0.68866523).

¹⁴ Following Smith (1997: 17-8), I consider stativity not merely a lexical property but one of verb situations, which consist of **the** verbs and their arguments as well as adverbials and other contextual information. Thus, individual verbs may assume different stativity values, as illustrated by *I know* (stative) vs. *Suddenly he knew* (non-stative).

were a systemic grammatical distinction, it should make itself felt in differential marking rates on the same lexical item, depending on whether this item is employed in a stative (e.g., *have a brother*) or non-stative (e.g., *have breakfast*) construction. At an inflection rate of 94.4%, stative *have* (N = 126), however, does not behave very differently from non-stative *have* (N = 49), which shows 91.8% inflection. The difference is not statistically significant (Yates' chi square = 0.085, df = 1, p = 0.77063255).

Another controversial constraint on past marking in CECs and related varieties is temporal disambiguation. It is a popular assumption that creole tense-mood-aspect systems rely heavily on the surrounding discourse context, including conjunctions and adverbials, for a verb's temporal characterization (cf. Bickerton 1975: 150, 160). Interestingly, the phenomenon also seems to be observed in dialectal English (Tagliamonte 1991: 231); functional explanations have also been forwarded (Chung & Timberlake 1985: 209-10). Unfortunately, empirical investigations are rare, but neither Tagliamonte & Poplack (1993: 189-90) nor Hackert (2004: 174, 178) find significant effects if the two categories of temporal modifier are considered at large. If adverbials are divided into semantic types (Quirk et al. 1985: 481-2), however, at least in urban Bahamian Creole, durative adverbials favor past inflection, whereas those indicating frequency disfavor it. Adverbials of time position have no effect; neither does the absence of a temporal adverbial (Hackert 2004: 179). This is exactly what is found in the Panama letters, too, albeit not to a statistically significant degree. Apparently, there exists a correlation behind particular grammatical aspects' marking patterns and particular adverbials' semantic contents. Thus, as outlined above, perfectives are defined as bounded verb situations. In CECs, such verb situations favor the occurrence of past inflection; if boundedness is overtly indicated, as in *got quinine treatment for two days*, the effect is the same or even compounded (Hackert 2004: 179-80). Conversely, the tendency of habituals to be unmarked for past temporal reference correlates with the effect that an adverbial of frequency possess. In sum, with regard to the operation of grammatical factors, the Panama letters evidence exactly the patterns that have been observed in other, spoken samples of vernacular Caribbean English.

A very interesting finding concerns the workings of phonological factors. Both consonant-final regular and devoicing verbs are subject to /-t, d/ deletion, i.e., the reduction of word-final consonant clusters ending in alveolar stops. This phonological process has been described as a "showcase variable" for variationist sociolinguistics (Patrick 1999: 122); it has been investigated for scores of varieties from around the world, including AAVE and CECs. The factors that have most consistently been found to influence it are phonological, i.e., the sounds preceding and following /-t, d/, and morphological, i.e., whether the cluster is entirely part of a word stem (e.g., *past*) or, in the case of simple past or past participle forms, straddles a morpheme boundary (e.g., *passed*). The process of /-t, d/ deletion operates universally in spoken English, but varieties differ quantitatively, with particularly high frequencies observed in forms of English that have a history of heavy language contact, such as creoles and New Englishes (cf. Schreier 2005: 126-97). Where they also differ is in whether /-t, d/ deletion applies only to homovoiced clusters (e.g., *act, test, find, bold*) or to heterovoiced ones as well (e.g., *ant, built*), with varieties of American English generally restricted to the former (Labov 2010: 357). In CECs, heterovoiced clusters may also be

reduced, and, in fact, a number of studies of past inflection have excluded devoicing verbs entirely because of categorical /-t, d/ deletion (cf. Hackert 2008: 146).

