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SENIOR PROJECT

Conlanging and Futuristic Englishes
A Comparison of Science Fiction Narratives
and Real-World Language Change

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1. Introduction

The current paper focuses on constructed languages and their relation to real-world language change. Specifically, it discusses constructed languages that provide a view of a world that has faced a society-altering event, and the language change that comes with such a radical event in a fictional world. Narratives that will be included in this comparison will fall into the categories of post-apocalyptic fiction and dystopian fiction. This paper will be comparing three different fictional languages, that exhibit forms of language change, to real-world language change, in order to establish whether the three constructed languages provide a realistic image of the workings of language change.

This research will center around three constructed languages, that stem from three separate sources, each exhibiting a distinct approach to constructing a future form of English. Firstly, the language *Trigedasleng* from the television show *The 100* will be analyzed. This television show, based on a science fiction novel series by Kass Morgan, tells the story of Earth ninety-seven years after a nuclear apocalypse that killed nearly all of humanity. A group of people who managed to survive on Earth are the speakers of a constructed language, Trigedasleng, which was developed for the television show by conlanger David J. Peterson. Secondly, the current paper will consider the language *Nadsat*, portrayed in *A Clockwork Orange*, written by Anthony Burgess. This dystopian novel provides a view of a sub-culture which has been heavily influenced by Russian propaganda, among other factors. Said influence is heavily reflected in the language use of the large subgroup of delinquent youths. Finally, the language of the chapter “Sloosha’s Crossin’ an’ Ev’rythin’ After” from *Cloud Atlas*, a novel written by David Mitchell, will be included. This novel presents six stories, each differing in their temporal settings, from far in the past to far in the future. The selected chapter is set in a time after a nuclear holocaust – *The Fall* – took place,

whereafter society has been forced back into a more primitive way of living. As society changed, so did the language, which is what this paper will be examining.

This paper mainly falls within the realms of historical and theoretical linguistics, as its main goals will be the analysis of linguistic structures and the determination of the plausibility of the constructed language change when compared to real-world language change. This paper also relates to the field of stylistics, which exhibits an interest in fictional languages and dialects. However, where constructed languages are concerned, not much research has been done. Where academic works do give attention to constructed languages, interest mainly goes out to languages that stem from works such as Tolkien's famous *Lord of the Rings* series, and others such as *Star Trek*, which feature fantastical worlds and languages created for aliens and elves, for example. This research addresses a gap in the literature on constructed languages, namely the relationship between the constructed languages portrayed in post-apocalyptic and dystopian fictional works, and real-world language change. This comparison, based on the different types of language change and linguistic features represented by both Modern English, and the different constructed languages, will add to the academic research done on constructed languages and science fiction from a different angle than previous works have presented.

Additionally, the analysis of constructed languages in narratives will allow for a new depth in the understanding of science fiction works and authorial intent. Research regarding the genre of science fiction has seen a large focus from literary analysts on establishing the genre as a recognized, literary one, and moving away from its exclusionary status. Only recently has the view on science fiction shifted to that of a genre worthy of analysis, both literary and otherwise. The genre has seen a major turnaround in its academic appreciation, contemporarily being at the center of many critics', academics', and readers' appreciation (Canavan and Link 2-3; Mandala 1-9).

Research on science fiction's style, however, has been severely lacking, as the genre's style has been written off as uninteresting and unworthy of literary attention, since the period where science fiction was regarded as an unliterary genre. Some works have been noted as interesting, but have been painted as exceptions rather than representations of the genre at large (Mandala 15-18). The current work aims to add to the research on the style of science fiction, with a specific focus on constructed languages in dystopia and post-apocalyptic works, in order to substantiate current works' claims that the style of science fiction is an intricate one that is worthy of analysis.

In order to establish the necessary knowledge for assessing the similarities and differences between real-world and constructed language change, a necessary first step is the defining of *conlanging*, its related vocabulary, and its goals. Another aspect important to the understanding of the current research is that of language change and its different types. The defining of these types will allow for the identification of said types as they appear in the included fictional languages. It follows from this goal of the current paper, that the main question considered in this research is the research question below, which will be answered while keeping the following sub-questions in mind:

Research Question (RQ): To what extent do the constructed languages of science fiction narratives represent actual language change?

Sub-Question #1 (SQ1): Which prominent processes of language change can be identified in the constructed languages of *The 100*, *A Clockwork Orange*, and *Cloud Atlas*?

Sub-Question #2 (SQ2): How can environmental and ideological differences of the speech communities of *The 100*, *A Clockwork Orange*, and *Cloud Atlas* account for the diverse portrayals of futuristic forms of English?

2. Literature Review

2.1 Conlanging History

Though seemingly a concept of recent history, the intentional creation of a language stems back to the twelfth century, during which Hildegard von Bingen created the *Lingua Ignota*, or *unknown language* in Latin. Language creation in its oldest form was used for divine communication, though languages invented for this purpose were generally not full linguistic systems. Instead, the languages took the form of language games, or vocabulary lists to which the native language's grammatical rules were applied. Only in the sixteenth century did language creation for purposes other than religion come into existence, namely, the creation of philosophical languages, which were constructed for the purpose of fixing perceived issues in existing languages. In the nineteenth and twentieth century, the newest forms of constructed languages arose: international auxiliary languages, and artistic languages, both of which are elaborated upon below (Peterson, *The Art* 7-8; Rhiemeier). The term constructed language was first used by Danish linguist Otto Jespersen, in the article "Brevity as a Criterion for Language" in 1928. Jespersen herein discusses constructed languages in an international context, referring to a language created for the purpose of international communication, a concept that will be further discussed at a later point (284-285). It was not until 1991 that the now commonplace, abbreviated term for constructed languages was created: *conlang*. In said year, a listserv (or mailing list) for conlangers was established. This is how the term *conlang* was born; in order to create a name for the listserv, the first syllables from the two words in *constructed language* (*con* and *lang*) were taken and combined, dubbing the mailing list the Conlang Listserv. This term, conlang, is in contrast with the term *natlang*, or natural language, which refers to naturally evolved languages that exist or have existed in the world (Peterson, *The Art* 11, 19). Another term used to represent this language

creation process is *glossopoeia* (Jones). In 2015, *conlanger* (constructed language creator) David J. Peterson, creator of famous fictional languages such as Dothraki (*Game of Thrones*) and Shiväisith (*Thor: The Dark World*), published a comprehensive guide to *conlanging* (constructed language creation). Herein, Peterson defines a constructed language as “any language that has been consciously created by one or more individuals in its fullest form [...], so long as either the intent or the result of the creation process is a fully functional linguistic system” (*The Art* 18).

Conlanging is contemporarily done for many different reasons, and therefore under many different names. Some conlangers are interested in creating languages for real-world use, typically for international purposes, which results in languages such as Esperanto or Interslavic, created by Ludwig Zamenhof and Merunka et al., respectively (Fians 3; Steenbergen). These conlangs are called *international auxiliary languages* – or *auxlangs* – and can either aim to create a universal language, as the first example does, or cater to a smaller, more specific group of language speakers, as the second example does (Gledhill 4; Tihelka 62). Others are more interested in creating conlangs for fictional purposes; this is the kind that is relevant to the current paper. Conlangs created for artistic purposes are, aptly, named artistic languages – or *artlangs*. Finally, there are conlangs which are created for a specific linguistic effect. These conlangs are called engineered languages – or *engelangs* – and come into existence when the conlanger wants to, for example, create a language without verbs (Peterson, *The Art* 21). As stated above, relevant to this paper are *artlangs*, as this paper will focus on fictional languages. Therefore, where the term *conlang* is used in this paper, the intended meaning of said term is synonymous with that of the term *artlang*.

In addition to these different types on the basis of conlangs’ purposes, two other different types of conlangs are acknowledged, which are based on the way the conlangs are built. These two types are the *a priori* and *a posteriori* conlangs. An *a priori* conlang is a constructed language

which was made without using grammatical or lexical information from a pre-existing language, this often being a natural language, or natlang. In contrast, an a posteriori conlang makes use of characteristics of an existing language, or is entirely based on one or more existing languages. Most commonly, conlangers build a priori conlangs, for the simple reason that creators wish to be restricted as little as possible in their creative process (Emrys et al.). Conlangs that fall into this category are ones that have received ample attention and have gained high popularity (Schreyer). These are well-known languages such as *Star Trek*'s Klingon, *Avatar*'s N'avi, and *The Lord of the Rings*' Quenya or Elvish (Lo Bianco 12-13; Milani; Wahlgren 6). This paper has a focus on a posteriori conlangs, as this paper concerns artlangs that provide a view of the English language in the (relatively) far future. The conlangs considered in this paper are all based on at least the English language, and in the case of *A Clockwork Orange* also others, meaning that the relevant conlangers took a natlang, or natlangs, into account when building their new languages. This makes the artlangs considered in this paper by definition a posteriori conlangs.

2.2 Fields of Linguistics

The current paper contributes to the field of linguistics, in multiple subfields. The foremost subfield that this study relates to is that of historical, or diachronic, linguistics. Historical linguistics is the study of language change and its motivations, specifically, the describing, documenting, and explaining of specific changes in a language. This study is done in a comparative manner, through the analysis and possible juxtaposition of empirical evidence of different forms of a single language as it has existed throughout history (Aronoff and Reese-Miller; Campbell and Mixco 77). As indicated, this paper will compare real-world language change with the representation thereof in selected constructed languages. In the defining of language change

processes, the identification of said processes in the conlangs, and the analysis of the different meanings and effects of the present changes, a historical linguistics approach will be taken in the present study. Another relevant field to the current paper is that of theoretical linguistics. Theoretical linguistics, as its name implies, analyzes language and language competence through the application of linguistic theories. Inherently, theoretical linguistics focuses on the structure of language, offering theories regarding and analyses of the inner workings of grammar, syntax, phonetics, phonology, and morphology. It does so in an isolated manner, refraining from including any mention of non-linguistic knowledge – knowledge not directly pertaining to language competence –, in favor of providing mere descriptions of the identifiable linguistic characteristics. Theoretical linguists take the position that, while external factors may provide insight into patterns in linguistic performance, language is comprehensible merely based on the *internal linguistics* – a term used by Ferdinand de Saussure to describe linguistic rules. Language, Saussure argues, is a self-contained system that requires no interaction with external elements in order to function according to its own set of rules, and that anything that changes a language must be of internal origins (Cabr  Castellvi 27; Graffi 182; Harris 105; Knowles 367; Lyons 1; Peniro and Cyntas 1; Saeed 189; Saussure 22-23). In the mere identification of the constructed languages' characteristics, as well as the potential comparison of the conlangs to one another, this paper touches on the field of theoretical linguistics. Moving past this, on to the identification of the relevant language change processes and motivation, the current paper distances from a theoretical linguistic approach, and involves matters of historical linguistics and stylistics.

As stated in the Introduction, the current research also relates to the subfield of stylistics, or literary linguistics. Stylistics is the study of literature through a linguistic lens – or rather, by drawing on linguistic theories (Gibbons and Whiteley 3; Mahlberg and Wiegand 306; Stockwell

and Whiteley 1). There have been some studies of conlangs (dubbed *invented languages* by Gibbons and Whiteley) from a stylistic perspective. This interest stems from the implications that presenting a narrative in a different (or altered) language have for the way readers interact with the text. Stylistics is interested in how these fictional languages are constructed, and what meanings and effects are attached to the use of them. Variations in language may offer insight into factors such as a character's social class and region, as well as being indicative of the type of world the narrative takes place in. Gibbons and Whiteley state that invented languages may function – much as real-world languages and varieties in literature do – to establish believable fictional worlds, or to convey moral or political sentiment (Gibbons and Whiteley 135; 143-145). Specifically, this paper will make use of a corpus stylistic approach to the conlangs considered herein. Corpus stylistics refers to the application of a corpus linguistic methodology to stylistic analysis, and owes its printed origin to Semino and Short's "Corpus Stylistics: Speech, Writing, and Thought Presentation in a Corpus of English Writing," the aim of which was to show the benefits of a corpus linguistic approach to text- and discourse analysis. Though potentially used in practice before the publication of this article in 2004, this is the earliest preserved record of the use of the term. Semino and Short argued for an integration of intuitional and corpus linguistic methodologies of approaching stylistics, a practice that has become increasingly commonplace since the publication of the article (Semino and Short 1-8; McIntyre and Walker 1). Corpus linguistics is the analysis of language through the use of *corpora*, bodies of language data. These bodies of data are analyzed using software, as they are typically of a size larger than what would be reasonably analyzable by hand, and its tools provide insights into, for example, the frequency and context of words. This method of analysis can be applied to any type of language; spoken, if transcribed, or written, naturally occurring or created for entertainment purposes, a corpus can be

built out of all existing texts, if one has access to them (McEnery and Hardy 1-6). When this methodology is applied to analyze the style of a certain text, with a specific focus on linguistic style, as well as theories and analytical frameworks from stylistics, the research falls into the field of corpus stylistics (McIntyre and Walker 309). The current study aims to investigate the linguistic style and linguistic features of the constructed languages in question through the use of corpus linguistics methods, which will be specified in Section 3 of the current paper. Therefore, this paper involves approaches of the fields of historical linguistics, theoretical linguistics, and (corpus) stylistics.

2.3 Language Change

As mentioned above, this paper concerns conlangs that provide a view of the English language in the future. The languages included in this paper each show a futuristic take on the English language in a fictional, post-apocalyptic or dystopian context. Said languages reflect the impact of different society-altering events that have occurred in their respective fictional settings, resulting in different manifestations of language change. By society-altering events, events that have had a large impact on the way society functions, radically altering the way citizens lead their day-to-day lives, are meant. Events of the sort can occur in forms such as apocalyptic events or wars. As presented in the Introduction, the objective of this research paper is to discover to what extent conlangs show an accurate representation of language change. Therefore, background information on the way languages change is needed.

