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**THE USE OF HALLIDAYAN TRANSITIVITY TO ANALYZE
THE DISCOURSE OF THE U.S. STATE DEPARTMENT
AND COMMITMENT TO DESTROY ISIS:
A CORPUS LINGUISTICS STUDY¹**
**ТЕОРИЯ ПЕРЕХОДНОСТИ ХАЛЛИДЕЯ И АНАЛИЗ
СЕРЬЁЗНОСТИ НАМЕРЕНИЙ УНИЧТОЖИТЬ ИГИЛ,
ВЫРАЖЕННЫХ В ДИСКУРСЕ ГОСДЕПАРТАМЕНТА США:
КОРПУСНОЕ ИССЛЕДОВАНИЕ**

Abstract

This study on the discourse of the U.S. State Department using Halliday's transitivity theory aimed to find out to what extent the U.S. is committed to destroying ISIS. The U.S. State Department's discourse on ISIS is compared with their action by analyzing the U.S. government's speech regarding the terror group. ISIS has shocked the world with its atrocities and violence against mankind and civilization. The U.S. vowed to fight the terror group and defeat it, but ISIS seemed unfazed by airstrikes made by 60 nations, including Russia. These airstrikes have raised concerns for nations bordering ISIS, like Lebanon, about when this conflict will come to an end. This research used Hallidayan transitivity, in particular the clause as a representation, by looking into the six types of processes – material, existential, relational, behavioral, verbal, and mental – to see how the U.S.'s discourse progresses as war continues. It also studied power in the U.S. government's speech at the micro and macro levels by Van Dijk and Fairclough. It is a corpus linguistics study using AntConc concordance software to analyze over 200 pages of corpora, consisting of official documents released by the U.S. State Department looking for high-frequency words, verbs of action, modality, and the rates at which they use sensing, behaving, and saying verbs, and how those verbs collocated with the goal, phenomenon, receiver, and attribute to gauge whether the U.S. is really willing to defeat ISIS. The study analyzed how many processes the U.S. has been through since the onset of the ISIS crisis in August 2014 to see how the discourse fluctuated. The research showed that the U.S. is willing to fight ISIS only as a part of a coalition and is under no obligation to commit.

Аннотация

Целью настоящего исследования, основанного на анализе дискурса госдепартамента США с использованием теории переходности Халлидея, было определить, в какой степени прояв-

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ляется намерение США уничтожить ИГИЛ. Дискурс госдепартамента США, касающийся ИГИЛ, сравнивается с их действиями посредством анализа выступлений правительства США, посвящённых данной террористической группировке. Весь мир шокирован варварством и жестокостью ИГИЛ, направленными против человечества. США клялись бороться с ним, пока не уничтожат, однако, похоже, что удары, нанесённые 60 союзными странами, включая Россию, ИГИЛ не потревожили. Эти удары с воздуха вызвали озабоченность стран, граничащих с ИГИЛ, таких как Ливан, которых интересует, как скоро закончится данный конфликт. В настоящем исследовании с помощью теории переходности Халлидея, а именно репрезентативности составляющих сложного предложения, анализируются шесть типов процессов – материальные, экзистенциональные, релятивные, поведенческие, вербальные, ментальные – для того, чтобы определить, как изменялся дискурс, пока продолжались военные действия. Также изучается степень воздействия правительственных речей на микро- и макроуровнях по методу Ван Дейка и Фэйркло. В настоящем корпусном исследовании с помощью программного обеспечения для конкордансов AntConc анализируется корпус официальных документов госдепартамента США объёмом 200 страниц на предмет высокочастотных слов, глаголов действия, модальности, той степени, в которой используются глаголы, обозначающие чувственное восприятие, поведение и говорение, и того, в какой мере они соотносятся с целью, феноменом, получателем и атрибутом и, в конечном итоге, насколько они отражают, действительно ли США желает уничтожить ИГИЛ. В работе анализируются процессы, произошедшие в США с момента начала кризиса в августе 2014, и особенности варьирования указанного дискурса. Полученные результаты показали, что США желают бороться против ИГИЛ только в рамках созданной коалиции и не собираются брать на себя обязательства.

Keywords: concordance, corpus linguistics, critical discourse analysis, functional grammar, modality, and transitivity theory.

Ключевые слова: конкорданс, корпусная лингвистика, критический анализ дискурса, функциональная грамматика, модальность, теория переходности.

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1. Introduction

In August 2014, the terror group known as ISIS was formed. The group embraces a hardline agenda that calls for killing any party that opposes it regardless of race, religion, sect, or nationality. ISIS's headquarter is in Raqqa, Syria. However, its atrocities have crossed all borders and countries, including Lebanon, which has had its share of violence and abducting of Lebanese soldiers. The United States formed a coalition to fight ISIS, comprising of over sixty nations, vowing to destroy the terror group.

Ever since its formation, the U.S. State Department has been making strong headlines against ISIS, calling for its demise. At the time of writing, ISIS is very much alive and operating, notwithstanding some setbacks. This raises concerns as to whether the United States is really willing to destroy ISIS or if it is just a show-off of power. To answer this question, a deeper analysis of the

U.S. government's speech is required. This research used Hallidayan functional grammar, in particular transitivity theory, to analyze the speech of the U.S. State Department regarding ISIS. Transitivity theory uses the clause as a representation by looking into six types of processes: material, existential, relational, behavioral, verbal, and mental. Each process is characterized by participants and circumstances and therefore is directly related to the speaker's own experiences and needs. Transitivity deals with what type of words the speaker uses when expressing ideas. This research analyzed what type of processes the U.S. overwhelmingly used when speaking about ISIS. It also studied power in the U.S. discourse at the micro and macro levels. The micro level studies language use through verbal interaction and communication while the macro level studies power, dominance, and inequality. For the micro level, this paper analyzed the U.S. speech using Van Dijk's model by semantically studying power through modality verbs. For the macro level, Fairclough's definition of power was applied.

This study is a corpus linguistics study. To serve its means, AntConc concordance software was used to analyze over 200 pages of U.S. Department press releases related to ISIS since its inception. I analyzed the corpora quantitatively and qualitatively, searching for high-frequency and modality verbs used in the speech of the U.S. Department to see which process the U.S. was in. I then determined how these verbs collocated in sentences and how they reflected the status quo of the U.S. towards ISIS. At the end of the study, data were analyzed and charts showed that relational and material processes were the most consistent processes that the U.S. adopted in the fight to destroy ISIS. In addition, the results also showed that the U.S. used repeatedly modal verbs will and can to relieve itself from obligation.

Statement of the Problem

In August 2014, Secretary of the U.S. State Department John Kerry tweeted:

Tonight the President spoke directly to our country about what it will take to lead the world to degrade and ultimately destroy ISIS, and we are already well underway in the effort to assemble the coalition to get the job done.

The United States has been releasing similar speeches against ISIS, vowing to destroy it. However, their words never materialized. ISIS still exists and operates in Syria and Iraq. This ambivalence between words and action necessitates an analysis of the U.S. government's speech word by word to reveal whether the U.S. is really committed to destroying ISIS. Although several studies dealt with analyzing discourse of the U.S.'s foreign policy using power in discourse, this research adds two dimensions, represented by the study of the clause as a representation and the effectiveness of modal verbs.

Purpose of the Study. This research analyzed the U.S. Department of State's speech using Hallidayan transitivity theory by studying the clause as a representation by looking into the six types of processes – material, existential, relational, behavioral, verbal, and mental – to determine which process the U.S. speech aligns with regarding ISIS. This study also introduces a new approach for analyzing speech by focusing on the linguistic elements used by the speakers based on society, culture, and personal experiences rather than grammar.

This study attempted to answer the following research questions.

1. How does Hallidayan transitivity expose embedded intentions in the U.S. State Department Speech regarding ISIS?
2. How does the U.S. State Department use power in discourse when speaking about ISIS?
3. To what extent does U.S. speech contain power-sharing when calling allies to fight ISIS?
4. What type of Hallidayan processes has the U.S. State Department constantly adopted concerning ISIS?

I **hypothesize** the following.

1. The U.S. does not have real interests in destroying ISIS, as reported by the speech of the State Department.

2. The U.S. seeks allies' cooperation to destroy ISIS.

The following term definitions are used in the current study.

C o n c o r d a n c e is a textual corpus and a lexicon that is bound to a degree that each word in the text is linked to its appropriate meaning in the lexicon [Miller, 1990].

C o r p u s l i n g u i s t i c s is a collection of texts, written or spoken, that can be stored and analyzed using analytical software and that is available for qualitative and quantitative analysis [Carter et al., 2007].

C r i t i c a l d i s c o u r s e a n a l y s i s is a perspective concerned with presenting embedded connections between language and other aspects of society and culture [Fairclough, 1996].

F u n c t i o n a l g r a m m a r is a term that tries to describe different ways to reach meanings and functions in language [Richards & Schmidt, 2010].

M o d a l i t y is a device that allows speakers to express certain levels of commitment, assertion, or belief [Saeed, 2009].

T r a n s i t i v i t y t h e o r y is a set of options where the speaker inscribes his experience, which is considered to be the foundation of the semantic organization of experience [Halliday & Matthiessen, 2004].