As seen in Table 1, both consonant-final regular and devoicing verbs have a fairly strong disfavoring effect on the application of past inflection in the Panama letters, the effect being even stronger in the case of the former. Granted, around two thirds of these verbs do show inflection, which is a far cry from the low marking rates observed in spoken creole samples (e.g., Patrick 1999: 235; Hackert 2004: 146); nevertheless, the existence of obviously phonologically conditioned variation in a sample of written English is worth noting. In order to look more closely into this variation, I performed a separate Varbrul analysis for all consonant-final regular verbs,¹⁵ including not only the factors listed in Table 1 but also preceding and following phonological environment. The results are displayed in Table 2.

Table 2: Varbrul analysis of grammatical, phonological, and social factors influencing past inflection in the Panama letters, consonant-final regular verbs only

	N	%	Factor weight
GRAMMATICAL ASPECT			
perfective	680	55.6	0.542
habitual	482	67.2	0.441
<i>Range</i>			101
LEXICAL ASPECT			
stative	59	69.5	[0.593]
non-stative	1,103	62.0	[0.495]
<i>Range</i>			98
TEMPORAL ADVERBIAL			
none	648	59.4	[0.461]
position	333	69.1	[0.542]
duration	149	59.7	[0.560]
frequency	26	61.5	[0.553]
relationship	6	83.3	[0.660]
<i>Range</i>			199
TEMPORAL CONJUNCTION			
no	1,047	62.3	[0.495]
yes	115	63.5	[0.550]

¹⁵ As the present study is restricted to verb marking, the difference between mono- and bimorphemic clusters could not be investigated, even though this would have been worthwhile. In contrast to other varieties, CECs have shown a pattern whereby bimorphemic, i.e., past-tense and past-participle, clusters show higher rates of /-t, d/ deletion than monomorphemic ones. This appears dysfunctional at first sight, the alveolar stop carrying grammatical information, but has been explained as the result of creoles lying at the “intersection of variable processes” (Patrick 1991: 171), i.e., word-final consonant cluster reduction and the lack of verb inflection in general, which together conspire to bring about elevated rates of zero marking in verbs such as *work*, *pass*, and *match*.

<i>Range</i>			55
PRECEDING PHONOLOGICAL ENVIRONMENT			
non-sibilant fricative, lateral	323	71.2	0.567
sibilant, stop, nasal	839	59.0	0.474
<i>Range</i>			93
FOLLOWING PHONOLOGICAL ENVIRONMENT			
vowel	447	67.1	0.567
consonant	686	59.3	0.456
pause	29	62.1	0.506
<i>Range</i>			111
COUNTRY OF ORIGIN			
Antigua	15	46.7	0.374
Bahamas	33	87.9	0.809
Barbados	279	55.9	0.429
Colombia	7	100.0	
Dominica	16	18.8	0.127
Gorgona	2	100.0	
Grenada	62	72.6	0.617
Jamaica	176	77.8	0.681
Martinique	3	100.0	
Nicaragua	18	11.1	0.066
Panama	58	60.3	0.448
St. Lucia	59	28.8	0.196
St. Vincent	11	100.0	
Trinidad	59	23.7	0.168
unknown	364	70.6	0.598
<i>Range</i>			743
Total/p_i	1,162	62.4	0.633

Log likelihood = -680.195, significance = 0.014

The overall picture that emerges from Table 2 is similar to that observed in Table 1. There being a single morphological verb category, grammatical aspect emerges as the strongest of the statistically significant linguistic factor groups (factor weight range = 101). The presence of a temporal adverbial and/or temporal conjunction still does not make a difference; stativity loses its statistical significance, too. In the absence of high-frequency individual lexical items with a propensity toward past marking, such as *have*, *think*, or *want*, this constitutes powerful evidence that there is no real difference in terms of past marking between statives and non-statives, in the Panama letters no more than in other samples.¹⁶

¹⁶ That statives are still more frequently inflected than non-statives may be explained by the propensity of the former to occur in discourse contexts whose primary function is to provide the background information to a narrative, i.e., to sketch the time and place of the events recounted as well as the identity and motives of the characters involved. Such background sections are dominated by statives employing *be*, *have* and *used to*; that they are almost categorically past-marked makes intuitive functional sense. Hackert (2004: 187-92) investigates