Language change refers to the variation in the linguistic features of a particular language. Language change can occur across all levels of linguistic structure, and for many different reasons. In the study of language change, an apparent focus lies on change in the following categories:

lexical change, semantic change, phonological and phonetic change, syntactic change, and morphological change (Burridge and Bergs; McMahon). Aside from studying how languages change, there is also a focus on why they do so. Think, for example, of language contact as a reason for this. This section will provide an overview of types of language change particularly relevant to the conlangs considered in this paper, as identified in the literature. Relevance has been established, predominantly, on the basis that the conlangs considered in the current research are all a posteriori conlangs with Modern English as a source language. Processes considered in this section will consequently only be those that are of relevance to the English language and its language change processes, and will exclude any processes that do not exhibit immediate relevance to English.

Preliminary analysis in the form of close reading was done to identify the types of language change that are relevant to the current paper. Perhaps the clearest category to any reader of the fictional works at hand, regardless of whether they possess the terminology, is the category of lexical change. Lexical change, put simply, is the change of a language's vocabulary, or its words (Bybee 188). This process may take place in one or all of three possible ways, identified in the literature as lexical addition, lexical mortality, and the change of the meaning of lexical items (Bybee 188; Burridge and Bergs 28). It can be assumed that the most obvious of these three possibilities to a reader of any conlang would be lexical addition, or the emergence of new words in a language, which is in line with real-word language change, as "[w]ords are the most observable part of any language" (Burridge and Bergs 28). Lexical addition can take place via any of multiple processes. According to research done by John and Adele Algeo, the following processes are the basic processes underlying lexical addition, listed from most to least common: compounding, affixation, shifting, shortening, blending, borrowing, and creating a new word from scratch (Algeo

and Algeo 3). Processes other than these basic sources of lexical addition exist, sometimes more specific or opposite, such as backformation, commonization, reduplication, derivation, and sound symbolism, as identified in both Bybee's work and that of Burridge and Bergs (190; 30-42). Lexical addition, mainly in the form of borrowing, is of particular relevance to the conlang Nadsat, created for *A Clockwork Orange*, and will be discussed further in Section 4.2 below.

There are several possibilities that can lead to a word's extinction, otherwise referred to as lexical mortality or obsolescence. This omission of certain terms in a language most commonly stems from the simple fact that lexical items go out of style or are no longer relevant; the disappearance of certain concepts and entities in the world leads to the disappearance of the lexical items referring to said notions. Other possibilities include the reduction of a word to repeatedly smaller units, until it simply falls out of use, or the necessity for a new lexical item because of confusion caused by homonymy (Burridge and Bergs 43-46). Bybee categorizes these different processes, those underlying lexical addition as well as those underlying lexical mortality, as either stemming from internal sources (such as affixation, blending, and shortening) or external sources (such as borrowing) (188-195).

Although the changing of the meaning of lexical items is identified as a part of lexical change, this is typically referred to as a separate category called semantic change. Semantic change is a process that occurs gradually; lexical items adopt new meanings over time rather than in an instance. Main processes of semantic change typically recognized by linguists include broadening, narrowing, and shifting (Burridge and Bergs 218). The first of these involves the meaning of a linguistic item expanding. This frequently occurs via metaphoric language: a clear example of such language broadening can be seen in the PART-FOR-WHOLE construction, in which the definition of the PART can broaden into that of the WHOLE. An example of this is the term *board*, which

can be used to refer to a table, as it is the most important part of said item. In turn, the meaning of board has further extended to refer to a group of people who come together around a table and make important decisions (Hock and Joseph 201). This metaphoric language frequently results in polysemy, meaning linguistic items can have more than one meaning, rather than the broadened meaning necessarily replacing the original meaning (Bybee 199). The context, meaning the semantics and therefore linguistic surroundings, that words appear in can either affect or be affected by semantic change. The narrowing of meaning occurs because the contexts of words reduce, which results in the meaning following suit. The shifting of word meaning, on the other hand, occurs when the meaning of a word changes so radically, the contexts in which it appears entirely change as well. An example of the first of these types of shifting is the term *starving*, which in Modern English means *to die of hunger*, whereas its equivalent in Old English simply meant *to die*. Shifting of the second type has more radical effects on the meaning; the term *noise* used to refer to seasickness, whereas now it refers to unpleasant sounds (Burridge and Bergs 55; McMahon 178-179).

A very common level on which change occurs within languages is the level of sound. However, two of the works included in the current paper, *A Clockwork Orange* and *Cloud Atlas*, are written works which do not provide explicit information on the pronunciation of their constructed languages. Trigedasleng (*The 100*), the other language included, uses the same sound system as the English language. Therefore, this category of language change will not be considered in the current research, and consequently will not be discussed in depth in this section. Sound change has been identified as both regular and gradual. It is regular, because once the sounds have successfully changed, said sounds will change across the entire language in every linguistically identical environment, or surrounding sounds. It is also gradual, in the sense that sound changes

develop over time rather than abruptly, as sound changes affect different lexical items at different times (one after the other rather than all at once), and as sound changes spread over a community of speakers progressively (Bybee 15-16). There are three possibilities in terms of sound change: old sounds can disappear, new sounds can appear, and old sounds can be modified. The main processes to be identified in these categories are loss (the disappearance of sounds), assimilation (sounds grow more similar to the sounds they frequently occur with), and dissimilation (sounds grow less similar to the sounds they frequently occur with) (Burridge and Bergs 81-87; Bybee 17, 26, 69).

Change in a language does not stop at merely affecting words, semantics, and phonology; it goes on to affect levels well beyond that, such as syntax. David Crystal defines syntax as “[a] traditional term for the study of the rules governing the way words are combined to make sentences in a language,” and opposes the term to that of morphology (471). In the first place, then, syntactic change relates to word order. A clear example of syntactic change lies in the English language itself: where Old English relied entirely on the inflectional system and had no fixed word order, Modern English has seen the gradual collapse of the inflectional system and instead does possess a rigid word order system (Burridge and Bergs 137-140). The field of syntactic change itself is intertwined with grammaticalization. Grammaticalization is, at its base, the idea that grammatical morphemes evolve out of lexical ones, or combinations between multiple lexical and/or grammatical morphemes (Bybee 4). This process is one that occurs gradually in language change. Through this process, open class lexical items can be changed into closed class ones. Furthermore, grammaticalization has the ability to further change them into affixes. An example of this lies in the Old English word *hād*, meaning *state*, which has evolved into Modern English’ suffix *-hood* (McMahon 160). Syntactic change is related to grammaticalization for multiple

reasons: firstly, due to the fact that the processes underlying the creation of new constructions are the same as those underlying grammaticalization; secondly, the changing of the category of a lexical item is a syntactic change, but one that is only possible through the grammaticalization processes highlighted above (Burridge and Bergs 137-140; Bybee 161; McMahon 160). Grammaticalization will be further discussed regarding Trigedasleng in Section 4.1.

Another area where grammar comes into play is that of morphological change. Morphology is the field interested in word structure and formation. Changes in morphology occur in the form of multiple processes, a prevalent one of which is analogy. Analogy is the process where observed rules, obtained through subconscious statistical analysis of a language, are automatically applied to new terms where no instruction had taken place (Burridge and Bergs 109-112). It is concerned mainly with the form-meaning relationship in language. Its goal in said process is to maintain the link between form and meaning by keeping interactions between sound structure, grammatical structure, and semantic structure logical. An example of analogy is that of the subtype analogical extension, where an existing pattern is carried over to other instances in the language. Analogical extension is illustrated by the fact that the suffix *-s*, indicative of the plural, is extrapolated onto many irregular nouns by children (McMahon 70-71). Where many state that syntactic change and sound change induce morphological change, the opposite is stated to be just as true; where changes in sound and morphology occur, linguistic evidence is presented to the interlocutor, requiring syntactic change in turn (Bybee 162; Kroch 5; McMahon 136). Analogical extension is particularly relevant to the language of “Sloosha’s Crossin’,” and will consequently be expanded upon in Section 4.3.

As the languages considered in the current paper present different versions of futuristic English as a result of different events that had a major impact on their respective societies, another

topic of interest is different reasons for language change. Causes behind language change are largely grouped into two separate categories in modern linguistics: internal and external causes (Campbell 325). James Milroy, a prevalent sociolinguist, defined these two causes as being concerned with speakers' behavior and linguistic properties, respectively (qtd. Hickey). Campbell states that, for the majority, internal causes relate to human physiology and cognition. This means that internal causes for language change relate to the limitations imposed on speech production by the human body, as well as what the human mind is able to understand and process (325-326). Hickey identifies changes within this internal category as changes that can be related to language structure. External factors are identified as any sociolinguistic factors that may influence a language, meaning factors such as language planning, language contact, and literacy levels (Campbell 326; Hickey). Language contact in particular is prevalent in the world of language change; characteristics stemming from this process are frequently deeply embedded in a language (184-185). The relevance of this process, in the context of the current paper, is abundantly clear in the language of *A Clockwork Orange*, Nadsat, and will therefore be elaborated upon in Section 4.2.

2.4 Science Fiction

As this work focuses on two specific subgenres within the genre of science fiction, information regarding both the genre at large and the sub-genres is vital. The genre of science fiction is said by novelist Adam Roberts to include works of four forms: stories of space travel, of time travel, of imaginary technologies, and utopia (x). As the second of these forms indicates, science fiction is a genre filled with ample examples of narratives set in a time different than that of our own, whether that be the past or the future. This difference in temporal setting is of large

importance when analyzing language change, as the passage of time is imperative to the evolution of language. As stated previously, this paper concerns futuristic approaches to the English language, and therefore only considers works set in the future. Of interest to the current paper are the languages of worlds in which societal events have occurred that have had such a radical impact that it has changed the course of the entirety of society. This is a change that the conlangers responsible for the accompanying languages have wished to convey in the creation of their new languages. The genre of the works included in this research has been narrowed down to two distinct subgenres of science fiction. This was done on the basis of two criteria: first, the subgenres should lend themselves well for the incorporation of futuristic temporal settings; and second, the subgenres should include narratives that follow radical societal change. The selected subgenres of science fiction that fit said criteria best, and will thus be considered in the current paper, are dystopian fiction and post-apocalyptic fiction, which will be elaborated upon below. In the present research, the dystopian narrative considered is *A Clockwork Orange (ACO)*, and the post-apocalyptic narratives considered are the remaining two works, *The 100* and “Sloosha’s Crossin’.”

Dystopian fiction is identified by *The Oxford Dictionary of Literary Terms* as “[a] modern term invented as the opposite of utopia, and applied to any alarmingly unpleasant imaginary world, usually of the projected future. The term is also applied to fictional works depicting such worlds” (“dystopia”). The term was initially coined by J.S. Mills in 1868, in a speech delivered in the British House of Commons regarding religious freedom in Ireland. It was later put into use more specific to the literary genre by scholars such as Negley and Patrick in 1952, and Walsh in 1962, though its definition was not quite agreed upon. Albeit a subtle difference, the debate lies in its opposing term. *The Oxford Dictionary of Literary Terms*, as stated in the definition above, relates the term dystopia to *utopia*, a position that is shared by J.S. Mills and Walsh. Negley and Patrick,

however, take the opposing term to be *eutopia* (Trahair 110). The first of these terms, utopia, literally translates to *no place* when traced back to its Ancient Greek roots (*ou* meaning *not* and *topos* meaning *place*) (Hager 44; Kaufman 63). The second, eutopia, translates to *good place* (constructed from *eu*, meaning *well* in Ancient Greek, and *topos*), or *happy place* according to Thomas More, author of the novel named, perhaps intended ironically, *Utopia* (Hager 44; “Eutopia, *n.*”). Peter Stockwell, author of *The Poetics of Science Fiction*, states that dystopia is not in fact the opposing term of utopia, but rather of eutopia, hereby aligning himself with Negley and Patrick. The opposite of a utopia, he argues, would be the reality we live in (the opposite of *no place* being *this place*), whereas a dystopia is “a displacement of our reality,” rather than a direct reflection of it (qtd. in Norledge 2). This displacement refers to the idea that, instead of presenting alternative, horrific realities to which one cannot relate their own world, dystopias reflect the worries of a society, whether that be governmental influences, technological advancements, climate change, or other worries entirely (Demerjian 1). Through the amplification of issues relevant to the author’s society at the time of writing, dystopian settings are extensions of one’s own reality, a crucial fact in the definition of this genre, Stockwell argues (qtd. in Norledge 2). Combining the definitions presented above, a dystopia can ultimately be defined as an unpleasant, futuristic setting which is an extension of the author’s reality, where contemporary societal worries are amplified and presented in a dreadful manner.

Post-apocalyptic fiction, according to author Stephen Joyce, is a narrative focused on the end of civilization, and the surviving thereof (4). The post-apocalyptic narrative is a relatively recent invention, but its predecessor, which the post-apocalyptic genre lends its origin to, dates back to the biblical text *The Book of Revelation* (Joyce 3). The term *apocalypse* is derived from the ancient Greek *apokalupsis*, which in turn stems from the word *apokaluptein*. This word is

constructed from *apo-*, meaning *un-* or *off*, and *kaluptein*, meaning *to cover*, creating the definition of *to uncover*, or *to disclose* (“apocalypse, *n.*”). This leads to the definition of apocalyptic works, referring to the “revelation or unveiling of the true order” in the face of the end of the world, which relies on the idea of transcendence and the apocalypse as ultimately positive. Prior to the revealing event, an apparent lack of patterns was present in life, with no satisfying end in sight. The apocalypse brought both enlightenment for the ever-present patterns in life, allowing one to see the purpose thereof, as well as the desired conclusive end to said life (Heffernan 4-5). This understanding, of the apocalypse as an unveiling event, is one that has been challenged by science fictional works published from the twentieth century onwards. Post-apocalyptic works have a grimmer outlook on the end of the world than that of apocalyptic fiction as illustrated above. In said works, the revelation people found with the end of the world has been traded for its bleak counterpart: the survival of the end without any divine revelation, followed by a world without improvements when compared to its pre-catastrophe version (Heffernan 5; Wieçkowska 348). A link between post-apocalyptic and dystopian fiction can be found in the origins of the catastrophe discussed in the narratives: post-apocalyptic narratives, too, reflect contemporary society’s worries and issues (Joyce 5). Recent post-apocalyptic works, then, depict a futuristic world in which a catastrophic event has taken place that reflects the modern world’s concerns, and show its few survivors in their new, unimproved, and desolate setting.