2. Historical Background of Arabic-American Relations

A. Lucic and D. Pustelnik [Lucic & Pustelnik, 2009] stated that Arab-American relations date back to the turn of the 20th century, specifically in the period of oil discovery in Saudi Arabia. Around 1920, U.S.-Saudi relations were not good; the U.S. upheld a passive agenda towards Saudi Arabia and Arabs prior to WWI because the U.S. was oil-sufficient. R. Bronson [Bronson, 2006] stated that, after WWI, the U.S. Geological Committee panicked about the depletion of national oil reserves, since the U.S. gave 80% of its oil to its allies during WWI. In 1928, U.S. foreign policy shifted towards excavating oil in the Gulf, especially in Saudi Arabia. In 1931, the U.S. gave diplomatic recognition to Ibn Saud Kingdom. Saudi Arabia gave vast privileges to American companies to drill oil as *quid pro quo*, and the California Arabian Standard Oil Company (CASOC), renamed the Arabian-American Oil Company ARAMCO in 1944, was created. Saudi-American relations started to grow and evolved to a complex and intricate

triangle between Washington and Riyadh. Roosevelt Study Center Catalogue [Roosevelt..., 1943], showed that the actual entry of America in Saudi Arabia's politics did not start until 1943, when President Roosevelt asked King Saud about his stance on Jewish immigration to Palestine. In section one of his memorandum, White House correspondent John Kirk outlined Ibn Saud's current stance: he remained silent to the subject of Jewish immigration. R. Bronson [Bronson, 2006] claimed that, after that, the U.S. was willing to move on and forge diplomatic relations with King Saud. The onset of this relationship was military shipments to Ibn Saud in 1944 of reconnaissance cars, machine guns, rifles, and miscellaneous equipment to counter the threat of the Hashemite family in Jordan and Iraq and to establish the kingdom in the Arabian Peninsula. Since 1950, the United States has vowed to defend the kingdom against external threats, including those from the Soviet Union, Yemen, Egypt, Iran, and Iraq. However, this all changed in the wake of ISIS's rise.

2.1. ISIS's Rise and the Shift in American Politics towards Arabs

The terror organization ISIS was formed in the summer of 2014 and took over vast areas in Iraq and Syria. In a State Department press release (2015), Secretary of State, John Kerry vowed to destroy ISIS and that ISIS's days were numbered. The ensuing months did not show any weakness in ISIS's capabilities. On the contrary ISIS's rhetoric got stronger while the U.S. remained neutral. A. Issa [Issa, 2016] stated that this unprecedented neutrality to the Middle East was caused by the discovery of shale oil, which makes the U.S. less dependent on Arab oil. This new discovery changed the rhetoric of the U.S. towards Arabs. A. Issa [Issa, 2016] stated that President Obama called Saudis «free-riders». Throughout his presidency, President Obama always described Saudis as «important allies». This ambivalence in speech requires further understanding of the U.S.'s actual attitude towards Arabs in general and the Middle East in particular. Therefore, analysis of the U.S.'s speech must be undertaken through critical discourse analysis. This paper is concerned with the study of the U.S.'s speech regarding the Islamic State in Syria and Iraq (ISIS) and not with other franchises or affiliates of IS (Islamic State) in other areas such as Libya, Yemen, Egypt, etc.

2.2. CDA at the Macro Level

N. Fairclough and C. Holes [Fairclough & Holes, 1995] define Critical Discourse Analysis (CDA) as an interdisciplinary approach to the study of discourse from a language point of view, related to social practice. Scholars studying CDA generally assume that social and linguistic practices complete each other and focus on investigating how societal relations are established and reinforced through language use. N. Fairclough and R. Wodak [Fairclough & Wodak, 1997] stated that CDA is concerned with how power can be manifested in language. It studies discourse, which includes texts, talk, video and practices. Critical discourse analysis began to develop in academia around 1980 and now includes a number of different approaches. They share a concern to ensure

adequate attention in critical social research to discourse as a side of social life, and to its relation to other sides of social life, than they have received in the past.

M. Foucault [Foucault, 1981] hypothesized that in society, the production of discourse is controlled and redistributed by a certain number of procedures which role is to eschew its powers and dangers, to gain control over its random events, and to evade its ponderous materiality. The regions of the discourse manifest strongly in sexuality and politics. Discourse's objective is not simply to manifest desire; it is also the object of desire. Discourse does not simply mean translating struggles or systems of domination; it also means the thing for which and through which struggle is created. Discourse is the power that is not to be missed.

According to N. Fairclough and R. Wodak [Fairclough & Wodak, 1997], CDA addresses social problems. They regarded power relations in CDA as being discursive and discourse as constituting society and culture. They saw discourse as doing ideological work such as history or making reference to culture and society. They believed the link between text and society is mediated and that CDA is interpretative and explanatory. M. Reisigl and R. Wodak [Reisigl & Wodak, 2001] believed social practices, such as racism, manifest discursively. On one hand, racist opinions and beliefs are created and recreated through means of discourse; on the other hand, discriminatory practices are prepared and legitimized. In order to gain an inside look at the social and historical structure of prejudices, discourse analysts relate discriminatory language to social, political, and historical contexts. P. G. Gee gave the following definition:

A discourse is a socially accepted association among ways of using language, of thinking, feeling, believing, valuing, and of acting, that can be used to identify oneself as a member of a socially meaningful group or social network, or to signal (that one is playing) a socially meaningful role [Gee, 1990, p. 143].

Gee claimed that we acquire much of our fluency in a discourse when we are unconsciously exposed to ways of saying-doing and believing-valuing in meaningful settings.

In analyzing political discourse, Chilton [Chilton, 2004] viewed politics as a struggle for power between those who seek to enforce their power and those who seek to resist it. Political discourse is considered as confrontation of personal interest over money, influence, and liberty. Chilton sees two levels of discourse: micro and macro. At the micro level, there are conflicts of interest, clash for domination and efforts of cooperation among individuals, genders, and social groups of various kinds. As B. Jones et al. [Jones et al., 1994] put it, at the micro level we use a variety of techniques to get our own way by using persuasion, rational argument, irrational strategies, threats, entreaties, and bribes. What is absent from conventional studies of politics is that the micro-level behaviors mentioned are actually kinds of linguistic action, which is discourse. Similarly, the macro level features are types of discourse with specific characteristics, such as debates and interviews, while constitutions and laws represent written discourse of a highly specific type.

Fairclough [Fairclough, 1989] used the term «discourse» to refer to the whole process of social interaction, where text plays only one part. He classified the various approaches of CDA as follows: one kind that includes detailed analyses of texts and another that does not. Fairclough [Fairclough, 2003] stated that language can be regarded as an abstract social structure that defines potential and possibilities and excludes other ways of combining linguistic elements. We need to recognize the linguistic elements of networks of social practices, which are called orders of discourse. An order of discourse is a network of social communication and practices that contain linguistic aspects. The elements of orders of discourse are not like nouns and sentences; they are like genres and styles. They control linguistic identities for particular areas of social life. Discourse is associated with a specific way of perceiving and envisioning language, as well as other semiotic forms such as images or body language. According to Fairclough [Fairclough, 2006], CDA approaches language as one side of social life that is closely connected with other sides of social life, encompassing all the major issues, such as scientific research, economic systems, social relations, power, ideology, institutions, social change, and social identity. Like other socially oriented approaches to language study, CDA includes analysis of instances of language use, whether in speech, in writing, or on television or the internet. CDA's main interest is social problems and political issues. Instead of describing discourse structures, it explains in context of social structure. CDA focuses on how discourse structures evolve, interact, and challenge relations of power and dominance in society. Fairclough and Wodak [Fairclough & Wodak, 1997, pp. 271–280] summarized the main tenets of CDA as follows: (a) CDA addresses social problems, (b) power relations are discursive, (c) discourse constitutes society and culture, (d) discourse does ideological work, (e) discourse is historical, (f) the link between text and society is mediated, (g) discourse analysis is interpretative and explanatory, and (h) discourse is a form of social action.

Fairclough and Wodak [Fairclough & Wodak, 1997] stated that power is the centerpiece in most critical work on discourse, especially the social power existing in groups and institutions. Groups possess power if they are able to manipulate the minds and acts of other groups. This ability presupposes a power base of scarce social resources, such as money, force, knowledge, status, fame, and information to dominate various forms of public discourse and communication. Different types of power may be defined according to the criteria employed to exercise such power, for example, the power of the military is based on force, and the power of the rich is based on money [Fairclough & Wodak, 1997]. A. Gramsci [Gramsci, 1971] stated that there are other powers that are more or less persuasive, such as the power of parents or professors, whose possession of knowledge or information is the basis of their power. Nonetheless, there is no absolute power. People or groups with power can only have control in specific situations or areas. Moreover, dominated groups may resist or comply with such power. The power of dominant groups may be integrated in laws, habits, norms, and a general consensus and thus take the form of what Gramsci called «hegemony». Sexism, racism, and class

domination are the characteristics of such hegemony. Fairclough and Wodak [Fairclough & Wodak, 1997] claimed that power may be paraded in a myriad of ways and not always through abusive acts. Sometimes, powerful group members are less powerful than other members of dominated groups: here, power is only defined as a whole. The relationship between discourse and power is itself a powerful resource in politics, media, or science. Our minds control our actions, and if we are able to influence people's minds by manipulating their knowledge and opinions, we may indirectly control their actions. Text and talk influence people's minds, and therefore discourse may at least indirectly control people.

2.3. CDA at the Micro Level

According to T. Van Dijk [Van Dijk, 1988], discourse analysis is an interdisciplinary discipline. It concentrates on the abuse of power, especially how power in discourse is abused by controlling people's actions and beliefs in favor of dominant groups and against the will of others. CDA is also interested in the analysis of the different contexts of discourse, the processes of its production and reception, and it is used in communication in a sociocultural dimensions. Discourse analysis has emerged from several other disciplines of the humanities and the social sciences, such literary studies, linguistics, semiotics, anthropology, psychology, sociology, and speech communication. Van Dijk [Van Dijk, 1988] asserted that those who have power also have control over discourse. According to him, social power is the result of control and access to resources such as money, force, fame, status, knowledge, and information. Powerful groups dominate other groups by influencing, coercing, controlling, or even abusing the minds of people through persuasion and manipulation. Text and talk control people's minds; therefore, discourse may also indirectly – and through persuasion and manipulation – influence people's actions. This means that those groups who control the minds and actions of others have the most influential discourse.

Van Dijk [Van Dijk, 1998] defined CDA's aim as offering a different perspective or mode of analysis, theorizing, and application throughout the diverse field of discourse in areas such as conversation analysis, pragmatics, narrative analysis, stylistics, rhetoric, sociolinguistics, ethnography, and media analysis. What is crucial in CDA is the explicit awareness of its role in society. CDA argues that science, especially scholarly discourse, is produced in social interaction and influenced by social structure. Description, explanation, and theory formation are socio-politically devised. Thus, the role of scholars in society becomes a part of discourse analysis.