With regard to preceding phonological environment, a tripartite division was made on the basis of empirical findings that suggest that non-sibilant fricatives and laterals favor the occurrence of the alveolar stop in word-final /-t, d/ clusters, whereas sibilants, stops, and nasals disfavor it (cf. Patrick 1999: 131). Following phonological environment was divided into three factors: consonant, vowel, and pause. It is agreed that if /-t, d/ deletion is actually phonologically conditioned in any sample, the familiar phonological effects will obtain and prove statistically significant (cf. Labov 1987: 136). Clearly, this is the case for consonant-final regular verbs in the Panama letters: verbs ending in a non-sibilant fricative or a lateral favor past inflection, whereas those ending in sibilants, stops, or nasals disfavor it. Following consonants disfavor inflection, following vowels favor it. Following pause has no effect at all. Finally, as evidenced by factor weight range, effect strength is greater for following than for preceding phonological environment.

Apart from the effect of pause, which has proven “arbitrary, [...] open to dialect differentiation,” the results displayed in Table 1 neatly replicate what has been found time and again in both American (Labov 2010: 357) and Caribbean (e.g., Patrick 1999: 143, 148; Hackert 2004: 153) varieties of vernacular English. The Panama letters, a written source, thus faithfully replicate structural aspects of phonological variation observable in spoken samples. This is remarkable, as it not only strongly speaks for their reliability and validity as a corpus of earlier Caribbean vernacular English but also contradicts earlier findings, which had found little or no evidence of phonological variation in written (classroom) data (Whiteman 1981; Thompson et al. 2004). More recent research, however, has established that phonological processes such as /-t, d/ deletion may get transferred into (social media) writing, with variables displaying the same sensitivity to linguistic context as in speech (Eisenstein 2013). The cognitive and sociolinguistic processes underlying this phenomenon are beyond the scope of this paper, and more research into it is clearly needed. Suffice it to note here that speech-based or speech-like text types, such as personal letters or social media text, apparently quite faithfully replicate vernacular speech, including details of phonological conditioning.

To close off the statistical analysis of past inflection in the Panama letters, a look at the geographical distribution of variation is in order. In both Table 1 and Table 2, apart from categorical cases with low token numbers, by far the highest rates of standard marking are observed in the Bahamas. Antigua, Barbados, Grenada, Jamaica, and Panama pattern broadly in between; Dominica, Nicaragua, St. Lucia, and Trinidad show low rates of inflection. That the Bahamian tokens should be comparatively frequently inflected does not come as a surprise; after all, the status of the black Bahamian vernacular as a creole has often been doubted, the “dialect” spoken there having been “reported to be closer to standard English structure than others” (Reinecke et al. 1975: 373). Still, as outlined above, in classifications of CECs, the Bahamas are usually grouped together with Barbados, Dominica, St. Lucia, and Trinidad; all of these countries have intermediate creoles only, unlike Antigua, Grenada, and Jamaica, where conservative creoles are spoken. This –

this connection in detail for urban Bahamian Creole; it is highly likely that, were narratives of personal experience (cf. Labov & Waletzky 1967) analyzed separately in the Panama letters, the same pattern would emerge.

linguistically based (cf. Winford 1993: 4) – classification is not really reflected in the Panama letters. A look at the composition of the sample explains why. The Bahamas and Dominica, for example, are represented by individual writers. Grenada features two writers, one of whom contributed 221, the other 83 tokens. The distribution of tokens by writer is even more skewed in the case of St. Lucia (three writers with 30, 37, and 133 tokens) and Trinidad (two writers with 6 and 202 tokens, respectively). A more even distribution is found in Jamaica, with only one writer showing a token number larger than 100, four writers numbers in the single digits, but ten writers numbers between 20 and 77 (mean = 38, median = 34). Clearly, what underlies the geographical variation evident in the Panama letters is the marking preferences of individual writers; they will have to be thoroughly explored in future analyses.