Aside from being a genre that offers ample works featuring futuristic societies impacted by a major, lifechanging event, science fiction narratives are also rich in linguistic diversity. Science fiction works may include, for example, constructed languages made for non-human beings, be that extraterrestrials or behemoths, and futuristic forms of existing languages, changed either because of language contact, a need for new vocabulary due to (technological)

advancements, or other influences (Barnes 4-7; Cheyne 386). Literary linguist Jessica Norledge, author of *Language of Dystopia*, approaches dystopian fiction from an angle that had not before been studied: the language and style of dystopia. According to Norledge, the language and style are what unify all other aspects of the subgenre, identified mainly in literary criticism and relating to its developments and its relations to science fiction (1). *Language of Dystopia* identifies three board functions of conlangs in dystopia. The first of these is the elaborative function: conlangs provide a deep layer of detail to the description of a dystopian setting, and thereby impact the readers' conceptualization thereof. The second is the indexical function: conlangs aid the readers' interpretation and understanding of the dystopian setting at hand, and increase its believability. The third is the emblematic function: conlangs are inherently linked to the dystopian logic, and represent the "social and ideological underpinnings" presented in the narrative (Norledge 56-57). On top of said three functions, Millward, in a discussion of obsolete language in dystopian fiction, puts forward a separate argument regarding conlangs that represent future forms of an existing language. Herein, Millward states that dystopian fiction occupies a unique position to bring into focus (pre)conceptions present in language, and that dystopias show us that there are alternative options for the encoding of reality in language. In dystopian fiction, readers are invited to take note of and at times even evaluate said encoding, gaining an informed understanding of the existence thereof in the process (103). All of the above rests on an important assumption that is made by most science fiction authors who make use of a constructed language: the correctness of the Sapir-Whorf hypothesis, or their acceptance of linguistic relativity (Noletto & Lopes).

The Sapir-Whorf hypothesis, otherwise known as linguistic relativity, states that language shapes the way the speaker thinks. Consequently, speakers of different languages have a different way of thinking; these different ways correlate with the different languages they speak, and are

thereby predictable (Casasanto 158). This idea is explicitly expressed in Sapir's "The Status of Linguistics as a Science," which argues the following:

It is quite an illusion to imagine that one adjusts to reality essentially without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection. The fact of the matter is that the 'real world' is to a large extent unconsciously built up on the language habits of the group. No two languages are ever sufficiently similar to be considered as representing the same social reality. The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached. (209)

Reality, then, is directly influenced by and reflected in language use, according to the supporters of this hypothesis. Though this theory is one that is questioned by many in the field of linguistics, the theory is not met with the same skepticism in the genre of science fiction (Noletto and Lopes). As stated above, most science fiction writers that choose to employ a conlang in their writing, or that at least choose to alter the existing language in some way, rely on the fact that the Sapir-Whorf hypothesis is indeed correct, or unknowingly employ this method of thinking. Not only do science fiction writers support and make use of linguistic relativity, but science fiction is also partially responsible for the recent surge in popularity surrounding the theory, or the search therefor. The 2016 science fiction movie *Arrival*, an adaptation of the Ted Chiang short story "Story of Your Life," featured linguistic relativity as a central concept in its plot, in which the learning of an alien language leads to the restructuring of the main character's experience of time. The idea of linguistic relativity is made explicit in the film adaptation, in which the two main characters discuss the power of the *Heptapod* language, the alien language introduced in said story:

IAN DONNELLY

All this focus on alien language. Look, I did some research and there's this idea that immersing yourself in a foreign language can rewire your brain--

LOUISE BANKS

The Sapir-Whorf hypothesis, yes. The theory that the language you speak determines how you think. (Heiserer 72)

This explicit value placed on the Sapir-Whorf hypothesis in the story's plot has led to a resurgence of interest in and new publications on the topic (Moschonas 5, 16). In dystopia, this reliance on linguistic relativity is perhaps even more undeniable than in other subgenres of science fiction. In this subgenre, language is often a key component in the preservation of existing hierarchies. Norledge gives Orwell's *1984* as a prime example of this: *Newspeak*, the conlang used in said novella, was designed by the government to convey the political ideology of the novella's setting, Oceania – said political ideology being *Ingsoc*, or English Socialism. The language had not yet been fully adopted in the time of the novella's setting, but was to be properly established by the year 2050. It was devised in such a way that once Newspeak had entirely replaced *Oldspeak* (Modern English), “a heretical thought – that is, a thought diverging from the principles of Ingsoc – should be literally unthinkable, at least so far as thought is dependent on words” (Orwell 377). Through the invention of new words and the removal of undesired ones, as well as their meanings, a language was created that supported only those meanings that represented the thoughts of a member of the Ingsoc Party. This is an ideal example of Norledge's claim regarding the link between dystopia's conlangs and their hierarchies: the government's construction of Newspeak keeps the citizens represented in *1984* in line, and serves to eliminate any possible threats to the Party, the highest point of Oceania's existing hierarchy (Norledge 53; Orwell 376-377). The

limitations of expression in Newspeak translate directly in the speakers' ability to think freely, offering a clear representation of the Sapir-Whorf hypothesis' application to language creation.

3. Methodology

This paper focuses on views presented of future forms of the English language; specifically, changed forms of English that have occurred after a society-altering event in a science fiction setting. As elaborated upon in Section 2.4, this setting has been narrowed down in the context of this paper to post-apocalyptic and dystopian settings. The languages considered in this paper are Trigedasleng from the post-apocalyptic *The 100*, Nadsat from the dystopian *A Clockwork Orange*, and the conlang from the post-apocalyptic *Cloud Atlas*' chapter "Sloosha's Crossin' an' Ev'rythin' After." These works were selected for two reasons, aside from meeting the genre requirements explained in Section 2.4. The reason for the inclusion of *A Clockwork Orange* and *Cloud Atlas* lies in their reception by the general public and academic community. The aforementioned works and their languages have received ample attention from linguists and other researchers, in academic works applauding their novel and creative language, positive reviews of the novels at large, and sparse linguistic and stylistic commentary on the languages themselves (Carson; Dael; Eve; Gibbons and Whiteley 143; Jeannin and Sorlin; Sorlin; Vincent and Clarke).

The inclusion of *The 100* has a different reason, namely its creator. David J. Peterson is a well-known and much cited creator of and expert on conlangs (Baroukh 8; Emrys et al.; Harness; Zimmerman 239, 242). Having worked on widely known television shows and movies, Peterson has used his expertise to publish articles, as well as a book, *The Art of Language Invention*, on the topic of conlanging (Emrys et al.). Inclusion of the aforementioned well-received constructed languages, as well as a language created by a highly regarded conlanger, allow for the assumption

that in their creation, these conlangers managed to reflect precisely what they were meant to: the change of a world in the face of society-altering events.

As stated in the Introduction, the languages considered in this paper all show possible future forms of the English language, and thereby take the English language as the basis for their newly constructed ones. Put simply, the conlangs considered here are a posteriori conlangs, with the English language as their source language. The assumption of this paper is, therefore, that features of the current conlangs will be able to be connected back to their source language, English. In order to be able to identify these different features, two different approaches will be taken. The languages of *A Clockwork Orange* and *Cloud Atlas* have held onto many lexical items that exist in current-day English. However, there are numerous vocabulary items that do differ from the English language, either entirely or merely in their spelling. To make the identification of these lexical items possible, a corpus stylistic based approach will be taken.

Using *Sketch Engine*, three corpora will be compiled, one of each of the studied conlangs in this work. Sketch Engine is a corpus analysis software available on the internet, which has numerous functions that allow the analysis of texts on the aspects of, for example, the frequency of words and phrases (“What Can Sketch Engine Do?”). This online tool has six hundred readily available corpora in over ninety languages, which can be studied, or used as reference corpora (“Home”). Sketch Engine was chosen as the corpus analysis software for this analysis for multiple reasons: firstly, Sketch Engine contains the necessary tests for determining inconsistencies between the conlangs and Modern English; secondly, the program presents analysis results in a clear, comprehensive manner; thirdly, this corpus analysis software contains an English language reference corpus fit for the current research; and fourthly, Sketch Engine allows for the building

of multiple corpora, which can be analyzed using one of the software's reference corpora. These four claims are elaborated upon in the following paragraph.

One of the reference corpora that Sketch Engine offers, and the corpus that was selected for the current paper, is that of *enTenTen20*, a corpus of Modern English that falls into the TenTen Corpus Family. This corpus is a web-based corpus of English from the year 2020, and contains approximately 36.5 billion words retrieved from webpages downloaded between the years 2019 and 2021 ("Ententen"). The data in this corpus were collected from the internet, using the web crawling tool *Spiderling*, and run through multiple software in order to select only the relevant content afterwards. This means that spam, unwanted content, and duplicate content were filtered out before the finalization of the corpus, as is done with any of Sketch Engine's web corpora, and is accomplished in the following ways. Duplicate content filtering is accomplished using *onion*, a deduplication tool which compares texts on the paragraph level, and removes all but one of any duplicate paragraphs located. Unwanted content is removed using *jusText*, a tool which deletes generally linguistically unvaluable content from a corpus. The inclusion of spam is avoided partially through the use of the deduplication process, as spam is usually present in large numbers. Its large presence, if left unremoved, would involve a number of identical, unnatural texts in the corpus, thus skewing results in a problematic way. Aside from this, Sketch Engine makes use of *seed URLs* in the collection of its data, a tool used in web crawling. Rather than collecting data entirely randomly, specific websites of a positive reputation are gathered and targeted: the seed URLs. The web crawler will only follow links that appear on said websites, usually diminishing the chances of including spam in a corpus. There are two additional criteria for texts to be included in Sketch Engine's web-based corpora: text length and language. For the application of the aforementioned tools, texts need to reach a certain length, making their inclusion impossible if the

texts are too short. On the other hand, texts of thousands of words are also excluded, as their length might be an indicator of the fact that they are not regular webpages. Texts that fail to meet this length requirement are excluded from the corpus. Finally, Sketch Engine checks if the webpages identified by the web crawler are indeed written in the target language with a tool called *Language Filter*, which filters out longer texts written in a different language than the target language, but leaves in any foreign single word items, as well as phrases (“Build a Corpus”; “TenTen Corpus Family”). This, then, still allows for the identification of potential borrowings or code-switching. On top of this automated process, 40% of the included texts of enTenTen20 was semi-manually checked for the unwanted inclusion of poor-quality texts and spam (“enTenTen”). The corpus enTenTen20 has been found to be a representative corpus, both due to its size and its lack of topic restriction (Grindod 7). This corpus was selected due to this rigorous selection procedure for the included webpages, as well as the corpus’ size, and the fact that its data were collected recently, as indicated above. As enTenTen20 includes texts from the Web, it is possible that the reference corpus will include articles or blogs that discuss the two novels at hand. Therefore, it may occur that words from the study corpora are present in the reference corpus. However, this paper is operating under the assumption that even if these lexical items occur in the reference corpus, it will not be at the same level of frequency that these items appear in the novels. Therefore, identification of the lexical items should still be possible.

In a similar approach as taken by Vincent and Clarke, who conduct a corpus stylistic analysis of Nadsat in order to better understand what the conlang qualifies as, the study corpora of *ACO* and “Sloosha’s Crossin’” compiled for this paper will be compared to the reference corpus, enTenTen20, through the use of the Keywords analysis. Keyword analysis allows the analyst to identify single-word items or multi-word expressions that are typical of the study corpus, and thus

occur only, or significantly more frequently, in the study corpus as compared to a potential reference corpus (“Keywords”). The Keyword analysis results provided by Sketch Engine will show a table of the comparatively most frequently occurring terms in the study corpus. When running a basic, single-word Keyword analysis on the enTenTen20 corpus, using its obsolete version as a reference corpus, this generates the results in table 1. In these results, the top fifty most frequent single-word items in the enTenTen20 corpus can be seen. Additionally, N-gram analysis of two to four words will be run. An N-gram analysis allows for the identification of the most frequent multi-word expressions, the length of which can be determined before running the test (“N-grams”). Table 2 shows the results of an exemplary N-gram analysis, run with the enTenTen20 corpus. Said results show the top fifty most frequent multi-word strings, with the length of two to four words, along with their frequency.

A Keyword analysis will reveal the most common words in the study corpora when compared to the enTenTen20 reference corpus. This is of interest to the paper at hand, as it will reveal any linguistic items and strings that do not occur, or occur less frequently in the reference corpus. Through the revealing of these linguistic items, the identification of at least some forms of language change, such as lexical change and potentially grammaticalization, will be made possible. The N-gram analysis will allow for the identification of frequent phrases, in addition to the already identified lexical items, in the study corpora, which will make the analysis of grammar and syntax possible. Therefore, grammatical and syntactic change processes will also be able to be identified and compared to those present in real-world language change. Although categories such as semantic change and sound change will not be visible in Keyword or N-gram analyses, Sketch Engine will provide a Keyword list of single-word items, as well as multi-word N-gram results, that deviate from the reference corpus, thereby presenting a clear overview of language change

visible on the word-level. Semantic change, should it be relevant to the conlangs included in the current research, will still be identifiable using the method of close reading.

Table 1

Exemplary Sketch Engine Keyword Analysis of the enTenTen20 Corpus.