For Van Dijk [Van Dijk, 1993], CDA is clearly not a unified system of models or schools, but a common approach of doing linguistics, semiotic or discourse analysis. According to Van Dijk [Van Dijk, 1998], CDA studies the way dominance, social power abuse, and inequality are reproduced, enacted, and resisted by talk and text in the social and political context. He identified dominant notions in CDA as inequality, power, dominance, ideology, hegemony, class, discrimination, gender, race, and others, which he labelled as macro levels of

analysis. Van Dijk [Van Dijk, 1993] stated that micro-level social order involves discourse, language use, verbal interaction, and communication. Reciprocally, power, dominance and inequality belong to the macro level of analysis. In this, CDA has closed the gap between micro and macro approaches. In everyday interaction and experience, the macro and micro level form one, unified whole. For instance, discourse at the micro-level would be racist speech in parliament but at the same time may be a constituent part of legislation or the reproduction at racism, at the macro-level. There are several ways to analyze and bridge these levels and thus to arrive at a unified critical analysis [Van Dijk, 1998]:

(a) Members-Groups: Language users engage in discourse as members of several organizations, social groups, and institutions, and conversely, groups may act by their members.

(b) Actions-Process: Social acts of individual actors are a constituent part of social processes and group actions, such as news making, legislation, or the reproduction of racism.

(c) Context-Social Structure: Situations of discursive interaction are a part of social structure; a press conference may be a typical practice of media institutions and organizations. That is, local and more global contexts are closely related, and both exercise constraints on discourse.

(d) Personal and Social Cognition: Language users as social actors have both social and personal cognition, knowledge, opinions, and personal memories, as well as those shared with members of the group or culture as a whole. Both cognitions influence discourse of individual members and interaction, whereas shared social representations govern the collective actions of a group.

This study of discourse analysis is based on the model of language as a social semiotic outlined in the works of Halliday and his systemic functional linguistics.

2.4. The Clause as a Representation or Transitivity

The International Systemic Functional Linguistics Association [International..., 2011] introduced systemic functional grammar (SFG) as a form of grammatical description, initiated by Michael Halliday. It is called systemic functional linguistics because of its semiotic approach to language. Functions of language means the way people use their language to do different things with their language through writing and speaking. They expect to achieve a large number of aims and purposes [Halliday & Hasan, 1985]. SFG does not refer to subjects, verbs, and objects. It rather refers to the system as describing the whole clause [Thompson, 2004]. Instead, different functional labels are given to processes (realized by verbal groups), participants (realized by nominal groups), and circumstances (realized by prepositional phrases or adverbials signifying time, place, or manner) of each process type. M. A. Halliday and R. Hasan [Halliday & Hasan, 1976] emphasized that a text is not just a big sentence but rather a semantic unit. From the point of view of critical discourse analysis, T. Van Leeuwen [Van Leeuwen, 2008] stated that texts should be studied as representations as well as interactions. The term «discourse», in Foucault's sense [Foucault, 1977], is a text of a socially constructed knowledge of some

social practice developed in specific social contexts, and in ways appropriate to these contexts, whether these contexts occur within families, multinational corporations, the press, or dinner table conversations.

M. A. Halliday and C. M. I. M. Matthiessen [Halliday & Matthiessen, 2004] defined functional grammar as grammar viewed from above as a resource for making meaning and a network of interrelated meaningful choices. The fundamental components of grammar are sets of mutually defining contrastive features. Explaining something consists of showing how it is related to other things and not of stating how it is structured. Each system has its point of origin at a particular rank: clause, phrase, group, and their associated complexes. Systems at every rank are located in their metafunctional context; this means that every system has its address in some cell of a metafunction – rank matrix [Halliday & Matthiessen, 2004]. When we say that something is a noun, in English, we mean that it displays these characteristics, or most of them, in common with some (but not all) other words in the language. The class of an item indicates its potential range of grammatical functions. As part of their decontextualized definition, words can be assigned to classes in a dictionary. But the class label does not show what part the item is playing in any actual structure. For that we have to indicate its function. The functional categories provide labels to show the kind of process, goal, etc. However, most elements of a clausal structure have more than one function in the clause. This is where the concept of a metafunction comes into play. Halliday [Halliday, 1994] grouped these metafunctions:

1. Clause as exchange: The relationship speakers forge with listeners through language. In speaking, the speaker assumes for himself a particular speech role, and in so doing, assigns to the listener a complementary role, which he wishes him to adopt in his turn.

2. Clause as representation: According to Halliday, a language evolves in response to the specific demands of the society in which it is used. It reflects aspects of the situation in which it occurs, such as representation of human experience where we use language as an instrument of thought or to conceptualize or represent the experiential or real world to ourselves.

3. Clause as message: The clause is organized as a message by having a special status assigned to one part of it. The initial position, in English clause, is meaningful in the construction of the clause as a message. The structure is called thematic structure. One element in the clause is enunciated as the theme that combines with the rest so that the two parts together constitute a message. As a message, the clause comprises two parts: the theme that serves as the point of departure of the message and the rheme where the presentation moves after the point of departure.

J. R. Martin [Martin, 2014] stressed the necessity of going beyond the clause. As far as discourse structure was concerned, H. A. Gleason [Gleason, 1961] viewed it as different in kind from syntax. He proposed the idea of a network that could have multiple connections, which he referred to as a reticulum. For example, with the phrases *the sharks circled once, the insertion bird lifted up to join them* and *all four peeled out back toward the sea* a

reticulum would have been designed that displayed participant tracking relationships (the sharks ←the insertion bird ←ellipsis ←all four). These relations are conceived as *t r a n s i t i v i t y* relations among the process, participants, and circumstances, as shown in Figure 1.

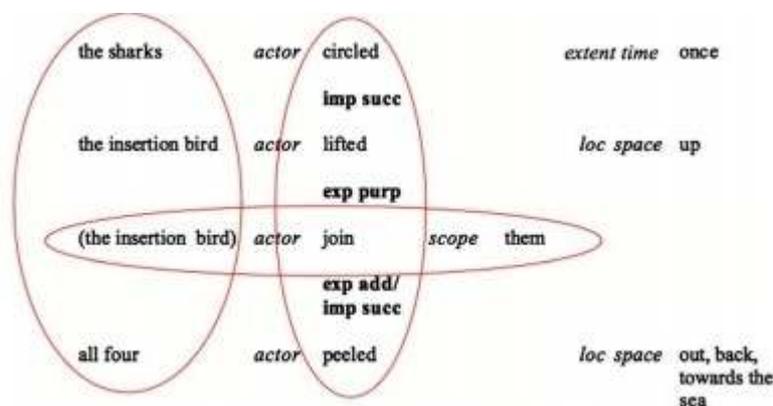


Figure 1. A sample reticulum. Adapted from J.R. Martin (2014), showing participant tracking, conjunction, and transitivity relations

Halliday [Halliday, 1994] referred to systemic as the view of language as interrelated sets of options for making meaning or a network of systems. He described grammar as systems, not rules, because every grammatical structure involves a choice from a describable set of options, such as mood, agency, theme, etc. These options construe the human experience, which is also called an ideational metafunction. It is the way we make sense of reality. Halliday divides the ideational into two metafunctions: experiential and logical. The experiential function is to the grammatical resources involved in construing the multitude of experience through the unit of the clause. The logical metafunction refers to the grammatical resources for building up grammatical units into complexes, like combining two or more clauses into a clause complex. The ideational metafunction reflects the contextual value of field which is the nature of the social process in which the language is involved. A text analysis from the ideational perspective involves inquiring into the choices in the grammatical system of transitivity, which is participant types, process types, circumstance types, and analysis of the resources of how clauses are combined. Halliday & Matthiessen's «An Introduction to Functional Grammar» [Halliday & Matthiessen, 2004], sets out the description of these grammatical systems. Halliday and Hasan [Halliday and Hasan, 1976] originally purported that the experiential metafunction was one of the three main metafunctions. They then included it within the ideational metafunction alongside the logical metafunction of relationships between clauses and clause-complexing, which is also called clause as representation. The clause represents the content of our experiences and answers the question, «Who does what to whom?». This metafunction uses a grammatical system of transitivity with some traditional views focusing on the verb group. Language is used functionally; what is said depends on what one needs to accomplish.

Halliday and Hasan [Halliday & Hasan, 1985] said that language simultaneously expresses three kinds of meanings: interpersonal, ideational, and textual. The clause as representation (ideational meaning) serves the expression of content in language of our experience of the real world. We often use language to speak of something or someone doing something. Ideational meaning can refer to the experiential meaning coming from the clause as representation. The interpersonal meaning helps to maintain and establish social relations. In it, the individual is reinforced and identified by enabling him or her to interact with others. The textual metafunction relates to mode; the communicative nature of a text and internal organization. This comprises spontaneity (e.g. coordination), textual interactivity (e.g. pauses), and communicative distance (e.g. cohesion). In transitivity, there are also three different processes: material processes, relational processes, and mental processes. These three are the main types of process in the English transitivity system. The three functional components of meaning – ideational, interpersonal, and textual – are realized throughout the grammar of a language. But whereas in the grammar of the clause each component contributes a more or less complete structure, so that a clause is made up of three distinct structures combined into one, when we look below the clause, and consider the grammar of the group, the pattern is somewhat different. Although we can still recognize the same three components, they are not represented in the form of separate whole structures but rather as partial contributions to a single structural line. The difference between clause and group in this respect is only one of degree, but it is sufficient to enable us to analyze the structure of the group in one operation.

Halliday & Matthiessen [Halliday & Matthiessen, 2004] stated that the English clause is a composite affair, a combination of three different structures deriving from distinct functional components. These components are called metafunctions and are the ideational (clause as representation), the interpersonal (clause as exchange), and the textual (clause as message). What this means is that the three structures serve to express independent sets of semantic choice, such as transitivity, which expresses representational meaning of what the clause is about, which is typically some process, with associated participants and circumstances. Transitivity is a figure of happening, doing, sensing, saying, being or having unfolding through time, where participants are directly involved in this process. In addition, there may be circumstances of space, time, cause, and manner. All these are sorted out in the grammar of the clause, where the clause is also a mode of reflection, as shown in Figure 2.