So far, I have focused on the presence or absence of standard English past inflection. As expected, the Panama letters also show non-standard marking, even though the latter is surprisingly rare (and, as indicated above, was excluded from the Varbrul analysis). The two most prominent patterns involve the use of *gotted* as a simple past form and V-*ed* instead of the base form in conjunction with periphrastic *did*. *Gotted* at first sight appears to be an individual idiosyncrasy, as seven of the twelve tokens were produced by a single writer, i.e., G. Mitchell Berisford from Barbados, who has already been quoted. He employs the form categorically, but three more writers (one of them Bajan like Berisford) also use it once or twice. *Gotted* predominantly has lexical meaning, as in *the Monday morning when we went to work, I **gotted** a big shake hand from almost every man in the gang by saving their lives after God* (George Hodges, origin unknown), but it may also function as a passive auxiliary, as in *the year of 1912 I **goted** married* (Mary Couloote, St. Lucia).

As for *did* V-*ed*, six of these structures occur in negative and interrogative sentences, presumably as hypercorrect equivalents of standard English subject-auxiliary inversion: *some how I passed the purser or Costom officer and he **did not asked** me for my ticket* (Philip McDonald, Grenada), *Where **did you worked** last* (Edgar Llewellyn Simmons, Barbados). Another five are found in affirmative contexts such as the following: *suddenly one morning a letter was handed to me to report to one Mr. Watson Qt master in Cristobal I must catch the first train So I **did arrived** in Cristobal* (George Peters, Dominica). Emphatic use, as in standard English, appears unlikely; rather, we seem to be dealing with an overt creolism (cf. Allsopp 1996: 178), i.e., the use of preverbal *did* to mark past temporal reference, which is common in mesolectal CECs such as urban Jamaican Creole (Patrick 1999: 203-6) or Bahamian Creole (Hackert 2004: 86-103).

5 Conclusion and outlook

This paper has introduced the Panama letters, a hitherto linguistically untapped collection of accounts written by predominantly male, old-age former laborers of their experiences during the Panama Canal's peak building phase between 1904 and 1914. Even though the sample is problematic as a corpus in the strict linguistic sense, the pilot study presented here provides impressive evidence of its value as a window on vernacular usage in the late nineteenth-century Anglophone Caribbean. A statistical analysis of the alternation between

unmarked and past-inflected verbs has shown that the abstract patterning of variation observed for this feature in the Panama letters, i.e., the configuration of constraints influencing it, is exactly that found in previous studies of variable past inflection in CECs and related varieties. The most important linguistic constraint is membership in a particular lexical or morphological verb category, followed by grammatical aspect, with habituais strongly inhibiting marking. The favoring effect that stativity exerts is an artifact of the frequency and strong marking propensity of particular lexical items, *have* being the most prominent of them. Temporal disambiguation per se does not make a difference, but when particular semantic classes of adverbial are considered, the effect of the two grammatical aspects, i.e., perfectivity and habituality, is replicated or even compounded by durative and frequency modifiers. Most impressive is the phonological conditioning of past inflection on consonant-final regular verbs, with /-t, d/ deletion subject to the same direction, strength, and significance of effects as in spoken samples. While all of the effects observed are not necessarily creole-specific (cf. Hackert 2004: 139-203), they convincingly testify to the social background of the writers of the Panama letters as speakers of vernacular varieties of Caribbean English, the latter almost inevitably being equivalent to creole usage.

The analysis of the Panama letters has just begun. Current work in progress involves other morphosyntactic variables, such as third-person singular, plural and possessive -s, zero copula, and *be*-leveling, but also phonological ones such as *h*-dropping. A more detailed analysis of narrative language use, including the historical present, is also being performed. A large amount of variation in the Panama letters appears to be owed to the preferences of individual letter writers; variation by individual, which was disregarded here in favor of a broad overview of social, i.e., geographical, variation, will also be investigated in more detail, as will orthographic features such as phonetic spellings. Finally, we will be looking for negative evidence, i.e., features to be expected but absent from the collection. Together, these analyses will reveal a great deal about the language use of a group of colonial Anglophone Caribbean speakers who did not belong to the educated upper and professional classes but worked hard manually and probably practiced their often hard-won literacy abilities rather infrequently – and thus about earlier Caribbean vernacular English.

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