N-gram	Frequency	N-gram	Frequency	N-gram	Frequency	N-gram	Frequency
1 of the	6,268,617	14 by the	874,466	27 and a	509,139	40 such as	390,026
2 in the	4,050,501	15 that the	831,539	28 has been	506,440	41 into the	381,353
3 to the	2,550,190	16 will be	774,988	29 the same	492,366	42 If you	377,336
4 on the	1,887,285	17 is the	769,621	30 have been	491,324	43 I was	376,104
5 and the	1,599,469	18 as a	759,642	31 I have	471,440	44 and I	372,531
6 for the	1,510,916	19 with a	750,562	32 the first	442,842	45 was a	368,678
7 to be	1,330,592	20 it is	700,458	33 is not	431,402	46 of this	362,414
8 is a	1,215,228	21 for a	648,907	34 it was	423,361	47 to get	357,383
9 with the	1,167,307	22 do n't	587,525	35 have a	415,866	48 I am	356,775
10 at the	1,146,886	23 can be	575,106	36 It is	413,488	49 if you	353,475
11 from the	1,073,316	24 to a	536,269	37 as well	412,274	50 This is	353,329
12 in a	927,631	25 one of	534,844	38 you can	409,739		
13 of a	907,343	26 as the	518,177	39 on a	405,118		

Table 2

Exemplary Sketch Engine Two to Four Word N-gram Analysis of the enTenTen20 Corpus.

Lemma	Lemma	Lemma	Lemma	Lemma
1 appellant	11 bishop	21 muslims	31 minister	41 transistor
2 jews	12 petitioner	22 innings	32 israel	42 priest
3 embodiment	13 apostle	23 jerusalem	33 righteousness	43 allah
4 brexit	14 gentile	24 socialist	34 kashmir	44 anarchist
5 bjp	15 jew	25 iot	35 parliament	45 councillor
6 prophet	16 fishery	26 xander	36 defendant	46 voltage
7 respondent	17 moses	27 trump	37 archbishop	47 diocese
8 ezra	18 catholics	28 modi	38 gaza	48 sasuke
9 tribunal	19 pope	29 aragorn	39 resistor	49 isaiah
10 plurality	20 fn	30 jewish	40 gdp	50 zionist

The same purely corpus-based approach will not be applied to the language of *The 100*. As this language has an entirely changed vocabulary and spelling system, comparing Trigedasleng to

Modern English will show that there is no, or barely any, overlap with the reference corpus. Therefore, comparison to the enTenTen20 corpus would be counterproductive. Instead, the main source for Trigedasleng's analysis will be Peterson's "Trigedasleng Reference Grammar and Lexicon." In said document, Trigedasleng creator David Peterson has compiled the grammatical rules and a vocabulary list of the conlang. Corpus linguistics will still be utilized in relation to Trigedasleng, although not through the use of a reference corpus. Instead, a Wordlist and an N-gram analysis of the length of two to four words will be generated. A Wordlist differs from a Keyword list in that it does not compare the study corpus to a reference corpus, but instead determines the frequency of words within the study corpus itself. The results of an exemplary basic Wordlist generated from the enTenTen20 corpus can be seen in table 3, in which the fifty most frequent words occurring within the corpus are listed, along with their frequency. The Wordlist will allow for the identification of the most prevalent words in the language itself, and the N-gram analysis will provide the most prevalent word sequences, without comparison of the study corpus to the English language. The generating of these words and sequences, and the analysis of the different rules behind these words and sequences as defined in the "Trigedasleng Reference Grammar and Lexicon," will allow for the identification of the most prevalent language change processes behind said results, and thus most pertinent to the conlang in question. Through this process, the determinedly most relevant processes behind the creation of Trigedasleng will be compared to those of real-world language change. The language change types taken into account will only pertain to the written language, in order to minimize differences between Trigedasleng and the languages from *A Clockwork Orange* and *Cloud Atlas*. Therefore, sound change will be excluded from the current research.

Table 3

Exemplary Sketch Engine Wordlist of the enTenTen20 Corpus.

Word	Frequency	Word	Frequency	Word	Frequency	Word	Frequency	Word	Frequency
1 the	2,180,184,828	11 for	381,215,827	21 you	203,909,477	31 not	141,215,800	41 all	96,946,760
2 ,	1,931,950,605	12 that	371,233,979	22 are	200,151,008	32 an	136,964,390	42 their	94,295,179
3 .	1,734,956,567	13 it	284,654,234	23 this	199,009,396	33 he	134,757,848	43 which	92,441,096
4 and	1,099,770,995	14 with	282,999,141	24 be	196,464,347	34 we	125,074,879	44 one	91,063,513
5 of	1,066,888,596	15 on	280,411,737	25 by	183,669,008	35 but	123,346,162	45 your	87,489,801
6 to	978,106,091	16 i	251,214,266	26 :	179,881,563	36 they	113,309,850	46 more	86,219,802
7 a	808,023,795	17)	250,961,172	27 at	178,746,595	37 will	111,834,957	47 if	82,481,967
8 in	723,684,162	18 as	246,758,666	28 from	173,725,845	38 his	109,230,647	48 '	77,988,154
9 is	428,536,637	19 (246,261,491	29 or	157,963,168	39 has	104,771,553	49 n't	76,693,596
10 "	388,025,314	20 was	214,380,076	30 have	151,974,703	40 can	103,876,683	50 there	76,581,203

Three different study corpora were built in order to facilitate this research: ACOCORP, the corpus based on the text of *A Clockwork Orange*, SLOOSHACORP, the corpus based on the text of *Cloud Atlas*’ chapter “Sloosha’s Crossin’ an’ Ev’rythin’ After,” and TRICORP, the corpus based on the language Trigedasleng, the conlang used in *The 100*. In building ACOCORP, the Penguin Classics edition, released in 2000 and edited by Blake Morrison, of *A Clockwork Orange* was used. For ACOCORP, only the text of the fictional narrative was copied, leaving out Morrison’s Introduction, the Preface, the Acknowledgements, and the Glossary. In building SLOOSHACORP, the 2019 edition, as released by Hodder & Stoughton Ltd, of *Cloud Atlas* was used. The text of pages 248–325 was copied from said e-book, and pasted into a Google Documents file. As Sketch Engine recognizes the apostrophe as a word boundary, and apostrophes are a vital part of the conlang of “Sloosha’s Crossin’” (see Section 4.3), all apostrophes were replaced with the low-value letter X. This was done to ensure the registering of complete words, while still allowing for the identification of apostrophes (now X’s) in the corpus. Leaving the corpus intact, i.e., allowing for the apostrophes to remain in the data, would have yielded results such as those demonstrated in table 4. Here, longer words have been broken up into smaller parts due to the inclusion of an apostrophe (see results ten, twenty-two, and twenty-seven). Instead, the

use of X altered said results to still indicate the place of the apostrophe, but not register said element as a word boundary (see tables 13 and 14). All apostrophes were replaced by the letter X through the use of Google Documents' *replace* function, which allows for the identification and altering of all instances of a single character or word at once. The selected texts were then converted into two plaintext files, given the names of their respective corpora, and uploaded to the corpus analysis software. The final study corpus, TRICORP, was compiled using the translations provided by conlanger David J. Peterson on the website *Archive of Our Own (AO3)* ("Works by Dedalvs in The 100 (TV)"). Peterson uploaded the Trigedasleng lines from all seventy-eight episodes that feature the language onto this website, accompanied by their English translations. Each individual line was copied and pasted into a Google Documents file. Once complete, this file was also converted into a plaintext file, given its proper name (TRICORP), and uploaded to the corpus analysis software, in order to run the tests mentioned above.

Table 4

Exemplary Results of SLOOSHACORP Results with Apostrophe Included.

Lemma	Lemma	Lemma	Lemma	Lemma
1 meronym	11 nay	21 nothin	31 orison	41 augurin
2 sonmi	12 cud	22 rin	32 mem	42 gived
3 yay	13 telled	23 lief	33 prescients	43 say-so
4 zachry	14 abbess	24 spiker	34 thinked	44 nape
5 dwellin	15 valleysmen	25 babbitt	35 shipwoman	45 thinkin
6 kona	16 reck	26 yibber	36 rythin	46 yarnin
7 prescient	17 georgie	27 ly	37 spesh	47 uns
8 knowed	18 catkin	28 hawi	38 mauna	48 dyin
9 jus	19 nuff	29 diresome	39 kea	49 whoah
10 ry	20 honokaa	30 speaked	40 valleysman	50 old-un

4. Analysis

The following section will provide an in-depth linguistic analysis of the three conlangs included in the current research: Trigedasleng, Nadsat, and the language of “Sloosha’s Crossin’ an’ Ev’rythin’ After.” First, it will provide a brief description of the narratives the languages stem from, and other relevant information regarding authorial intention behind the language’s creation. Then, linguistic features that have arisen in corpus stylistic analysis and close reading will be discussed. These features will ultimately be compared to language change theories, as outlined in Section 2, in order to establish to what extent the conlangs reflect real-world language change.

4.1 *The 100: Trigedasleng*

Trigedasleng is the conlang used in the television series *The 100*. Ninety-seven years before the point where the show takes off, a nuclear apocalyptic event took place on Earth. It is believed that the only survivors of this catastrophe are the inhabitants of twelve international space stations, which combined into one station known as *The Ark*. However, when resources start running out on *The Ark* and a group of one-hundred teenage delinquents, who would later be known as the Sky People, is sent to the ground, they discover that there were in fact survivors on planet Earth. Two groups of people survived the nuclear apocalypse without fleeing into space: the Grounders, those who survived on Earth without shelter, and the Mountain Men, a group of people who survived in a large, underground shelter. After the collapse of society, the former banded together to fight for their further survival in these new conditions. To be able to tell which survivors were a part of their in-group and which survivors were foes, this in-group created an English-based code. This English-based code made use of alterations to the English language that would be easy enough to put into practice, but that would require knowledge of the code to think of doing so. An

example is the elimination of the pronoun *me*, and therefore the use of the pronoun *I* in any context or position. Over time, the code became the regular language among the Grounders, and the English language evolved with it. Language evolution moved faster, as life expectancy went down on Earth due to the aftermath of the nuclear event. Without the conservatism facilitated by older generations, innovations introduced by younger generations integrated into the language more easily, causing language evolution to move much quicker than it would have in past or contemporary times. Through additions to the initial code, as well as the sped-up evolution of the English language, Trigedasleng was born (Corley et al.; Rothenberg et al.).

As creator Peterson himself indicates, “[t]he most noticeable grammatical innovation of Trigedasleng is the use of verbal satellites” (“Trigedasleng” 15-16). Verbal satellites obligatorily accompany verbs in Trigedasleng, and are typically positioned after the object, or in the absence thereof, after the verb in question. Verbal satellites are also crucial to the meaning of the verb; the meaning relies on the specific combination of a verb and its satellite. The verb *gouthru*, for example, can occur with multiple verbal satellites, including the satellites *au*, and *klin*. In the case that *gouthru au* is used, the meaning would be *to pass through*. Using a different satellite will, at times quite drastically, modify the verb’s meaning. For example, when the verbal satellite *klin* is used instead, which forms the construction *gouthru klin*, the meaning changes to *to commit suicide*. This is a point illustrated in dialogue from *The 100*’s season 2 episode 1, where a language learner makes a seemingly small, but to the meaning quite detrimental mistake. In the piece of dialogue below, English speaker and Trigedasleng learner Octavia is practicing the pronunciation of the phrase below. When she accidentally uses the wrong satellite, native Trigedasleng speaker Lincoln corrects her:

OCTAVIA/OKTEIVIA) (SKY PEOPLE, DELINQUENT)

I am Octavia of the Sky People and I wish to commit suicide.

TRIGEDASLENG TRANSLATION

Ai laik Okteivia kom Skaikru en ai gaf gouthru klin.

LINCOLN/LINKON (GROUNDER, WARRIOR)

...safe passage.

TRIGEDASLENG TRANSLATION

...*gouthru klir*. (Peterson, “Conlang Dialogue”)

Klir is another verbal satellite that can be used with this verb. The meaning of *safe* that is associated with this satellite stems from the English word *clear*. The phonetically similar but not identical *klin* stems from the English word *clean*; in a world where everyone is a warrior by necessity, the only way to ensure a clean death is to take matters into one’s own hands (Peterson, “Conlang Dialogue”). Considering the Wordlist and N-gram results of TRICORP (see tables 5 and 6), the verbal satellite indeed appears prevalent in the conlang. The most frequently occurring satellite, according to the N-gram results, appears in the phrase *oso na gyon op*, meaning *we will rise* or *we will get up*, with *na* being the future tense particle, and *gyon* being the verb with its accompanying, frequently used satellite *op*. In the N-gram results alone, said satellite appears eight times, six of which in the context of different verbs. Peterson states his main influence in the creation of Trigedasleng stems from the theory of grammaticalization, discussed in relation to syntactic change in Section 2.2 (Peterson, “Imeimei”). As made clear in said section, grammaticalization has the ability to change open-class lexical items, or content words, into closed-class items (Bybee 4; McMahon 160). This is the process that is responsible for the creation of Trigedasleng’s verbal

satellites, a fact that can be illustrated using the verbal satellite *klin* as an example. *Klin*, as established, stems from the English word *clean*. This word, in Modern English, can be classified as an adjective or a verb, both of which open-class words. In the timespan between the evolution from Modern English to Trigedasleng, this open-class word has evolved into a closed-class one, that of the verbal satellite. This perfectly demonstrates the process of grammaticalization, clearly showing Peterson's inspiration drawn from said theory.

In his 1991 publication, Leonard Talmy identified two typological categories that languages fall into, namely verb-framed and satellite-framed languages (486). Languages are categorized “on the basis of where they characteristically express the semantic core of the framing event – in the verb or in a satellite of the verb,” the framing event providing the overarching conceptual framework or reference frame in which any other mentioned activities take place (480; 483). Talmy states that there are five types of framing events that satellites pertain to, and in turn five aspects of the framing event that the satellites express. These five aspects and events are “the path in an event of motion, [...], the aspect in an event of temporal contouring, [...], the changed property in the event of state change, [...], the correlation in the event of action correlating, [...], and the fulfillment or confirmation in an event of realization” (480). Modern English is a satellite-framed language, a quality that Germanic languages as a whole have in common, although the satellites manifest in different ways. Across all satellite-framed languages, satellites may either be affixes or free morphemes. In the English language, satellites consist of free morphemes, referred to as verbal particles by Talmy and as verbal satellites in the current paper (486). Talmy recognizes the verbal satellite as a separate grammatical category, as does Peterson in his reference grammar (Talmy 486; Peterson “Trigedasleng” 7). As can be seen above, Trigedasleng also makes use of free morphemes as verbal satellites. The difference, then, lies not in their presence, but in the

mandatory nature of their presence. Where in English, verbal satellites are only used in the instance of the five framing event categories mentioned, in Trigedasleng, verbs cannot function without their accompanying verbal satellite. Without them, not only is the phrase ungrammatical, but the verb does not have any established meaning.