Halliday and Matthiessen [Halliday & Matthiessen, 2004] stated that the transitivity system construes the world of experience into a manageable set of process types where each process provides its own model or schema for construing a particular domain of experience as a figure of a particular kind – a model such as the one illustrated above for construing signification. The grammar sets up a discontinuity between these two: it distinguishes rather clearly between outer experience, the processes of the external world, and inner experience, the processes of consciousness. The grammatical categories are those of material and mental process clauses, as in «I'm having a shower and

I don't want a shower. To produce so much money» is a material clause, construing the outer experience of the creation of a commodity whereas people love (hate, want) money is mental. Here, the grammar recognizes processes of a third type: those of identifying and classifying. We call these relational process clauses. For instance, «every fourth African is a Nigerian» is a classifying relational clause. Material, mental, and relational are the main types of process in the English transitivity system. But we also find further categories, such as behavioral processes, which represent the outer manifestations of inner workings such as the acting out of processes of consciousness (e.g., people laughing) and physiological states (e.g., sleeping). Verbal processes are symbolic relationships constructed in human consciousness and enacted in the form of language, like saying and meaning (e.g., the clause we say, introducing a report of what was said: that every fourth African is a Nigerian). The existential process is the act of being, existing, or happening (e.g., «today there's Christianity in the south»).

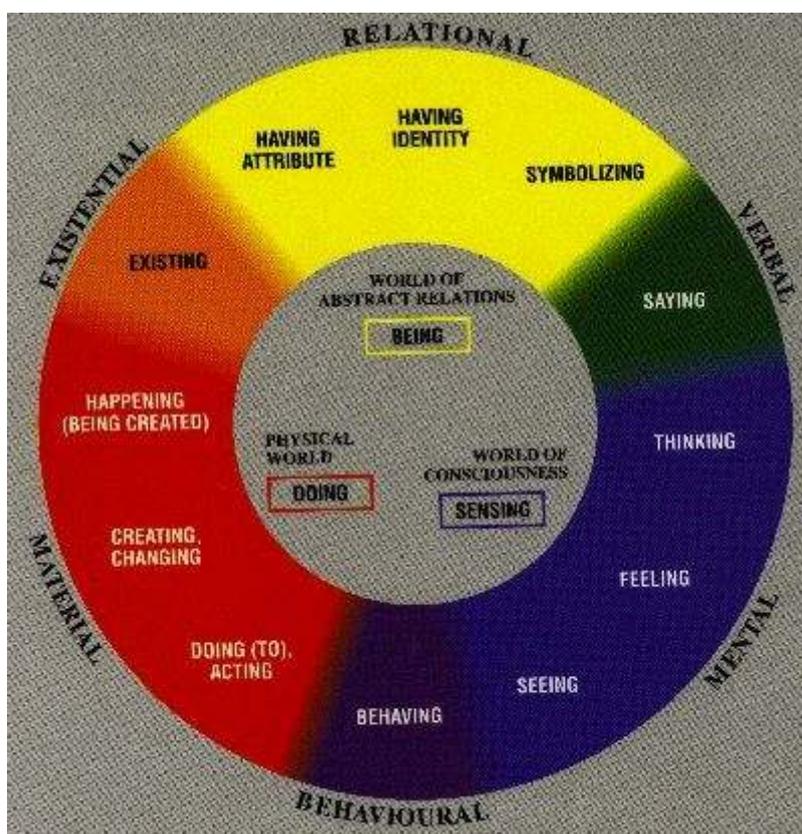


Figure 2. Representation of transitivity. Adapted from M. A. K. Halliday (1994), showing the types of process as they have evolved in English grammar

According to Halliday and Matthiessen [Halliday & Matthiessen, 2004], material clauses are clauses of doing and happening of events as they take place through some action or energy. Material clauses, the source of the energy

bringing about the change, is typically a participant or the actor. This participant role is the logical subject of older terminology. The actor is the one that does the action. Processes of the material type tend to differ from all other types, and this is seen in how present time is reported. The unmarked tense selection is the present (e.g., is doing) rather than the simple present (e.g., does). In a material clause, there is always one participant: the actor. A material clause represents a happening, and we call it intransitive.

the lion	sprang
Actor	Process

The unfolding of the process may extend to another participant, the goal, impacting it in some way. The outcome is registered on the goal in the first instance, rather than on the actor. A material clause represents an action, and we can call it transitive. In both clauses, the actor is an inherent participant.

The lion	caught	the tourist
Actor	Process	Goal

The implication is that in both cases the lion did something, but the doing was confined to the lion, whereas in «the lion caught the tourist» the action was directed at, or extended to, the tourist. This is the goal.

While material clauses are concerned with our experience of the material world, mental clauses are concerned with our experience of the world of our own consciousness. A mental processes is the processes of sensing:

- 1) perception (seeing, hearing, etc.);
- 2) affection (liking, fearing, etc.);
- 3) cognition (thinking, knowing, understanding, etc.).

This process of sensing may be construed either as flowing from a person's consciousness or as impinging on it, but it is not construed as a material act.

Pat: *I hate cockroaches more than rats*

The actor, process, goal model used in the analysis of material clauses is not applicable to mental ones. The mental processes has instead two participants, called the senser (the conscious being that is thinking, feeling, or seeing) and the phenomenon (which is felt, sensed, thought, or seen).

I	believe	you
Senser	Process: cognition	Phenomenon

In a mental process, there is at least one participant who is human and who is the senser. The senser is the one that senses, thinks, feels, wants, or perceives. In grammatical terms, the participant in the mental process is the pronoun *he* or *she*, not *it*.

We now come to the third major type of process: relational clauses. Relational clauses serve to characterize and identify the processes of being and having. There are three types of relational processes in the clause [Halliday & Matthiessen, 2004]:

- 1) intensive (establishes a relationship of sameness between two entities);
- 2) circumstantial (defines the entity in terms of location, time, manner);
- 3) possessive (indicates that one entity owns another).

Halliday and Matthiessen [Halliday & Matthiessen, 2004] stated that each of these comes in two modes: attributive and identifying. In attributive, there are two participants: carrier and attribute. In identifying, there are two participants: identified and identifier.

type \ mode	(i) attributive	(ii) identifying
(1) intensive	the performance is great	Mr Nathan is the President the President is Mr Nathan
(2) circumstantial	the lecture is on a Wednesday	today is the eighteenth; the eighteenth is today
(3) possessive	John has two motorcycles	the two motorcycles are John's John's are the two motorcycles

Further examples of the relational process modes and their types are below:

attribute of:			
quality (intensive)	John	is / looks	great
circumstance (circumstantial)	Prof Halliday the celebrations	was last	in the lecture theatre all day
possession (possessive)	the computer Ahmad	is / belongs has	Ahmad's / to Ahmad a computer
	Carrier	Process	Attribute

Table of Identifying Clauses

identification by:			
token-value (intensive)	Ah Chong David Garrick	is played	the teacher Hamlet
circumstance (circumstantial)	yesterday his gold	was takes up	the twentieth the entire box
possession (possessive)	the piano Peter	is owns	Peter's the piano
	Identified	Process	Identifier

The fourth process as defined by Halliday and Matthiessen [Halliday & Matthiessen, 2004] is the behavioral. It is sometimes difficult to distinguish between behavioral and material verbs. As a rule of thumb, a behavioral process verb is (a) intransitive (it has only one participant) or (b) indicates an activity in which both the physical and mental aspects are inseparable and indispensable.

In this process, there is only one participant, namely: behavior (the agent who behaves):

Buff	neither laughs nor smiles
behavior	process

These are processes of (typically human) physiological and psychological behavior, like breathing, coughing, smiling, dreaming, and staring. Because they have no clearly defined characteristics of their own but are partly like the material, they are the least distinct of all the six process types. The participant who is behaving is labelled the behavior who is typically a conscious being, like the sayer. The process is grammatically more like one of doing. The tense for behavioral processes is present for example, «Why do you laugh?» or «Why are you laughing?» Behavioral processes consist of behavior and process only.

The fifth process is verbal processes of saying. The sayer is the participant of the process who does the speaking, the receiver is the one to whom the verbalization is addressed, and the verbiage is the verbalization itself. Verbs used in this process are *ask*, *insult*, *praise*, *slander*, *abuse*, and *flatter*. If there is another participant involved in the process, we call it *target*.

They	asked	him	a lot of question
Sayer	Process: verbal	Receiver	Verbiage

And also the example for Target:

I	'm always praising	you	to my friends
Sayer	Process: verbal	Target	Recipient

These are clauses of saying, as in «What did you say? I said it's noisy in here, with you.» I is functioning as the sayer. Such clauses are an important resource in various kinds of discourse. They contribute to the creation of narrative by making it possible to set up dialogic passages. Unlike mental clauses, verbal ones do not require a conscious participant. The sayer can be anything that puts out a signal, as in «And they've got a great big sign out the front saying pokies».

The final process is the existential process which represents something that exists or happens. They have the verb to be or some other verb expressing existence, such as exist or arise, followed by a nominal group functioning as existent (a thing that exists in the process). The existent may be a phenomenon of any kind:

There	was	a storm
	Process	Existent: event

Halliday and Hasan [Halliday & Hasan, 1985] stated that existential clauses are not, overall, very common in discourse, but they make an important, specialized contribution to various kinds of text. For example, in narrative, they serve to introduce central participants in the placement (setting, orientation) stage at the beginning of a story. An existential clause contains a distinct circumstantial element of time or place, as in «there was a picture on the wall»; if the circumstantial element is thematic, the subject there may be omitted, such as «on the wall (there) was Picasso painting, wasn't there?». Another common way of locating the process in space-time is to follow it with a non-finite clause, for example, «there was an old woman tossed up in a basket, there's someone waiting at the door». The entity or event which is being said to exist is labelled, simply, the existent.