Table 5

Sketch Engine Wordlist results of TRICORP

Word	Frequency	Word	Frequency	Word	Frequency	Word	Frequency
1 op	394	14 oso	109	27 jus	44	40 gonplei	34
2 yu	327	15 en	107	28 hod	43	41 you	33
3 ai	324	16 raun	103	29 ona	43	42 frag	31
4 na	282	17 emo	100	30 ge	40	43 ogeda	30
5 kom	238	18 teik	96	31 hir	39	44 get	30
6 em	207	19 laik	96	32 gada	39	45 kru	29
7 in	180	20 bilaik	95	33 odon	39	46 sis	28
8 gon	168	21 yo	81	34 kamp	38	47 hashta	28
9 don	168	22 heda	76	35 dison	38	48 trikru	27
10 daun	153	23 osir	73	36 gaf	37	49 dula	26
11 nou	136	24 taim	72	37 gyon	36	50 won	25
12 ste	135	25 klin	69	38 skaikru	36		
13 au	130	26 s	46	39 nau	35		

Table 6

Sketch Engine N-gram results of TRICORP

N-gram	Frequency	N-gram	Frequency	N-gram	Frequency
1 gonplei ste odon	22	11 Omon gon oson	7	21 frag yu op	5
2 Yu gonplei ste odon	17	12 get em in	7	22 frag em op	5
3 Yu gonplei ste	17	13 na wan op	7	23 na kom au	5
4 na gyon op	13	14 Ai nou na	6	24 kom Heda na	5
5 drein jus daun	12	15 Keryon kom Heda	6	25 don kom op	5
6 Jus drein jus daun	10	16 tel yu op	6	26 yu nou na	5
7 Jus drein jus	10	17 Leksa kom Trikru	6	27 don tel yu	5
8 kamp raun hir	8	18 Okteivia kom Skaikru	6	28 Ai don tel	5
9 oso na gyon	8	19 em op gon	6		
10 oso na gyon op	8	20 en ai gaf	6		

Another change from Modern English that is noticeable in Trigedasleng, is the complete loss of inflection for number of nouns, and the loss of tense and agreement forms of verbs (Peterson, “Trigedasleng” 6, 9). When inflecting nouns to indicate plurality, Modern English makes use of, in the case of regular nouns, the suffix *-s*, with some additional changes possibly occurring (the change of an *f* into a *v*, or the change of a *y* into *ie*). Rather than modifying its nouns’ forms, Trigedasleng uses one of four ways to indicate plurality; the language either leaves plurality up to context, relies on preposed particles – premodifiers that indicate plurality and are placed before the verb –, uses cardinal numbers, or uses other predeterminers and adjectives that indicate plurality. There are three possible, but non-obligatory, preposed particles one can use in Trigedasleng that indicate plurality: *bosh*, *loda*, or *emo*. These three preposed particles, which are indefinite plural markers, are identical in meaning, and are able to be used interchangeably. Another option would be to place the relevant one of the cardinal numbers, as shown in table 7, before the verb. Finally, one could use a predeterminer or adjective to indicate plurality. Examples of such determiners would be: *ogeda*, or *all*, and *hani*, or *how many* (Peterson, “Trigedasleng” 6-7). Below, two lines from *The 100* episodes have been given in order to demonstrate the different possibilities for indicating plurality in Trigedasleng. The top line shows the use of the Trigedasleng word for *weapon*, *shuda*, in its singular use, in order to allow for comparison. The second line, spoken by an Ice Nation warrior, shows the same word, now in its plural use. Both lines display Trigedasleng’s reliance on context for the interpretation of a noun as plural. Due to the use of the name Gustus in the first line, it is likely that Lexa is only referring to a single weapon, thus making the noun *shuda* singular in this line. In the second line however, the use of the word *skaikru*, the Trigedasleng term for Sky People, indicates that more than one person is being addressed, allowing for the interpretation that *shuda* is meant in its plural use here. Because the word *skaikru* (Sky

People) had already been used in this second line, indicating the addressing of a group of people, the marking of plurality through any of the aforementioned methods is not necessary. In order to achieve clarity, had the word *skaikru* not preceded the coming phrase, indication of plurality would be possible through the use of any of the above methods, either completely without changing the meaning of the phrase, or without doing so drastically. Examples of possible variations of the second line are listed below.

LEXA/LEKSA (COMMANDER OF THE GROUNDERS)

Gustus! Weapon down! Now!

TRIGEDASLENG TRANSLATION

Gostos! Shuda daun! Nau! (Peterson, *The 100* 51)

AZGEDA WARRIOR (ICE NATION)

Sky people! Weapons ready!

TRIGEDASLENG TRANSLATION

Skaikru! Shuda op! (Peterson, *The 100* 222)

VARIATION I

Weapons ready!

TRIGEDASLENG TRANSLATION

Loda shuda op!

VARIATION II

All weapons ready!

TRIGEDASLENG TRANSLATION

Ogeda shuda op!

VARIATION III

Four weapons ready!

TRIGEDASLENG TRANSLATION

Fou shuda op!

The loss of tense in verbs' forms is solved in a similar manner, namely, by the use of tense aspect particles (Peterson, "Trigedasleng" 9). In Modern English, suffixes can be added to verbs in order to indicate past tense and the continuous aspect. To indicate the past tense in regular verbs, the suffix *-ed* is added, and to indicate the continuous aspect, the suffix *-ing* is used. In order to indicate the future tense, Modern English makes use of auxiliary verbs such as *will* and *shall*. Trigedasleng's reliance on only tense aspect particles, rather than English's use of suffixes and auxiliary verbs, is demonstrated in the example given above for verbal satellites, *oso na gyon op*. The verb *gyon* (*to rise*) is modified here by the participle indicating the active future tense, *na*. This is a similar approach to Modern English's use of an auxiliary verb; however, this similarity disappears in the other tenses and aspects. This can be seen in the past tense, for which the tense aspect particle that is used is *don*. Rephrasing the previous example to take place in the past would result in the phrase *oso don gyon op*, meaning *we got up*. All preposed tense aspect participles present in Trigedasleng can be seen marked red in table 8.

Table 7

Number System Overview of Trigedasleng.

Number System

#	Cardinal	Ordinal	#	Cardinal	Ordinal	#	Cardinal	Ordinal
1	<i>won</i>	<i>fos</i>	11	<i>len</i>	<i>lenon</i>	70	<i>sendi</i>	<i>sendit</i>
2	<i>tu</i>	<i>seken</i>	12	<i>twel</i>	<i>twelon</i>	80	<i>eyidi</i>	<i>eyidit</i>
3	<i>thri</i>	<i>thot</i>	13	<i>thotin</i>	<i>thotininon</i>	90	<i>naidi</i>	<i>naidit</i>
4	<i>fou</i>	<i>fot</i>	14	<i>fotin</i>	<i>fotininon</i>	100	<i>honet</i>	<i>honet</i>
5	<i>fai</i>	<i>fit</i>	20	<i>tweni</i>	<i>twenit</i>	200	<i>tu honet</i>	<i>tu honet</i>
6	<i>sis</i>	<i>sison</i>	21	<i>tweni won</i>	<i>tweni fos</i>	201	<i>tu honet won</i>	<i>tu honet fos</i>
7	<i>sen</i>	<i>senon</i>	30	<i>thodi</i>	<i>thodit</i>	1,000	<i>thauz</i>	<i>thauzet</i>
8	<i>eyit</i>	<i>eyidon</i>	40	<i>fodi</i>	<i>fodit</i>	10 ⁴	<i>ten thauz</i>	<i>ten thauzet</i>
9	<i>nain</i>	<i>nainon</i>	50	<i>fidi</i>	<i>fidit</i>	10 ⁶	<i>honet thauz</i>	<i>honet thauzet</i>
10	<i>ten</i>	<i>tenon</i>	60	<i>sisti</i>	<i>sistit</i>	<i>More</i>	<i>miyon</i>	<i>miyonon</i>

Source: David J. Peterson, “Trigedasleng Reference Grammar and Lexicon,” Dedalvs, https://dedalvs.com/work/the-100/trigedasleng_v5.pdf, p. 20.

Table 8Verb Conjugation of *Flosh* (To Destroy) in Trigedasleng.Conjugation*flosh* “to destroy”

	Standard	Progressive	Passive	Passive-Prog.
Present	<i>flosh</i>	<i>ste flosh</i>	<i>ge flosh</i>	<i>ste ge flosh</i>
Past	<i>don flosh</i>	<i>don ste flosh</i>	<i>don ge flosh</i>	<i>don ste ge flosh</i>
Future	<i>na flosh</i>	<i>na ste flosh</i>	<i>na ge flosh</i>	<i>na ste ge flosh</i>

Source: David J. Peterson, “Trigedasleng Reference Grammar and Lexicon,” Dedalvs, https://dedalvs.com/work/the-100/trigedasleng_v5.pdf, p. 18.

Subject-verb agreement in English refers to the fact that, if a (countable) noun is indicative of the plural form, the verb must also indicate this plurality. Verbs are typically marked with the plural suffix *-(e)s* when referring to the third person singular in the present tense. When compared to other languages, such as Spanish or French, English is already quite limited in its use of subject-verb agreement. As mentioned previously, it is typically only the present tense third person singular verb form that is altered to match the subject of the sentence. Trigedasleng takes it even further; subject-verb agreement has been completely eradicated from the language, with no other manner of indication having taken its place. Instead, the base form of a verb is used alongside all subjects, with their preposed particles where necessary.

Another aspect relevant to Trigedasleng's verb constructions is that of negation. To negate a verb, all that is required in Trigedasleng is the addition of the word *nou* before the verb clause (Peterson, "Trigedasleng" 12). This can be seen in result fourteen of table 6, *ai nou na*, meaning *I will not*, as well as result twenty-six, *yu nou na*, or *you will not*. In English, verbs require the use of the adverb *not* in order to be negated. On top of this, the introduction of an auxiliary verb is necessary for most verbs, in order to make the incorporation of *not* possible in the simple tenses.

Trigedasleng's pronouns, also very common in both TRICORP's N-gram and Keyword List results, make a distinction between inclusive and exclusive language. In this context, inclusive stands for forms where the hearer is included in the pronoun, and exclusive stands for forms where the hearer is excluded. In Modern English, the pronoun *we* can be meant to be either inclusive or exclusive, whereas in Trigedasleng, *oso* is the inclusive first-person plural pronoun, and *osir* indicates the exclusive first person plural (Peterson, "Trigedasleng" 17). As preempted in the first paragraph of this section, this is not the only change made to pronouns in the evolution from Modern English to Trigedasleng. As part of the initially constructed code to protect the Grounders

from infiltration, the pronouns *me* and *mine* were made obsolete, being replaced by the pronoun *I* in said pronouns' positions. This change is one that ultimately affected all pronouns, meaning that only the subject pronouns remained in the language. As can be seen in table 9, *we* is the only Modern English that has two distinct forms, as elaborated upon above. All other pronouns remain with a single form, the subject pronoun, other forms having become obsolete after the initial removal of *me* and *mine* (Corley et al.).

Table 9

Pronouns Overview of Trigedasleng

<i>Pronouns</i>			
<u>Overview</u>			
	Singular	Plural	
		Inclusive	Exclusive
First Person	<i>ai/a</i>	<i>oso</i>	<i>osir</i>
Second Person	<i>yu</i>	<i>yo</i>	
Third Person (Standard)	<i>em</i>	<i>emo</i>	
Third Person (Hostile)	<i>du</i>		

Source: David J. Peterson, “Trigedasleng Reference Grammar and Lexicon,” Dedalvs, https://dedalvs.com/work/the-100/trigedasleng_v5.pdf, p. 17.

Trigedasleng creator Peterson makes the general comment that “Trigedasleng is far more analytic than English is at this stage, despite English itself being fairly analytic now” (“Trigedasleng” 13). Languages can be referred to as either synthetic or analytic; synthetic languages are those that make use of inflection, whereas analytic languages are those that do not involve inflection, but instead rely on auxiliaries and other constructions (Gelderen 26). Modern English is characterized as an analytic language, as it does not make use of inflection to a large extent. However, when looking back at Old English, the language used to be characterized as a

synthetic language. Old English did in fact make use of inflection, which was achieved through the use of cases and subject-verb agreement, both of which are now limited in Modern English. It can be said, then, that Trigedasleng is following the trend that English has already been on in moving away from Old English's synthetic nature, a trend that started with Middle English (Van Gelderen 134).

4.2 *A Clockwork Orange: Nadsat*

A Clockwork Orange is a dystopian novella written by author and linguist Anthony Burgess. The story centers around a young delinquent, Alex, who has an extreme affinity for violence. The story is divided into three parts: part one, where Alex commits various crimes along with his friends; part two, where Alex is incarcerated and ultimately becomes part of a delinquent reform program, during which Alex is conditioned to become averse to violence; and part three, where Alex is used as a prop to show the detriments of the government, in which he is ultimately cured of his conditioning (Burgess). *ACO* is set in a then-distant Britain, one in the early stages of dystopia. This can be seen in the novel's government, which is becoming increasingly totalitarian, but has not yet fully reached this state (Moya). In this near-totalitarian dystopia, Burgess imagined that an English based, Slavic-influenced language had become part of the (sub-)culture. This language he dubbed Nadsat, which refers to the Russian suffix for *teen*, apt for a language used by teenage delinquents such as mentioned in the novel (Burgess and Morrison ix). In the second volume of his autobiography, Burgess states that his main aim in constructing Nadsat for *ACO* lay in the fact that he wished to "brainwash" his readers into learning minimal Russian, through the Russian-influenced lexicon of the novel (Burgess, *Your Time* 38). This idea of brainwashing stems

from a similar method that is alluded to in the novella, when discussing the origins of Nadsat at large, and specifically commenting on the Slav roots of the language:

"Odd bits of old rhyming slang," said Dr. Branom, who did not look quite so much like a friend any more. "A bit of gipsy talk, too. But most of the roots are Slav. Propaganda. Subliminal penetration." (86)

Nadsat serves in the novella not only to this end, but simultaneously to distance the reader from the graphic violence discussed in the narrative, through what Sofia Malamatidou calls radical defamiliarization (293). The term defamiliarization originated with Viktor Schlovsky, a Russian Formalist, and indicates that literary language has the power to present objects and experiences "from such an unusual perspective or in such unconventional and self-conscious language that our habitual, ordinary, rote perceptions of those things are disturbed" (Rivkin and Ryan 4). This means that, through the altered presentation of experiences, readers are forced to engage with said experiences in a way that they otherwise would not have. With regards to *ACO*, this means that due to the use of Nadsat as the primary language of the narrative, readers are able to distance themselves from the text and acts therein in such a way that judgement for Alex' actions becomes less severe. As readers do not have any existing connotations with the lexicon used in Nadsat, the same emotional responses that would come with familiar vocabulary are not elicited, leading to a sense of emotional desensitization (Malamatidou 293). Brigid Maher takes this one step further, and argues that through the brainwashing of readers to gain an understanding of this new vocabulary, and due to Alex' playfulness with language, the character of Alex becomes one the reader may grow to sympathize with, and perhaps even care for, despite him committing various despicable acts (40).

The propaganda that people are presented with in this fictional setting is where a large part of the influence on the English language, which resulted in Nadsat, stems from, as shown in the quote above. This textual fragment is the only clear indication readers are given of the origins of Nadsat as a language, both linguistically and contextually; throughout this novella, it is never made explicit that there is an interaction between English speakers and speakers of the languages that are indicated to have had an influence on Nadsat. Despite this lack of background information regarding the language community, Sofia Malamatidou identifies the creation of Nadsat as an instance of language contact. From the novella and Burgess' statements on the work, it is impossible to determine whether the language contact between Russian and English speakers goes in any way beyond what it stated in the fragment above. The only contact that can be identified with certainty is the presence of Slavic propaganda that has reached this language community, as is made explicit in the narrative. Although one cannot determine to what degree this language contact has taken place, the presence thereof in the creation of Nadsat is undeniable. Further than enlighten the readers regarding the origin of Slavic language influences, the fragment also states some other prominent contributors to Nadsat as a language. Though its presence is claimed in this textual fragment, evidence of Romani features in Nadsat is scarce, both as visible in the novel itself and in research on the topic (Vincent and Clarke). From the results of the Keyword and N-gram analyses on Sketch Engine, the main difference when comparing the conlang Nadsat to Modern English appears to lie in the neologisms that have arisen in the language, in terms of frequency. The N-gram results show no obvious evidence for grammatical evolution, whereas the Keyword results show a list of fifty words, none having an obvious link to Modern English, except for one alternative (and perhaps obsolete) spelling of the word *height* (see table 10 result forty-seven). The remaining forty-nine results, then, are of a different nature than stemming from the English

language; namely the ones mentioned in the quote above. The Slav roots are those that shine through in the results in table 10: neologisms of a mainly Russian origin.

The lexical addition, a process discussed in Section 2.2, in Nadsat is in part the result of borrowing, the use of a structure that is generally associated with one linguistic system (the donor language) in another linguistic system (the recipient language) (Matras and Adamou 237; Poplack and Dion). The term *borrowing* was coined by W.D. Whitney, and referred first and foremost to the borrowing of lexical items. The borrowing of grammatical features was dubbed a secondary process, which may accompany the borrowing of lexical items, but is not the primary objective of the process (Matras and Adamou 238; Whitney 10-17). Poplack and Dion found that this borrowing of grammatical features along with the linguistic structure is, partly, how one can distinguish between borrowing and code-switching. In their research, it was determined that for code-switching, multilingual speakers opt for retaining the linguistic structure's existing grammar rules in the inclusion of this structure in a different language. When it comes to borrowing, however, speakers instead opt for adapting the linguistic structure to the recipient language's grammar rules. It was also found that code-switching by this definition almost never occurred with single word items; rather, it was largely only longer strings of words that kept the donor language's grammatical structure, with the occasional appearance of a single word item doing so (Poplack and Dion 309). Borrowing considered at large, then, is the adoption of a single word from the donor language into the recipient language, without the consequent adoption of said word's grammatical features. The inclusion of Whitney's secondary process refers instead to code-switching, which is the adoption of a linguistic structure existing of multiple words from the donor language into the recipient language, while retaining said words' grammatical features. In Malamatidou's study of Nadsat as an instance of language contact, a large emphasis is placed on

the process of adaptation (294-297). Adaptation is a process that borrowings tend to undergo when there is an important disconnect between the donor language and the recipient language, such as the absence of a certain sound that is present in the donor language's word in the recipient language. When such a disconnect occurs, borrowed words need to be adapted to the recipient language, meaning the word undergoes certain changes in order to make the word recognizable. Generally, however, when a large number of borrowings stems from the same donor language, adaptation is foregone in favor of retaining the donor language's patterns (Haspelmath and Tadmor 42-43).

The neologisms of Nadsat stem primarily from borrowing from Russian, however, with an additional relevant process before the integration into the language: these terms have undergone adaptation, and have therefore been Anglicized. The term *govoreet*, for example, is derived from the Russian говорить (*govorit*), the Russian word for *to speak*, the meaning of which remains intact in Nadsat. Rather than keeping the Russian spelling of said word (in the Roman alphabet), the spelling has been adapted to fit English language rules for phonetics and phonology. As stated above, there is no evidence in the results that grammar has significantly changed when compared to Modern English. This carries through in the introduction of Russian words into the vocabulary of Nadsat. Nadsat verbs that stem from Russian include *viddy* and *smeck*, respectively stemming from видеть (*videt*) and смех (*smekh*), and meaning *to see* and *to laugh*. The borrowing from Russian appears to have stopped at its primary process: the borrowing of lexical items. Instead of, in borrowing the verbs from Russian, also adopting Russian grammatical rules with them, the verbs have been adapted to the English language fully, including their spelling and conjugation. As can be seen in results two, six, and forty-five of table 10, the English language rules associated with the conjugation of regular verbs, which have been outlined in the Trigedasleng section above, are

applied in Nadsat with respect to its borrowings. Nadsat does not use the existing Russian suffixes that indicate tense and aspect in its borrowings. The conlang takes the Anglicized Russian base form of a verb, and adds English affixes in order to indicate tense. *Viddy*, the base form of *to see*, becomes *viddying* to convey the continuous aspect, and *viddied* to indicate the past simple. This approach is taken with all verbs that stem from Russian, as visible, for example, in table 10's results fourteen, twenty-five, thirty-two, thirty-seven, thirty-nine, forty-nine, and fifty. The same phenomenon can be observed in nouns when it comes to pluralization. Take the example sentence "[g]ive these poor old baboochkas over there a nourishing something" (Burgess 9). *Baboochka*, meaning *grandmother*, stems from the Russian word *бабушка* (*babushka*). The plural form thereof, *grandmothers*, would be *бабушки* (*babushki*) in Russian. Rather than staying true to this form of inflection that exists in Russian, Nadsat makes use of the affix *-s* to indicate plurality. It is clear that Nadsat, while borrowing heavily from Russian, obeys the grammatical rules of Modern English when it comes to inflection. Therefore, the secondary process of the adoption of grammatical features from the language of origin does not appear to have been utilized, indeed qualifying this process as borrowing rather than code-switching. Considering the high number of words borrowed from Russian in Nadsat, one would expect a complete absence of adaptation of said borrowings (Haspelmath and Tadmor 43). Therefore, despite Nadsat obeying the general rules of borrowing, it defies expectations when considering Russian's large influence on the language.

Another influence relevant to Nadsat, as outlined in the quote from the novella that discusses the language's origins, is Cockney rhyming slang (Burgess, *A Clockwork Orange* 86). Cockney rhyming slang is a form of slang that originated largely from London, with some outside influences from the United States of America and Australia. It is hypothesized that the slang form developed as a method of ensuring the secrecy of communication between criminals, through the

use of terms others would not be able to decipher. The use of this form of slang, however, eventually conquered all British classes, ceasing to be limited to lower class criminals, and became conventional in use (Ashley 124). The use of Cockney rhyming slang in Nadsat, and implicitly by the entire subculture of teenage delinquents in *ACO*'s setting, brings Cockney rhyming slang back to its origins of belonging to the culture of criminality. Cockney rhyming slang relies on the replacement of the intended word with a phrase that rhymes with said word. Using the example of *stairs*, a rhyming phrase would be *apples and pears*. If one wished to say *John is walking up the stairs*, using Cockney rhyming slang would initially transform this sentence into *John is walking up the apples and pears*. Where it gets tricky to decipher, though, is the fact that the latter part (and thus the rhyming part) of said phrase is traditionally omitted. This would mean that rather than saying *John is walking up the apples and pears*, one would say *John is walking up the apples*. Another layer that complicates the understanding of Cockney rhyming slang, is that often the rhyming terms themselves are slang terms, meaning one needs the understanding of two types of slang in order to grasp the meaning of this rhyming slang (Ashley 131; O'g'li).

As Cockney rhyming slang makes use of Modern English words, and the Sketch Engine analyses were run against an English language reference corpus, instances of this form of slang do not all appear in the results of said analyses. Instead, instances of rhyming slang were identified through close reading and research. In *ACO*, rhyming slang first makes its appearance in reference to money, for which the term *pretty polly* is used (Burgess, *A Clockwork Orange* 3). *Pretty polly* rhymes with *lolly*, which is British slang used for *money*. Other instances include *twenty-to-one*, rhyming with and thus meaning *fun*, and *sharp*, a shortened version of the slang phrase *sharp and blunt*, which rhymes with *cunt* and therefore either refers to the vagina or to a woman (Vincent and Clarke). Rhyming slang is generally harder to identify and understand than the aforementioned

Slavic-based neologisms, though Burgess generally allows for understanding through the terms' context. For example, in first discussing *pretty polly*, Burgess refers to money not only in its rhyming slang form, but also in its Anglicized Russian form (*deng*), and in its regular Modern English form (*money*), as can be seen in the fragment below.

Our pockets were full of deng, so there was no real need from the point of view of crasting any more pretty polly to tolchock some old veck in an alley and viddy him swim in his blood while we counted the takings and divided by four, nor to do the ultra-violent on some shivering starry greyhaired ptitsa in a shop and go smecking off with the till's guts. But, as they say, money isn't everything. (Burgess, *A Clockwork Orange* 3)

Therefore, these terms are, in some instances, made entirely comprehensible in Burgess' writing. Cockney rhyming slang seems to have a rather minor influence when compared to the Slavic influence on the language; Vincent and Clarke report finding evidence of only five different Cockney rhyming slang terms, a finding that close reading has shown to be accurate. However, even the title of Burgess' novella stems from Cockney slang: *queer as a clockwork orange*, meaning queer (either in the sexual manner, or simply meaning odd) to the largest possible extent, suggesting its influence on Burgess and its relevance to the language at large is greater than merely the low presence of these terms would indicate (Iseni et al. 5).

Aside from the lexical changes described above, *ACO* makes use of a few more strategies that differ between Nadsat and Modern English, two of which will be discussed. The first is the use of multiple negation, a characteristic that is generally not present in Standard English. Rather, this construction is largely associated with varieties of American English, such as African American Vernacular English (AAVE), though it is not entirely absent from British varieties (Labov 6; Szöke 142). According to Sara Ramos Pinto, linguistic varieties are often considered to

be less prestigious than the standard variety of a language, which generally results in associations of lower socio-cultural statuses with non-standard varieties. Additionally, Pinto argues that authors frequently utilize this stereotypical association in their writing; by relying on certain well-known characteristics of varieties, authors evoke the stereotypes they wish to without necessarily having to make such associations explicit in their texts (290). In a Sketch Engine Concordance analysis, which reveals the context of a certain search term as present in the corpus, run with ACOCORP, six instances of multiple negation were identified, each result consisting of the phrase *not no* (see table 12). These results do not only show the common phenomenon of double negation; results one and three show evidence of triple negation, and result four even shows an example of quadruple negation (“not [...] never not no more”). In making use of this established, common feature of varieties of English, it appears Burgess is continuing the trend started by the aforementioned implication of the incorporation of Cockney rhyming slang. Through the use of Cockney rhyming slang, which was likely initially used among criminals, as well as this common characteristic of other varieties of English, Burgess may be placing implicit emphasis on the class and culture that the Nadsat speakers in the novella are part of.

Table 10

Sketch Engine Keyword Results of ACOCORP.

Lemma	Lemma	Lemma	Lemma	Lemma
1 veck	11 ptitsa	21 veshch	31 noga	41 billyboy
2 vidy	12 stary	22 bezoomny	32 govoreeting	42 chasso
3 horrorshow	13 skorry	23 slovo	33 grahzny	43 lewdie
4 malenky	14 creeching	24 plattie	34 mesto	44 branom
5 litso	15 bolshy	25 creeched	35 plott	45 viddying
6 viddied	16 devotchka	26 vonny	36 brodsky	46 zoobie
7 rooker	17 malchick	27 krovvy	37 smecking	47 heighth
8 goloss	18 slooshy	28 tolchock	38 veshche	48 droogie
9 glazzie	19 gulliver	29 millicent	39 ittied	49 peeting
10 droog	20 chelloveck	30 smeck	40 britva	50 slooshied

Table 11

Sketch Engine N-gram Results of ACOCORP.