In this study, Fairclough's macro level of power in discourse, Van Dijk's micro-level in discourse, and Halliday's transitivity or clause as a representation are implemented. The six processes, which constitute the clause as a representation, are analyzed by adopting Fairclough's power in discourse at the macro level, looking for verbs that reflect power at the micro-level, and analyzing Van Dijk semantically through the use of modality verbs. Modality, as defined by J. Saeed [Saeed, 2009], is a device that allows speakers to express certain levels of commitment, assertion, or belief. P. Griffiths [Griffiths, 2006] stated that modality is the label given to the meanings. These meanings include obligations, confidence, and assertions as to how confident the speaker is. The main carriers of modality are a set of auxiliary verbs called modals: *will, would, can, could, may, might, shall, should, must* and *ought to*. Modality is also encoded in adverbs such as *possibly, probably, presumably, and definitely*, as well as other expressions (e.g., «have (got) to, need to and be able to»).

3. The Corpus

This is a corpus linguistics study. H. Lindquist [Lindquist, 2009] stated that corpus linguistics is a methodology, containing a number of methods that can be used by researchers in various disciplines. Corpus linguistics analyzes naturally occurring language in computerized corpora. It is performed by a computer with specialized software. G. Leech [Leech, 1992, p. 106] stated that:

...computer corpus linguistics defines not just a newly emerging methodology for studying language, but a new research enterprise, and in fact a new philosophical approach to the subject.

He considered corpus linguistics in the way a computer analyzes data as a new paradigm. M. Stubbs [Stubbs, 1993] stated that a corpus is an important concept in linguistic theory and not merely a tool of linguistic analysis. As a theoretical approach to the study of language, W. Teubert [Teubert, 2005] emphasized that corpus linguistics is the right tool for doing such analysis.

A corpus can be defined as a systematic collection of naturally occurring texts, written and spoken. According to J. Sinclair [Sinclair, 1991], the characteristics of a corpus are the following:

- consists of one or more machine-readable Unicode text files;
- is meant to be representative for a particular kind of speaker, register, variety, or language as a whole;
- is meant to be balanced, which means that the sizes of the subsamples (of speakers, registers, varieties) are proportional to the number of such speakers, registers, varieties, etc. in the population the corpus is meant to represent; and
- contains data from natural communicative settings, which means that at the time the language data in the corpus were produced, they were not produced solely for the purpose of being entered into a corpus or that the production of the language data was as untainted by the collection of those data as possible.

According to a survey by G. Gilquin and S. Gries [Gilquin & Gries, 2009], corpus-linguistic studies published over the course of four years in three major corpus-linguistic journals were mostly exploratory (as opposed to hypothesis-testing) in nature – on matter of syntax, followed by lexis and phraseology, based on written data, using frequency data and concordances, followed by simple association measures. Given the predominance of such applications, it comes as no surprise that the most commonly found kind of annotation is part-of-speech tagging. However, over the last 20 years, many corpora have begun to feature other kinds of annotation. According to Sinclair [Sinclair, 1991], corpora annotation depends on the kind, and thus typicality, of corpus. Obviously, just about every corpus can be annotated for part-of-speech or lemma information, whereas many corpora do not easily allow for other kinds of annotation. For example, many written corpus data in general can be annotated for the identity of the author but cannot be annotated for prosodic, gestural, or interactional aspects of language production.

3.1. Corpus creation

A. Renouf [Renouf, 1984] stated that the beginning of any corpus study is the creation of the corpus itself. The decisions that are taken about what is to be in the corpus, and how the selection is to be organized, control almost everything that happens subsequently. The linguists have to do the text selection of exactly what is in a corpus. The first consideration is that the aim of the activity of corpus creation may be fairly general in providing a good selection of instances of the language for a variety of purposes, which do not need to be numerated. Sinclair [Sinclair, 1991] stated that a corpus is a sample of the living language based on a convenient size and on priorities for selection. There are three normal methods by which a corpus can be created: adaptation of material already in electronic form, conversion by optical scanning (machine reading), and conversion by keyboarding.

Sinclair [Sinclair, 1991] claimed that the most far-reaching decision is whether the corpus will contain only written texts, only spoken transcriptions, or both. Most corpora keep well away from the problems of spoken language.

Many language scholars and teachers believe that the spoken form of the language is a better guide to the fundamental organization of the language than the written form. There is no substitute for impromptu speech. According to Renouf [Renouf, 1984], one of the principle uses of a corpus is to identify what is central and typical in the language. The characteristic of literature is to innovate, and we may expect a corpus of literary texts to have a low proportion of ordinary, everyday English. And since the processing emphasizes repeated patterns at the expense of unique ones, most of the distinctive literary patterning would be lost because it would not occur often enough to count as central and typical. D. Biber, S. Conrad, and R. Reppen [Biber, et al., 2004] claimed that a general reference corpus is not a collection of materials from different specialist areas – technical, dialectal, etc. – it is a collection of material that is broadly homogeneous but that is gathered from a variety of sources. Sinclair [Sinclair, 1991] stated that most corpora attempt to cover a particular period of time and use the clearest time indicator, which is the time of first utterance or publication. A corpus should be as large as possible and should keep on growing. In order to study the behavior of words in texts, we need to have a large number of occurrences available; a corpus needs to contain many millions of words.

The other decision that is needed at the outset is a suitable size. For any sample, a corpus should have around 2,000 words [Hofland & Johansson, 1982]. Also, a corpus that does not reflect the size and shape of the documents from which it is drawn is in danger of being seen as a collection of fragments. The alternative is to gather whole documents. A corpus made up of whole documents is open to a wider range of linguistic studies than a collection of short samples. If for some reason it is desirable to have random samples, each 2,000 words, this is readily achievable from a large collection of complete texts. Sinclair [Sinclair, 1991] described in details the criteria of a general corpus and the strategy for holding, processing, and retrieving it. He categorized as follows:

- full bibliographic information to be provided in electronic form and on paper;
- the actual language text to be separated from all other codes by a standardized convention;
- language text to be coded in a widely recognized format, or details provided so that it can be converted easily; and
- any codes, other than those of running text, to be identified and classified.

Clean-text policy states that the safest policy is to keep the text as it is, unprocessed and clean of any other codes.

For basic text processing and collocation, Sinclair [Sinclair, 1991] conducted the following.

3.2. Basic Text Processing

Frequency list – first occurrence. Anyone studying a text is likely to need to know how often each different word form occurs in it. The simplest operation is to turn it into a list of the word forms in the order of their first occurrence, noting the frequency of each.

Frequency list – alphabetical. The information available in the frequency list can be rendered in several ways. The main use of alphabetical

lists is for reference, but they are occasionally useful as objects of study. They are often helpful in formulating hypotheses to be tested and checking assumptions that have been made. The computer presents us with co-occurrence information in the basic form of a concordance. A concordance is a collection of the occurrences of a word form, each in its own textual environment. In its simplest form, it is an index. Each word form is indexed, and a reference is given to the place of each occurrence in a text.

Key word in context (KWIC). For many years now, the KWIC format has been widely used in data processing. It saves the researcher looking up each occurrence. The word-form under examination appears in the context of each line, with extra space on either side of it, and the length of the context is specified for different purposes.

Concordance processing. It is valuable to think of a concordance as a text in itself and to examine the frequencies of word forms in the environment of the central word form. Some very common words will show a frequency that is similar to their overall frequency in the language, but others will show a strong influence from being close to the central word form in the concordance.

A concordance is a list of target words extracted from a given text or set of texts, often presented in such a way as to indicate the context in which the word is used. Concordance software can usually extract and present other types of information too, e.g., identifying the words that most commonly appear near a target word (its common collocates).

Text analysis statistics. As soon as the computer has been trained to identify characters, word forms, and sentences, it can produce figures for a number of relationships. This can be very useful in comparing texts or searching for texts with particular characteristics.

Selective information. When a text is very long, the word lists will also be long, and the concordances will be extremely long. Not all this information is needed every time; hence, it is important to be able to select. Selections can be made as follows.

1. By frequency. If we omit word forms from a frequency list that only occur once, the word list shrinks to about half its size. Also, for some purposes, we only require a list of very frequent words. At other times, it is useful to divide the vocabulary of a text into frequency bands.

2. By form. It is possible to specify words by their alphabetical makeup, by the letters in them, or by a combination of both, like these can be devised that allow a researcher to pick out several word classes such as present participles or regular adverbs. These two selection types can also be combined to make sensitive analytical instruments, at least for a pilot study.

Concordances. After sorting out the lemmas, we turn to the concordances. To begin with, it is easier to use concordances where citations of a word form are listed. Citations of lemmas are also available, but they are more difficult to study until something is known about the individual word forms. Automatic concordancing of texts has been an established facility for many years now, and for some special studies, manual or automatic concordances have been used.

Let us consider some of the factors affecting the shape and utility of concordances. Whether the concordance is selective or exhaustive, the ability to be exhaustive is one of the principal features of a concordance because it can claim to present all the available information, and it is clearly superior to a list of selective citations where there are no signs of rules. But there will be circumstances where some series has to be made, and the principles of selection will be of the greatest importance. At present, the only need for selection is in the case of the very commonest words in very long texts. The pattern of word occurrence in texts means that for a reasonably long text, there are some words that occur too often and some that do not occur often enough for their behavior to be comfortably studied. Consequently, there is only a central set of words for which the evidence is both comprehensive and convenient. The question of selection of citations can be resolved by two principles:

- selection is only made when the number of instances becomes quite unmanageable otherwise and
- the criteria for selection must be very carefully chosen.

The length of the citation is important in concordancing. The almost universal format for concordances is the KWIC, where the length of the citation is determined by the width of a bale of computer paper; the key word is in the middle. This format is fairly useful, but for the study of some words, it is not adequate and other formats must be devised. The length of a citation could be counted by character listing (KWIC), by word, by finding punctuation marks to identify sentences, or by a whole range of more sophisticated linguistic criteria. At the present time, the range of concordance formats is growing. The simplest method is text order. For some purposes, a listing in alphabetical order of the word following the key word can be helpful. For other purposes, an ordering by the preceding word can be helpful; sometimes both methods are useful. Whichever method is chosen highlights some patterns and obscures others.