N-gram	Frequency	N-gram	Frequency	N-gram	Frequency
1 O my brothers	86	14 all the time	25	27 And then I	18
2 and then I	35	15 and I could	24	28 in a very	17
3 and it was	31	16 on the floor	24	29 it going to	17
4 a bit of	30	17 I could not	23	30 it going to be	17
5 a malenky bit	30	18 I do n't	21	31 there was the	16
6 all that cal	29	19 sort of a	21	32 I did not	16
7 and all that	29	20 a real horrorshow	21	33 I was like	16
8 and there was	28	21 there was a	20	34 one of the	16
9 out of the	28	22 one of these	19	35 and then the	15
10 and all that cal	27	23 the height of	19	36 going to be then	15
11 I could viddy	27	24 a lot of	19	37 was going to	15
12 I had to	26	25 I did n't	19	38 P. R. Deltoid	15
13 going to be	26	26 you could viddy	19	39 to be then	15
N-gram	Frequency	N-gram	Frequency	N-gram	Frequency
40 was like a	14				
41 on my oddy knocky	14				
42 on my oddy	14				
43 I had a	14				
44 had a real	14				
45 my oddy knocky	14				
46 Then there was	13				
47 the end of	13				
48 and I was	13				
49 but it was	13				
50 bit of a	13				

Table 12

Sketch Engine Concordance Results of ACOCORP for “Not No.”

Details	Left context	KWIC	Right context
1	doc#0 <e some veshch that used to be there but was not there	not no	more.</s><s>And you were sort of hypnotized by your b
2	doc#0 low and then going lurch lurch with his shining nozh but	not no	wise connecting.</s><s>And all the time lewdies passe
3	doc#0 ind coming I was 6655321 and not your little droog Alex	not no	longer.</s><s>"What's it going to be then, eh?"</s><s>I
4	doc#0 hey did not want to viddy Your Humble Narator never	not no	more, O my brothers.</s><s>So there I was, very very e
5	doc#0 ind like regretful.</s><s>"Not to speak like that.</s><s>	Not no	more, droogie."</s><s>And he launched a bolshy tolch
6	doc#0 s>But now as I end this story, brothers, I am not young,	not no	longer, oh no.</s><s>Alex like groweth up, oh yes.</s><

Finally, Nadsat makes use of English language archaisms, both through the adoption of terms from Early Modern English, and the use of grammatical constructions stemming from this stage of the English language (Uysal 64). Frequently throughout the novel, Alex refers to his friends and the reader in the following construction: *O my brother(s)* (see result one from table 11). This direct manner of address is known as the vocative case, specifically the vocative *o*; through the use of *o*, Alex makes it clear that he is addressing his *brother(s)*, meaning his friends or the reader. This case was frequently used by William Shakespeare in his works, and is inherently linked to Early Modern English (Busse 2). Another feature from Early Modern English that is present in Nadsat lies in its pronouns. Through Sketch Engine Concordance analyses, twenty-five instances of *thou*, five instances of *thee*, and three instances of *thine* have been identified. Julie Carson found that Alex is the only character in the novella that makes the switch between the Modern English pronoun *you* and the Early Modern English pronoun *thou*. This change appears to be a conscious one, as in the parts of the novel where Alex has not been conditioned to be averse to violence, the character opts for the informal *thou* when addressing those he wishes to aggravate (his friends or people in positions of power) (qtd. in Kohn 11-12). Nadsat also makes use of the third person singular present tense suffix *-th*. Where this suffix is no longer used in said form in Modern English, in favor of the suffix *-s*, Alex competingly makes use of both suffixes in *ACO*, a switch reminiscent of Early Modern English (Wright 237). For example, Alex utilizes this archaic form of English in a particular, humorous instance, namely the phrase “[w]hat giveth,” in three separate instances. This phrase is meant in a comedic manner, as it shows a mix in register: a phrase stemming from street-talk (*what gives?*), combined with the archaic *-th* suffix, stemming from Early Modern English (Maher 44).

Generally, the borrowed words and phrases from Russian and Cockney rhyming slang used in Nadsat are utilized as replacements for English words, as is expected from borrowing. This means the terms are inserted into any sentence in the novel, rather than having matching contexts; rather than code-switching or altering the linguistic environment of a foreign term, the borrowed words are placed into otherwise intact, Modern English sentences. Nadsat thus opts for inclusion of single word items from the donor language, qualifying said process as borrowing. This can be seen in the example phrase used previously: “[g]ive these poor old baboochkas over there a nourishing something” (Burgess, *A Clockwork Orange* 9). This goes for all examples of neologisms, including terms of all lexical categories. Verbs that stem from Russian, for example, are also used in combination with auxiliary verbs from Modern English, as can be seen in result eleven from table 11: *I could viddy*. In considering Nadsat’s use of Early Modern English, the language takes a different approach. Rather than only adopting single word items, and thereby adapting these terms to Nadsat’s grammar rules, Early Modern English is generally incorporated through the use of multiple words in a single phrase, and said words retain their existing grammatical structure. This can be seen, for example, in the following phrase: “[i]f fear thou hast in thy heart, O brother, pray banish it forthwith” (Burgess, *A Clockwork Orange* 18). Here, Nadsat does not stop at the adoption of a single word item, but instead incorporates multiple linguistic structures, along with their respective grammar rules, such as affixes (in *hast*) and word order (in *if fear thou hast*). Therefore, the inclusion of Early Modern English should be seen as code-switching rather than borrowing, in Poplack and Dion’s definition thereof.

As can be seen in the analysis of the linguistic features above, the language of Nadsat portrays a very different approach to language change than Trigedasleng does. Rather than move from Modern English and follow existing (yet expedited) English language evolution trends, *ACO*

is a language largely made up out of external influences. In short, Nadsat is the result of language contact, rather than isolated language change (Malamatidou 293). This means that, rather than elaborating on existing trends in English language change, or taking an approach to language change that does not involve outside influences, the main changes that have occurred in the switch from Modern English to Nadsat are those that stem from the borrowing from other existing languages and varieties – mainly Russian and Cockney rhyming slang. Languages and varieties that showed to have had an influence on Nadsat largely convey a similar connotation, stereotypically: the reminiscence of criminality and a lower-class status among the speakers of Nadsat.

4.3 *Cloud Atlas*

Set in the distant future, “Sloosha’s Crossin’ an’ Ev’rythin’ After” from David Mitchell’s novel *Cloud Atlas* shows a primitive world, forced back into a pre-modern state of living after a nuclear bomb went off in an incident named *The Fall*. This chapter of *Cloud Atlas*, a novel in which the chapters are separate stories set in different temporal settings, narrates the life of a young boy, Zachry, who witnesses the murder of his father and abduction of his brother. Zachry is a member of the Valleyman tribe, a peaceful community of Hawaiians, who are forced to interact with their less peaceful counterparts. In the aftermath of *The Fall*, society has seen a large decline in life quality. The Valleyman tribe lives in a hunter-gatherer manner, herding their own animals, and growing their own food. The tribe does not believe in or know of medicine – instead, trust is placed in their faith in *Sonmi*, the one true god to the Valleymen. The tribe only interacts with advanced individuals is once a year, when they trade with a more advanced tribe, named the Prescients. Children of the Valleymen perform labor for the tribe at a young age, Zachry being a

shepherd at age twelve, implying that there is no serious form of education as is present in the contemporary world. The short story at hand is an informal, verbal recounting of events, a fact which has induced the qualities discussed below. When using informal, spoken language, speakers of any variety tend to articulate their message in the most efficient manner. In Modern English, pronunciation in informal speech is altered by numerous factors, including the following: sounds are adapted to their environment, a process referred to as *similitude*, which may result in *assimilation*, the deviation of sounds at or near the word boundary due to interaction with other sounds; consonants or vowels are omitted in the pronunciation of a word, a process called *elision*, or *deletion*, which frequently occurs at or near word boundaries, but operates at the syllable level as well; the obscuring of word boundaries; and the weakening of consonants and simplification of vowels, the latter being represented in the presence of the schwa in English (Brown 57-78). In short, informal, spoken language opts for weakening or omitting pronunciation of certain sounds, in order to facilitate efficiency. In conveying this omission in written English, when the goal is to mimic a spoken variety, Modern English makes use of an apostrophe as a manner of indication. This is a strategy that lends its origin to seventeenth century English, or Early Modern English (Piton and Pignot). An example of this is the word *everything*, a word regularly pronounced in spoken language as its abbreviated equivalent, *everythin'* – in the International Phonetic Alphabet, this would change its pronunciation from /'ɛv.ɪθɪŋ/ to /'ɛv.ɪθɪn/.

The language of “Sloosha’s Crossin’” is perhaps most strikingly marked by the aforementioned: its abundant letter omission – a fact that is reflected in the Keyword and N-gram analyses’ results (see tables 13 and 14). The language makes excessive use of apostrophes, replacing not only letters one might leave out in Modern English, but seemingly any letters of which the omission does not largely impact a word’s pronunciation. Determined through the

results of SLOOSHACORP's analysis, as well as close reading, the conlang at hand appears to make use of two types of letter omission: elision, or deletion, and contraction – a determination supported by the research of Van Dael (17-20). Contraction is a process closely related to that of elision, which has been defined above, and often relies on the process of elision for facilitation. Where elision is a general process of sound omission, contraction is defined as “[t]he action of contracting or shortening (a word, a syllable, etc.) by omitting or combining some elements” (“contraction, *n.*”). Both types of letter omission can be illustrated in the conlang using one Modern English word as an example: the conjunction *and*. In “Sloosha’s Crossin’,” the equivalent of *and* occurs in numerous forms, determined by the context in which the conjunction occurs. One of said forms is illustrated in result one in table 13: *an’*. This evolved spelling of *and* illustrates the process of elision; the removal of the final *d*, and the replacement thereof with an apostrophe, facilitates the simplified and efficient pronunciation of the conjunction. *An’* occurs a total of 898 times in SLOOSHACORP, the following phrase being an example of such an instance: “he got off his horse an’ walked splishin’ thru the shallows to Pa” (Mitchell 249). Generally, the form *an’* appears only to occur when the conjunction serves to link two clauses to one another, as is illustrated in the provided example. The second form of *and* in the current conlang can be seen in the following example: “I wanted to tell Pa’n’Adam ‘bout my eery adventurin’” (Mitchell 250). In this phrase, rather than elision, a form of contraction occurs, which elicits a different form of the Modern English *and* in the conlang: the removal of the initial *a* and the final *d* allow the remaining *n* to be linked to both the preceding and the following words, *Pa* and *Adam*, the contraction resulting in the form *Pa’n’Adam*. Close reading indicated that, when listing words of the same part of speech, said words were combined into one word using the conjunction ‘*n’*. In the example sentence above, two nouns are linked using this conjunction; however, other lexical categories are combined in the

same manner – for example, verbs in *carved'n'polished'n'wrote* (Mitchell 255). When words following one another are not of the same lexical category, but not phrases in need of a conjunction either, this conlang utilizes a similar form to the aforementioned. The conjunction, rather than being linked to both the preceding and following words, is only linked to the preceding word with an apostrophe. The second apostrophe is removed, and the next word is placed separately. An example of this phenomenon is *gods'n all*, in which *gods* and *all* do not belong to the same part of speech, which, according to the theorized pattern, indicates that it can thus not be entirely contracted using the aforementioned form, 'n'. The disappearance of the final *d* in this form of *and* is a result of elision; as the final *d* has already been lost in the largest form of the word used in the current conlang, *an'*, this letter stays omitted in the case the word *an' is* further contracted. A slight complication arises in the fact that the form 'n can also be used in the current conlang as the evolved version of the Modern English *than*, however, this is clarified throughout the short story contextually.

The grammar of “Sloosha’s Crossin’” is marked by multiple differences when compared to Modern English. The first of these is the perceived gradual loss of irregular verb forms. When analyzing the Keyword results illustrated in table 13, it is apparent that not all Modern English irregular verb forms have been lost; some have remained intact, whereas others have only been altered slightly. An example of a verb form that is still identical when compared to Modern English is present in result eight: *weren't*. In results three and twelve, among others, this conlang’s slightly altered spelling of some frequently occurring verbs can be found: *din't*, the alternative spelling of Modern English’s *didn't*; and *cudn't*, the alternative of *couldn't*. Rather than having been altered to align with Modern English’s rules for regular verb conjugation, these verbs’ alterations are in line with those discussed above: where pronunciation would not be largely impacted, the conlang

has opted for letter omission, thereby simplifying the pronunciation and writing thereof. The true difference, however, can be seen in the verbs that are irregular in Modern English, but have been regularized in the conlang. Examples of this can be seen in results twenty, twenty-six, forty-three, and forty-nine of table 13: *knowed*, *telled*, *speakad*, and *thinkad*, respectively. Lieberman et al., in a study regarding the relationship between verb regularization and usage frequency, determined that an irregular verb's half-life "scales as the square root of its usage frequency: a verb that is 100 times less frequent regularizes 10 times as fast" (713). In analyzing the frequency of the aforementioned verbs, this appears to be an explanation for the regularization of the latter verbs, and the lack thereof for the former. Where, for example, *din't* occurs 149 times in SLOOSHACORP, *telled* occurs a mere thirty-six times. Therefore, the conlang in "Sloosha's Crossin'" appears to follow contemporary regularization patterns, in terms of which verbs are affected. The application of regular verb rules to previously irregular verbs is a form of analogy, namely analogical extension, a morphological process discussed in Section 2.3, in which existing language rules are applied to other instances in the language, where speakers were not explicitly instructed to. As illustrated with the examples above, many Modern English irregular verbs have been transformed into regular verbs in this conlang; rather than retaining their irregular past participle forms, these verbs gain the *-ed* affix to indicate tense. The extrapolation of the Modern English conjugation rules to other verb instances across the conlang is what makes this change inherently a case of analogical extension. While irregular verbs are the older verb forms in English, dating back to Proto-Indo-European, Modern English is currently seeing a shift away from this form, now knowing more instances of regular verbs than irregular ones. Over the last 160 years, there has been a significant increase in the number of regular verbs in the English language (Cuskley et al.). This shift can be seen in the fact that there are numerous verbs that used to be

irregular that now have two forms, such as *to dream*, of which both of the following conjugations are now correct: *dream – dreamt – dreamt* and *dream – dreamed – dreamed* (Runblad). Therefore, the current conlang is continuing the English language’s pattern of evolution in this morphological change.

Another grammatical characteristic altered in the studied conlang lies in its use of multiple negation, a feature previously discussed in Section 4.2, in reference to Nadsat. Visible in results eighteen, twenty and twenty-five of table 14, the current conlang also makes use of double negation, possibly relying on partially similar associations. Where the evocation of a link to criminality is not warranted by the story at hand, implications related to the language speakers’ status may very well have been desired by the author in the construction of this conlang. As stated above, the conlang used in this narrative belongs to a primitive society. Pinto argues that authors frequently rely on the negative associations often made with non-standard varieties of languages, a claim explained in Section 4.2 (290). Through the use of the multiple negation, Mitchell may have intentionally attempted to evoke the stereotypical associations of a low socio-economic status made with this common characteristic of non-standard variations of the English language, as is in line with Pinto’s claim. As the story portrays a working society with no real hierarchy, education system, or health care system, instead living lives fully rooted in belief, associations with lower classes may have been a goal in the creation of the language of “Sloosha’s Crossin’.” Multiple negation is not the only common characteristic of non-standard varieties in the current conlang. As elaborated upon above, the conlang of “Sloosha’s Crossin’” makes use of contraction. Contraction in itself is a characteristic of many non-standard, spoken varieties of Modern English, with a commonly cited example thereof being the common term *ain’t* (Labov; Palocios Martínez; Walker). The term *ain’t*, lending its origins either to *aren’t* or *amn’t*, is a contraction of a present

tense form of *to be* and *not*, and occurs ninety-five times in SLOOSHACORP (Palocios Martínez 549-550). Though currently seen as a characteristic of modern varieties, *ain't* first appeared in Early Modern English, in the seventeenth century, and its use was socially acceptable across all statuses until recently (Walker 4). In addition to the possibility of being used to evoke common variety characteristics, then, the use of *ain't* might also be seen as an indicator of devolution, returning to traits that originate from earlier forms of English. This reference to archaism is visible in results ten and twenty from table 13, in the frequently used terms *yay* and *nay*, meaning *yes* and *no*, respectively. These two terms stem from Middle English, and are contemporarily still known in the spellings *yea* and *nay*, though both are largely archaic in Modern English (“*yea*, *adv.* and *n.*”; “*nay*, *adv.* and *n.*”). This use of archaisms in the constructed language, both in lexicon and syntax, again notifies the reader of the narrative’s primitive setting. The link to historically less developed times subconsciously forces the reader to associate the language, characters, and world with their underdeveloped state, affecting the conceptualization and believability, hereby serving Norledge’s three functions of conlangs in dystopia, namely the elaborative, indexical, and emblematic functions (see Section 2.4).

Table 13

Sketch Engine Keywords Results of SLOOSHACORP

Lemma	Lemma	Lemma	Lemma	Lemma
1 anx	11 zachry	21 xcos	31 valleymen	41 georgie
2 meronym	12 cudnxt	22 nay	32 hexd	42 sayinx
3 dinxt	13 dwellinx	23 prescient	33 wasnxt	43 speaked
4 jusx	14 xem	24 thox	34 abbess	44 orison
5 ainxt	15 sonmi	25 donxt	35 evxry	45 hawi
6 ixd	16 shexd	26 telled	36 honokaa	46 livinx
7 ox	17 bxfore	27 xnuff	37 bxlief	47 diresome
8 werenxt	18 kona	28 memxry	38 spiker	48 ixm
9 xbout	19 nothinx	29 youxre	39 whatxd	49 thinked
10 yay	20 knowed	30 wexd	40 thinkinx	50 evxrythinx

Table 14

Sketch Engine N-gram Results of SLOOSHACORP

N-gram	Frequency	N-gram	Frequency	N-gram	Frequency
1 but I dinXt	10	12 we got to	6	23 the Hole World	6
2 dinXt want to	10	13 anX that was	6	24 Nine Folded Valleys	5
3 I got to	10	14 beat or two	6	25 dinXt have no	5
4 in the Valleys	10	15 I vow it	6	26 Old Ma Yibber	5
5 I dinXt know	8	16 but it werenXt	6	27 I dinXt want to	5
6 bXfore the Fall	7	17 a beat or	6	28 for a beat	5
7 back to the	7	18 dinXt say nothinX	6	29 out oX the	5
8 I telled her	7	19 a beat or two	6	30 anX I knowed	5
9 I dinXt want	7	20 it werenXt no	6	31 a sort oX	5
10 I dinXt say	7	21 on Mauna Kea	6	32 a pair oX	5
11 the hole true	7	22 on Big I	6	33 I dinXt say nothinX	5

The conlang of this short story appears to first and foremost function to convey the message that this narrative is, in the story's setting, not a written, but rather a verbally recounted one (Drab 80). According to Palocios Martínez, multiple negation and the negative contraction *ain't* appear to be the most distinctive features of non-standard, spoken varieties of Modern English, and therefore make a smart target for authors with a desire for inducing stereotypical associations in the minds of their reader (548-549; Pinto 290). More generally, both elision and contraction, as were mentioned in regard to the current conlang's excessive use of apostrophes, are reminiscent of spoken language, as said processes are associated with such more than with written equivalents (Brown). Secondary functions of the conlang can be found in non-standard variety characteristics' stereotypical association with non-prestigious language communities, and its reference to archaic forms of English, all of which contribute to the readers' conceptualization of the primitive, post-apocalyptic setting the short story narrates (Norledge 56).

In assessing language change, some trends appear to point to English becoming less sophisticated with time: where English was once a language reliant on inflection, the opposite is true of Modern English (Burridge and Bergs 137-140). This trend of simplification is continued in

the conlang at hand with the gradual removal of irregular verbs, a process which has been identified to be taking place in Modern English already (Cuskley et al.; Runblad). It appears that simplification is an important factor to which the evolution behind this constructed language can be largely traced back, both in its regularization, and its elision and contraction processes. Said simplifications are highly present in Modern English, and thus continue down the path of language change the language is currently on. In considering the negative contraction *ain't* a feature of Early Modern English, in combination with the conlang's other use of archaisms, the language can also be said to be devolving. The reverting back to a primitive state of living is hereby reflected in a return to earlier forms of English; however, that did not allow the complete discontinuation of the language change trends Modern English is currently on. The conlang of "Sloosha's Crossin'" thus shows a combination between the maintenance of language change trends and stylistic choices that further the readers' comprehension of the primitive world the author wished to convey.

5. Discussion

In the previous sections, linguistic features of each of the included conlangs have been discussed in detail. All three conlangs exhibit characteristics of language change, albeit differing ones, both in motivation and manifestation. *A Clockwork Orange* portrays a society influenced by a major shift in political regime, accompanied by propaganda of a Russian origin (Burgess, *A Clockwork Orange* 86). This shift is reflected in the narrative's constructed language, Nadsat, the motivation for the creation of which stems from language contact. This language contact resulted in a futuristic take on English that is heavily dependent on Russian borrowings (Malamatidou 293; Vincent and Clarke). Said borrowings have been adapted to the English language, being transformed into terms that fit into the English language's patterns, both grammatical and

otherwise. While adaptation is a regular characteristic of borrowing, this is no longer expected when a recipient language heavily borrows from one donor language, therefore making the adaptation an unexpected and implausible application of language change theories.

The motivation behind the language change demonstrated in Trigedasleng and the unnamed conlang used in “Sloosha’s Crossin’” does not depend on language contact; rather, the conlangs show instances of isolated language change, occurring after a nuclear event. In “Sloosha’s Crossin’,” a primitive society is portrayed: a fact that is reflected effectively in the narrative’s language. Through elision, contraction, and regularization, many aspects of Modern English are simplified, allowing for greater efficiency in communication (Brown 57-78; Dael). Simplification is a process frequently present in language change, therefore making these characteristics an adequate representation thereof. The aforementioned processes are ones already active in Modern English, meaning that “Sloosha’s Crossin’” has furthered existing language change trends (Cuskley et al.; Runblad). This is not the case for all of said language’s changed characteristics; where most of the characteristics present in “Sloosha’s Crossin’” stem from simplification, the use of multiple negation and archaisms do not fall into this category. Multiple negation inherently complexifies a phrase, as it introduces more negative elements than are strictly necessary to make a phrase negative (Labov; Palacios Martínez; Walker). Archaisms also do not fall into the category of simplification, and do not point to the continuation of any current language change trends. Instead, the language can herein contradictorily be seen to be devolving, reflecting the sudden reversal of the narrative’s society’s development.

The language change represented in Trigedasleng, though produced due to the same language change motivation, has manifested differently. Despite its nuclear catastrophic origin, Trigedasleng shows no signs of reversal in its characteristics. Instead, the language’s changes

largely center around English's shift from a synthetic to an analytic language (Gelderen 26; Peterson, "Trigedasleng" 13). Its loss of inflection in nouns, tense and agreement in verbs, and the loss of all but the subject pronouns, all stem from analyticization. Though these characteristics appear as though they could be seen as forms of simplification, the shift from synthetic to analytic languages does not inherently simplify a language, as it may make other factors more complex (Di Garbo 49). Another process that influenced Trigedasleng in its creation is that of grammaticalization – a fact that can be demonstrated by the language's verbal satellites. Grammaticalization is a common process in language change, making it a plausible characteristic in the evolution from Modern English to Trigedasleng.

Although the discussed languages do not only exhibit characteristics that could be expected of a future form of Modern English when taking into account the trends the language is currently on, these differences can be explained by the understanding of the narratives' settings, as well as the conlangers' intentions. In created worlds, plausibility is not always at the forefront of creators' minds; ensuring an interpretation in line with their desired conveyed ideas is vital in a conlang's creation. Despite occasional inconsistencies with real-world language change, a large majority of the analyzed characteristics appear to be in line with existing trends in and theories of language change. The investigated conlangs can therefore be seen as semi-plausible takes on future forms of English.

The current research contributes to research surrounding constructed languages, as well as the fields of stylistics and diachronic linguistics. Generally, not much research has been done on constructed languages within the field of linguistics. The current research adds to research on this topic, as well as approaching it from a relatively new angle. With merely a few recent publications on the presence of constructed languages in science fiction narratives, the current research

functions as a solidification of claims made by earlier researchers regarding the relationship between real-world languages and constructed languages. As established in Section 2.1, research on constructed languages has a large focus on a priori conlangs. The current research, in discussing conlangs with English as a source language, add to the lacking research on a posteriori conlangs, offering insight into the construction thereof and their applications. As the conlangs discussed in the current paper each portray an imagined future for the English language, the study thereof provides insight into potential developments of the language. Though fictional, the extrapolation of current trends in language change provides valuable information, and the analysis of said interpretations furthers understanding of said information. Additionally, research of conlangs contributes to research on artistic endeavors. The conlangs of the kind included in the current research paper, artlangs, are generally utilized for entertainment purposes. Research into the characteristics and achieved associations contribute to (language) creators' knowledge, and consequently application, of theories that may further creators' desired associations. In this respect, the study also contributes to research regarding the interpretation of media, and allows for the further understanding of the role of language, constructed and otherwise, in the conceptualization of narratives' settings.

A limitation of the current study lies in its methods. The frequency of characteristics not present in Modern English was initially established through the methods of corpus stylistic analysis, using enTenTen20 as a reference corpus. As comparative analyses of the constructed conlang corpora do not reveal, for example, semantic change, close reading was used as a second method of analysis. As this is not an automated process, this method of analysis is subject to human error. Therefore, some characteristics relevant to the current research question may have gone unnoticed, or underestimated, and thus undiscussed. Additionally, the analysis of the included

conlangs was performed in a non-exhaustive manner for the purposes of the current paper. Though common characteristics were identified through corpus linguistic analysis and close reading, not all deviant characteristics in respect to Modern English have herein been discussed and compared to real-world language change. Therefore, it is possible that aspects of the conlangs that bring into question the above conclusions are present in the languages, but have gone unacknowledged. However, as the most frequent characteristics of each of the conlangs have been analyzed in the current paper, and the conlangs have not only been assessed through corpus analysis software, it is unlikely that such major aspects have gone unnoticed. A limitation regarding the use of Sketch Engine, as mentioned in Section 3, arises in the conlang's inclusion of apostrophes. As Sketch Engine makes use of language specific tokenizers, and does not allow for the comparison of corpora that use different tokenizers, the inclusion of the apostrophe leads to its registering as a word boundary. Due to the excessive use of apostrophes in the language, the inclusion thereof significantly impacts the results, requiring the substitution of the feature. Therefore, the apostrophes present in the corpus were replaced by the letter X, which is largely absent from the language, appearing only seventy-three times, and only in lower case. Though the letter was carefully selected and purposefully capitalized, the replacement of the apostrophe may have led to misinterpretations of results. Due to the overwhelming presence of apostrophes in the conlang, it appears unlikely for this potential misinterpretation to have impacted results. The current paper presented an analysis of the most frequent characteristics indicative of language change in the form of a case study of three conlangs. Future research could investigate the herein included conlangs exhaustively in order to further examine the findings of the current research, and expand their research to other case studies. Additionally, as each of *Cloud Atlas*' chapters is presented in a (constructed) language fitting for its temporal setting, the complete work warrants linguistic and

stylistic analysis. In doing so, understanding of strategies regarding the building of constructed languages and potential futures of the English language would deepen. This solidifying of findings regarding conlangs and their implications for futuristic language change theories, stylistics, and artistic endeavors would not only add to research in these fields, but will also further understanding of language creation and its underlying processes.

In conclusion, the current paper has determined to what extent the conlangs created for the science fiction narratives *The 100* (Trigedasleng), *A Clockwork Orange* (Nadsat), and “Sloosha’s Crossin’ an’ Ev’rythin’ After” represent real-world language change. Results showed that the languages accurately represent real-world language change to a large extent, though some unexpected factors were present. Unexpected factors were explained by discussing the settings of each of the narratives, as well as the conlangers’ intent in creating the three languages. In order to gain a complete understanding of constructed languages, both in science fiction and beyond, further research needs to be done. The findings of the current research indicate that futuristic conlanging offers valuable information regarding the possible futures of English, as well as of existing language change theories, and is a topic worthy of further research.

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