Collocation. It is clear that words do not occur at random in a text. Two models emerge in studying the order of words: the open model and the idiom model. The open choice analysis can be imagined as an analytical process that goes on, in principle, all the time but whose results are only intermittently called for. The two principles deployed in interpretation can be used to make predictions about the way people behave, and the accuracy of the predictions can be used as a measure of the accuracy of the model. Areas of relevant study include the transitional probabilities of words; the prevalent notion of chunking; the occurrence of hesitations, etc.; the placement of boundaries; and the behavior of subjects trying to guess the next word in the text. The principle of idiom is that a language user has a large number of semi pre-constructed phrases available that constitute single choices, even though they may appear to be in segments. To some extent, this may reflect the recurrence of similar situations and a natural tendency of human affairs. The principle of idiom can be seen in the choice of two words, for example, «of course». The same treatment could be given to hundreds of similar phrases: proverbs, clichés, technical terms, jargon expressions, phrasal verbs, etc. could all be covered by a fairly simple statement. Collocation is how words appear to be chosen in pairs or groups, and

these are not necessarily adjacent. One aspect of collocation has been of enduring interest. When two words of different frequencies collocate significantly, the collocation has a different value in the description of each of the two words.

Clusters / N-grams. L. Anthony [Anthony, 2015] described the Clusters Tool as a tool which shows clusters based on the search condition. In effect it summarizes the results generated in the Concordance Tool or Concordance Plot Tool. The clusters can be ordered either by frequency or the start or end of the word. All list orderings can also be inverted. Also, a user can select the minimum and maximum length (number of words) in each cluster, and the minimum frequency of clusters displayed. It is also possible to select if the search term always appears on the left or right of the cluster.

To produce a cluster list, the following should be performed:

- 1) choose the appropriate ordering options;
- 2) press the 'Start' button (at any time, the generation of the clusters list can be halted using the 'Stop' button);
- 3) clicking on the cluster will generate a set of KWIC lines using the text as the search term.

The N-Grams Tool scans the entire corpus for 'N' (e.g. 1 word, 2 words, ...) length clusters. This allows to find common expressions in a corpus. For example, n-grams of size 2 for the sentence «this is a pen», are 'this is', 'is a' and 'a pen'. As with the Clusters Tool, the n-grams can be ordered either by frequency or the start or end of the word. They can also be ordered by the probability of the first word in the cluster preceding the remaining words. All list orderings can also be inverted. Also, a user can select the minimum and maximum size (number of words) in each n-gram, and the minimum frequency of n-grams displayed.

To produce an N-gram list, you need to perform the following actions:

- 1) click on the "N-Grams" option above the search entry box;
- 2) choose the appropriate ordering options;
- 3) press the 'Start' button (at any time, the generation of the n-grams list can be halted using the 'Stop' button);
- 4) clicking on the lexical bundle will generate a set of KWIC lines using the text as the search term.

Software analysis. G. Kennedy [Kennedy, 1998] stated that there are many types of corpora, which can be used for different kinds of analyses. Some examples of corpus types are, for example, general and reference corpora, such as the British National Corpus (BNC). Two types of software for corpus analysis can be distinguished in principle: software that is tailored to one specific corpus and software that can be used with almost any kind of corpus. While there are many differences between the software packages designed for corpus analysis, certain basic functions can be performed by practically all the available software. The most important aspect of linguistic analyses is the possibility of searching the corpus in question for the occurrence of certain strings. The software then gives the output information on the number of these strings occurring in the corpus, the part of the corpus where they were found in the text,

and the lines of concordance. For corpus-based studies, quantitative techniques are essential to compare patterns in language use. A crucial part of the corpus-based approach is going beyond the quantitative patterns to propose functional interpretations explaining why the patterns exist. As a result, a large amount of effort in corpus-based studies is devoted to explaining and exemplifying quantitative patterns [Biber et al., 2004]. AntConc concordance software will be used to analyze the data. Hallidayan transitivity will be implemented, searching for high frequency and modality verbs and how they collocate in sentences. Anthony [Anthony, 2015] stated that AntConc generates data and seeks concordance of target words extracted from a given text, or set of texts, often presented in such a way as to indicate the context in which the word is used. Usually, concordance software can usually extract and present other types of information too, like identifying the words that most commonly appear near a target word (its common collocates). AntConc is a free concordance program developed by Professor Laurence Anthony, who is the Director of the Centre for English Language Education, Waseda University (Japan).

The aforementioned corpus creation criteria in this chapter will be implemented. Sinclair [Sinclair, 1991] stated that a corpus can be created by either adaptation of material already in electronic form, conversion by optical scanning (machine reading), or conversion by keyboarding. The corpus for this study is already in electronic form but required simple conversion to .txt form to be readable by concordance software. The corpus is provided from the U.S. State Department press releases related to ISIS (www.state.gov). The size of the corpus as stated by K. Hofland and S. Johansson [Hofland & Johansson, 1986] should be around 2,000 words made up of whole documents for a wider range of linguistic studies, rather than a collection of short samples. The corpus for this study is a 200-page corpora (around 46,806 words) consisting of speeches made by the Secretary of State John Kerry, his deputies, and spokespersons regarding ISIS.

The selection of the speeches. The speeches were selected from the U.S. State Department website from the «Press Releases» section under a category called «Defeating ISIL». The U.S. State Department uses different acronyms to refer to the terror organization. They use ISIL, ISIS, DAESH, and the Islamic State. Current corpus was created by choosing only the headlines that contained those acronyms. Out of the original 44 press releases that are available on the State Department site, nine were discarded because they did not contain ISIL, ISIS, DAESH, or Islamic State in the headlines or they contained redundancy, such as recap or briefing of previous press releases.

A complete list of press release titles is provided in the appendix. Moreover, the appendix contains one full press release entitled «Background Briefing on ISIL and Oil» as an application part of the transitivity theory. This press release was chosen based on Sinclair [Sinclair, 1991], who stated that the sample used for application should be the largest text in the corpus. «Background Briefing on ISIL and Oil» is the largest text, containing 7,289 words and released on 12/04/15.

The timeframes of the speeches. Sinclair [Sinclair, 1991] stated that most corpora cover a specific period of time and use the clearest indicator, which is the time of first utterance or publication. The current corpus contained 35 press releases, covering the period between August 2014 and January 2016. The justification for the choice of this timeframe was based on two elements. The first element was that ISIS was formed in August and any analysis prior to this date did not exist. The second element was that this research started in January 2016. Selecting data beyond this date would change the variables and generate different results which could compromise reliability. To streamline the analysis, the 35 press releases were coded by assigning to each press release the initials PR for «Press Release» with a number marked by a hashtag (#) and always following chronological order. For example, the first press release was entitled «ISIL Attacks in Ninewa Province», released on 08/03/14, and coded PR#1. For data analysis, the data in the corpus were coded differently to avoid redundancy. They were giving plain numbers. For example, PR#1 became «1» when selecting the data in the concordance software. Both processes were replicated for all other press releases in series. The data of the corpus were divided into three periods, each consisting of six months of data. This served two goals: it made the analysis easier to read and showed how the U.S.'s stand evolved over time regarding ISIL. The periods were divided as follows.

Period I: from August 2014 to January 2015. This contains PR#1 to PR#20, a total of twenty press releases.

Period II: from February 2015 to July 2015. This contains PR#21 to PR#26, a total of six press releases.

Period III: from August 2015 to January 2016. This contains PR#27 to PR#35, a total of nine press releases.

The processing of the texts. In ordinary texts, the analysis of data, such as collocations, concordances, frequency of words, etc. is usually conducted seamlessly by applying concordance software on the corpus in question without changing the text types. However, this corpus requires special conversion of data before getting results. Since this study's objectives is to study verbs existing in different forms and types, such as action verbs, modal verbs, and auxiliary verbs of to be and to have, texts have to be tagged for the results to be conclusive.

Tagging the texts. Text tagging is the process of manually or automatically adding tags or annotation to various components of unstructured data as one step in the process of preparing such data for analysis. Several different annotation formats must be distinguished. First, the most frequent format is what is called inline or embedded annotation. In this format, which is heavily used for lemmatization and part-of-speech tagging, the annotation of a corpus file exists in the same file and in the same line as the primary corpus data being annotated, as the following example shows:

AT Fulton_NP County_NN Grand_JJ Jury_NN said_VBD Friday_NR

where NP stands for proper nouns, NN stands for nouns, JJ stands for adjectives, and VBD stands for past tense. For this study, inline annotation using TagAnt tool to tag was used. Wildcard character were also employed, searching for different word forms in the corpus.

Wildcard character. A wildcard character is a special character that represents one or more other characters. The most commonly used wildcard characters are the asterisk (*), which typically represents zero or more characters in a string of characters. The wildcard character is used as a backup when ordinary search does not turn up any results. The focus in this study was verbs that exist in modal form, in the *to have* form, and in the *to be* form. Therefore, several wildcard characters were used to look up these verbs. For modal verbs, *_md was used. For *to have*, *_vhp was used. For *to be*, *_vb was used. Action verbs were considered a regular verb category, and *_vv was used.

3.3. The Methods of Analysis

Qualitative research vs. quantitative research. It was stated [Leech et al., 2012] that in corpus linguistics, quantitative and qualitative methods are extensively used in combination. It is also characteristic of corpus linguistics to begin with quantitative findings and work toward qualitative ones. It is preferable to subject quantitative results to qualitative scrutiny, trying to explain why a particular frequency pattern occurs. Conversely, qualitative analysis (making use of the investigator's ability to interpret samples of language in context) may be the means for classifying examples in a particular corpus by their meanings; this qualitative analysis may then be the input to further quantitative analysis based on meaning

The analysis was done qualitatively and quantitatively. Quantitative, as defined by M. Aliaga and B. Gunderson [Aliaga & Gunderson, 2000], is collecting numerical data that are analyzed using mathematical methods. Qualitative methods such as participant observation or case studies result in a narrative, descriptive account of a setting or practice [Parkinson & Drislane, 2011].

3.4. Adopted Theoretical Framework

Fairclough's power in speech, Van Dijk's micro use of modality, and Halliday's transitivity processes were implemented in the study. There are two parts of data collection: the first part is quantitative and the second part is qualitative. The quantitative part consisted of four steps.

1. AntConc searched for high frequency verbs used in U.S. discourse.
2. Verbs were categorized based on Halliday's six processes.
3. Charts were generated to show the frequency of each process with focus on material, mental, and relational power processes. AntConc could only show twelve results at a time. Therefore, only the first twelve ranks were considered.

After the breakdown of results, the study moved to the fourth step: the search for modal verbs to gauge the level of commitment and how much the U.S. is obligated to fighting ISIS. This was performed through the use of AntConc by searching for *will, would, can, could, may, might, shall, should, must* and *ought to*.

After the quantitative data collection, qualitative data collection took place. The qualitative part consisted of combining frequency verbs with modality to find out how they collocate in sentences. By the end of the corpus

analysis, charts were generated to show how the U.S.'s speech towards ISIS shifted, which process or processes the State Department adopted, whether the U.S. is willing to share power with its allies in the region, and how it face-saves its global power if it does.

Power in speech. Fairclough's power in political discourse was the starting point of data collection at the macro level. Fairclough [Fairclough, 2001] talked of two ways to exercise power: through physical coercion or through manufactured consent. The latter involves convincing people that they should accept things as they are or accept proposed changes. Physical coercion is time-consuming (it works on only small numbers at a time). Thus, the manufacture of consent is a much preferred vehicle for exercising power. The public media are the prime vehicle for manufacturing consent, as the media allows contact with large numbers of people who willingly read or listen to the media. Fairclough [Fairclough, 2003], on the other hand, classified the various approaches of CDA into those that include a detailed analysis of a text and approaches that do not involve a detailed text. According to Fairclough and Wodak [Fairclough & Wodak, 1997, pp.271–280], CDA addresses social problems. They posited that CDA regards power relations as being discursive; discourse as constituting society and culture; discourse as doing ideological work; discourse as history, making reference to culture, society and ideology in historical terms; the link between text and society as being mediated; CDA as being interpretative and explanatory; and discourse as a form of social action. Fairclough [Fairclough, 1989] recognized that power is not just a matter of language; it is an ideology in itself. For him, language contributes to the exploration and domination of some people through commonsense assumptions ideologically shaped by power relations. Power abuse does not only involve the abuse of force but, more crucially, may affect the minds of people. It is said that power and ideology influence our linguistic choices and vice-versa. Fairclough's critical model studies features such as action verbs related to threat (*warn, alarm, beware, etc.*), war terminology (*fight, kill, demise, etc.*), and counter-terrorism (*avoid, seal, confront, etc.*). The use of power is manifested through the strategic use of language, which allows control of information and the making of assumptions about realities.

Each period of the three periods of the corpus (Period I, Period II, and Period III) were be analyzed quantitatively, searching for verbs reflecting power in speech, such as threat and intimidation. The verbs were then categorized based on the six transitivity processes: relational, behavioral, existential, material, verbal, and mental. All processes were charted to see which process is mostly used in U.S. speech about ISIS. Charts were generated for each analysis using Microsoft Word tools. The charts show the percentages of types of power verbs used in the U.S. State Department's speech concerning ISIS. Power verbs as defined by Faulkner and Faulkner-Lunsford [Faulkner & Faulkner-Lunsford, 2013] denotes action such as *ban, dodge, attack* and are usually transitive.

Modality and obligation. Chilton sees two levels of discourse: micro and macro. At the micro level, conflicts of interest clash for domination and efforts of cooperation among individuals, genders, and social groups of various kinds.

As Jones et al. [Jones et al., 1994] put it, at the micro level we use a variety of techniques to get our own way of persuasion, rational argument, irrational strategies, threats, entreaties, bribes, etc. According to Van Dijk [Van Dijk, 1998, p.352], CDA studies the way social power abuse, dominance, and inequality are enacted, reproduced, and resisted by text and talk in the social and political context. He identified some of the dominant notions in CDA, such as power, dominance, inequality, hegemony, ideology, class, gender, race, and discrimination, among others, which he labels as macro levels of analysis. However, he posited that the micro level of the social order involves language use, discourse, verbal interaction, and communication. CDA, thus, tries to bridge the gap between the micro and macro approaches. What is absent from conventional studies of politics is that the micro-level behaviors mentioned are actually kinds of linguistic action, which is discourse. Similarly, the macro level features are types of discourse with specific characteristics, such as debates and interviews. While constitutions and laws represent written discourse of a highly specific type, Van Dijk's micro level, through the semantic use of modality as defined by Saeed [Saeed, 2009], is a device that allows speakers to express certain levels of commitment, assertion, or belief. The main carriers of modality are a set of auxiliary verbs called modals: *will, would, can, could, may, might, shall, should, must* and *ought to*. Modality is also encoded in adverbs such as *possibly, probably, presumably, and definitely*, as well as other expressions (e.g., *have (got) to, need to and be able to*). Modal systems allow speakers to modulate this guarantee – to signal stronger and weaker commitment to the factuality of statements. Auxiliary verbs in this role are called modal verbs. Deontic modality is where the verbs mark the speaker's attitude to social factors of obligation, responsibility, and permission. Deontic modals communicate two types of social information: obligation, as in *You must take these books back* and permission, as in *You can leave them there*.

Deontic modals signal a speaker's judgments about how people should behave in the world. This means that the use of deontics is tied in with all sorts of social knowledge: the speaker's belief systems about morality and legality and her estimations of power and authority. *Must* is often used to indicate obligation. *Can* is used to indicate possession, ability, or permission. *May* is used to indicate a present or future possibility. *Should* is often used to indicate what is regarded as probable or reasonably expected. *Will* indicates future intent, prediction. *Could* indicates possibility or suggestion while *would* condition.

Each period of the three periods in the corpus (Period I, Period II, and Period III) were analyzed quantitatively, searching for the most used modal verbs in the corpus. Modal verbs were then categorized based on Saeed's model of modality to find out how much the U.S. is obligated to fighting ISIS. Charts were generated for each analysis using Microsoft Word tools. The charts show the percentages of types of modal verbs used in the U.S. State Department's speech concerning ISIS.

Transitivity processes. Next in the study is the employment of transitivity. The analysis of transitivity indicates which of the six processes identified by Halliday are included in the U.S.'s discourse. It has been observed

that the choice of material, mental, and relational processes is strategic. These processes are always employed with reference to power. Halliday and Hasan [Halliday & Hasan, 1985] said that language simultaneously expresses three kinds of meanings: interpersonal, ideational, and textual. The clause as representation (ideational meaning) serves the expression of content in language of our experience of the real world. We often use language to speak of something or someone doing something. Ideational meaning can refer to the experiential meaning coming from the clause as representation. The interpersonal meaning helps to maintain and establish social relations. In it, the individual is reinforced and identified by enabling him or her to interact with others. The textual metafunction relates to mode; the communicative nature of a text and internal organization such as coordination, pauses, and cohesion. In transitivity, there are also three different processes, known as material processes, relational processes, and mental processes. These three are the main processes in the English transitivity system. The three functional components of meaning – ideational, interpersonal and textual – are realized in the grammar of a language. Transitivity is a figure of happening, doing, sensing, saying, being, or having [Halliday & Matthiessen, 2004] unfolding through time, where participants are directly involved in this process.

The last part of the study is the qualitative one. All charts from the previous sections are consolidated in one chart to see the overall quantitative percentages of power verbs and modality used in U.S. speech from August 2014 to January 2016. Power verbs as defined by Faulkner and Faulkner-Lunsford [Faulkner & Faulkner-Lunsford, 2013] denotes action such as ban, dodge, attack and are usually transitive. After that, the study moves into the qualitative part.

This part is analyzed qualitatively. It integrates power in speech and modality, searching for the collocation of the six processes with power and modal verbs based on the components in table 1.

Table 1. Overall transitivity processes and elements

process	Participant 1	participant 2
material	Actor	goal
Mental	Sensor	Phenomenon
Relational	Carrier / identified	Attribute/identifier
Behavioral	<u>Behavior</u>	
Verbal	Sayer	Receiver/target
Existential	existent	

In this part, the sample text PR#35: «Background Briefing on ISIL and Oil» will be used as an application part of the study to show how transitivity

collocates in U.S. speech. One example only of each of the most used process type and modality verbs will be used as an illustration. This to show how power and obligation are represented by Hallidayan transitivity. It also answers the hypotheses regarding power sharing and destroying ISIS.

4. Analysis and Discussion

In the previous chapter 3, the methodology adopted in this research was discussed. This chapter presents and analyzes all data generated by AntConc based on the theoretical framework explained in Chapter 3. The chapter is composed of two sections: the first presents the results of this study, and the second discussion of the results.

4.1. Results

Before showing the results, it is imperative to explain how I obtained the results in AntConc. All results in Figures 3 to 9 were obtained by entering the corresponding wildcard character of tagged data in search box in the Clusters/N-Grams tab (see chapter3). The results were then tallied by adding the verbs which belonged to the same transitivity process together in the twelve ranks of the AntConc platform. The following Figures (3, 4, & 5) represent the results in each period of the three periods (PI, PII, & PIII) in the corpus. The results in PI show that action verbs such as *take*, *do*, *defeat* occupied eleven ranks while other non-action verbs or verbal verbs such as *thank* occupied one position in the ranking. Likewise, in PII and PIII, non-action verbs or mental verb such as *see* and *say* filled two and one positions respectively in the ranking while the rest were reserved for action verbs. Figures 3, 4, & 5 show how the U.S. State Department's Speech varies over time consequently affecting transitivity. For example, in PI the material process was mostly used where take and do occupied first and second ranks. These ranks changed in PII and PIII to verbal process represented by say and mental process represented by see, both occupying second ranks.

Rank	Frequency	Word
1	45	say
2	44	say
3	20	say
4	13	say
5	9	say
6	7	say
7	5	say
8	4	say
9	3	say
10	2	say
11	1	say

Figure 3. Verbs shown by frequency in PI



Figure 4. Verbs shown by frequency in PII

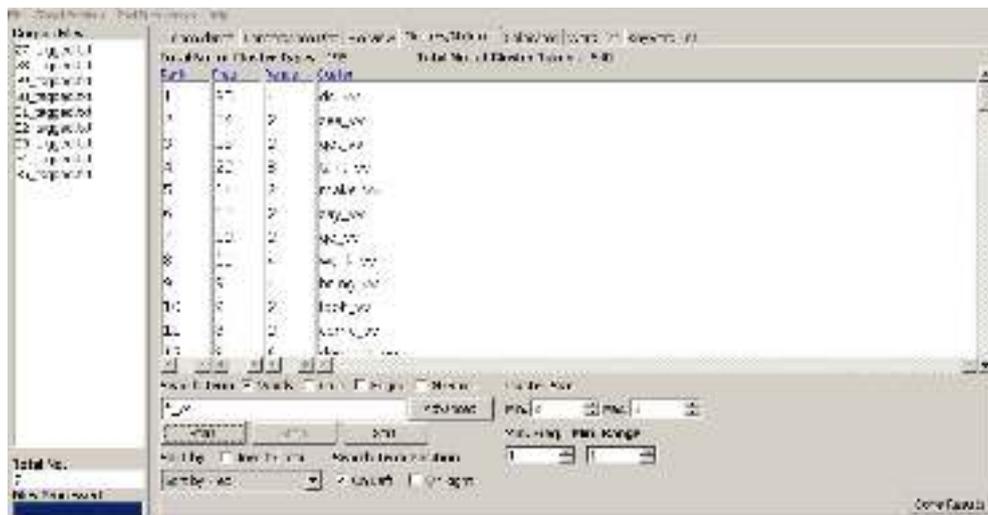


Figure 5. Verbs shown by frequency in PIII

To know the overall type of process the U.S. State Department used, all data from PI, PII, and PII were combined in Figure 6. Figure 6 shows that action verbs were frequently used, appearing 442 times in U.S. State Department speech regarding ISIL, while other types of verbs such as the mental verb see and verbal verb thank appeared 41 and 29 times, respectively.

In order to interpret the embedded meanings in the U.S. State Department's speech, it is essential to analyze Figures 3, 4, 5, and 6 by focusing on the various types of Halliday's processes. So far, the material process or action verbs outnumber those of mental and verbal process verbs, which makes the U.S. lean towards using force against ISIL. To know whether the material process will hold in the U.S. speech, other processes, will be discussed in Figures 7 and 8. Since results in Figure 6 showed no presence of existential or behavioral processes, this leaves us with only the relational process to study.

Process shown in Figures 7 and 8 is relational process of auxiliary verbs (*to be* and *to have*) representing all three periods.



Figure 6. Overall verbs shown by frequency

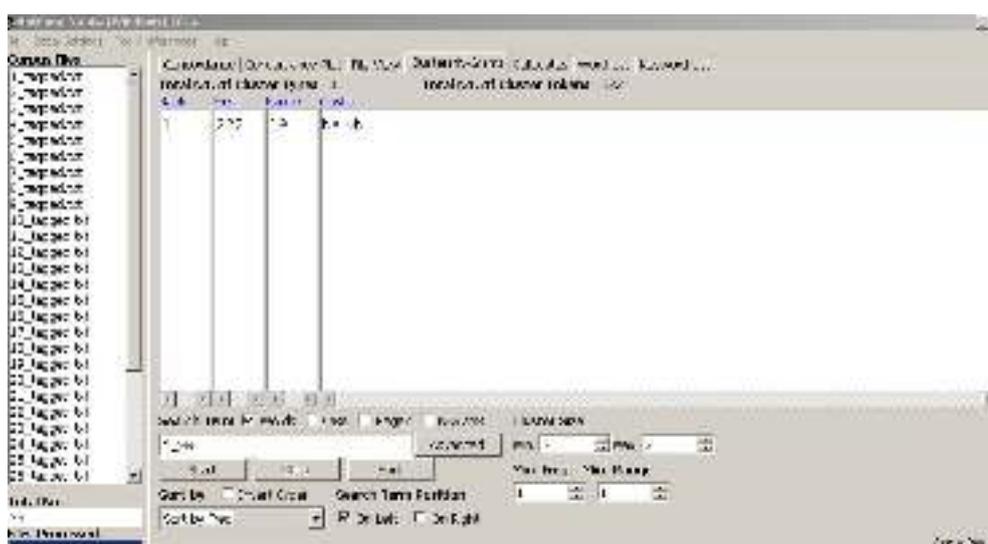


Figure 7. Auxiliary verb *to be* shown by frequency

In all three periods, the auxiliary verbs *to be* and *to have* were used 222 and 291 times, respectively, in U.S. State Department's speech regarding ISIL. The combination of both numbers put auxiliary verbs ahead of action verbs, with a total of 513 occurrences. This means that the U.S.'s speech is characterized with two traits: power and diplomacy. According to Halliday and Matthiessen (2004), material processes represents an action of doing and happening of events as they take place through some action or energy. This action represents power in talk through the use of action and powerful verbs such as *defeat*, *fight*. Relational verbs are the processes of being and having to establish a relationship of sameness between two entities. The notion of

establishing a relationship between two entities by the U.S. through the use of *have* and *be* puts the U.S. in negotiating or diplomacy mode without excluding the choice of force as we shall illustrate more in the next section where the analyses of modality and concordances will be undertaken to measure commitment and relationship of the U.S. in ending ISIS's crisis.

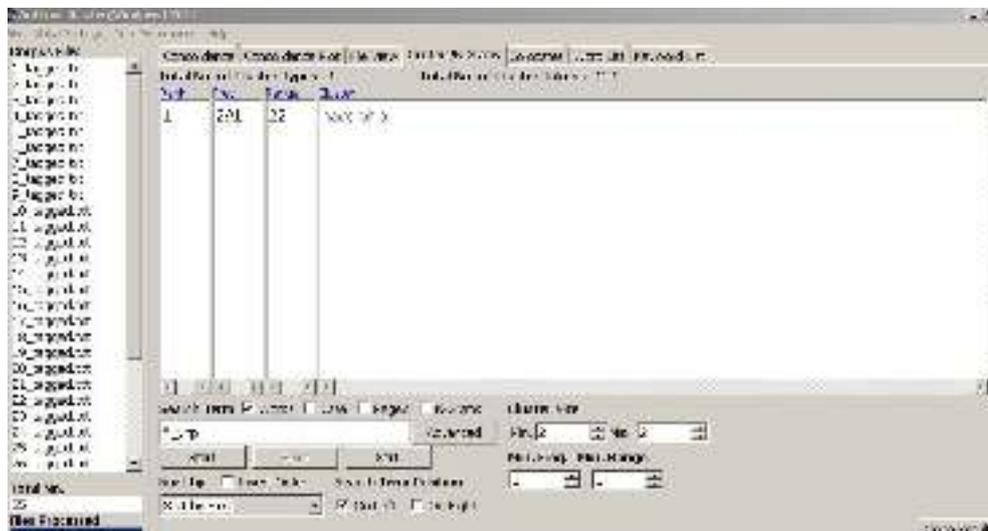


Figure 8. Auxiliary verb *to have* shown by frequency

Figure 9 displays modal verbs by frequency as they appear in the corpus of the U.S. State Department Speech.

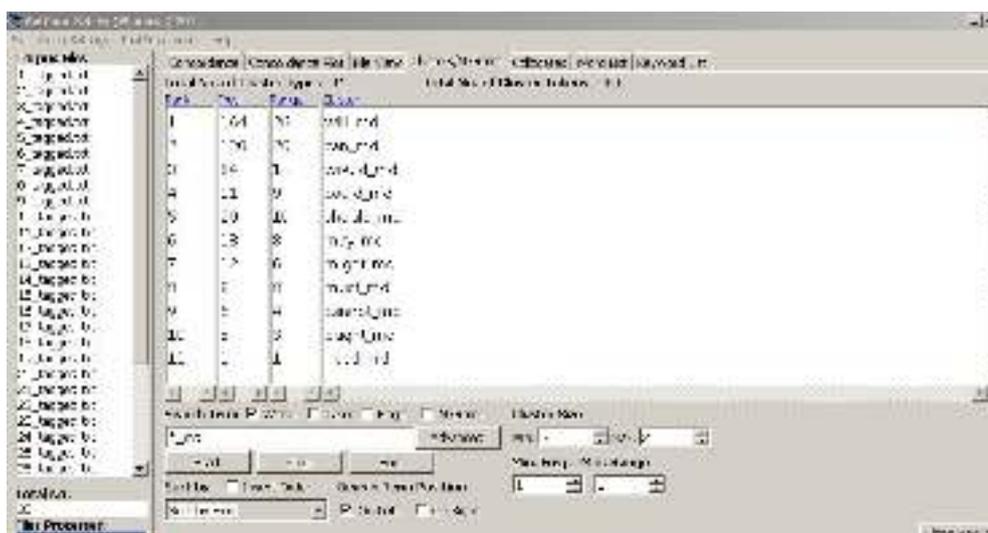


Figure 9. Overall modal verbs shown by frequency

The result shows that *will* is the most frequent modal verb used in the corpus, with 164 hits, followed by *can* with 130, and *would* with 84. These numbers are important in the study to gauge the obligation of the U.S. towards

fighting ISIS. Modality as defined by Saeed [Saeed, 2009], is a device that allows speakers to express certain levels of commitment, assertion, or belief. The main carriers of modality are a set of auxiliary verbs called modals: *will, would, can, could, may, might, shall, should, must* and *ought to*. *Can* is used to indicate possession, ability, or permission. *Will* indicates future intent or prediction, while *would* condition. So far, the frequent use of *will, can,* and *would* do not impose any commitment on the U.S. to destroy ISIS. This will be discussed further in the discussion section.

In the following section (Figures 10 to 15), collocations and concordances of how relational, material, and modal verbs co-occur in the U.S. speech will be discussed. For this purpose, PR#35 (Press Release) will be the corpus to be used as an illustration. But before, explanation of how results were obtained in AntConc must be described.

For the relational and material processes, verbs *to have* and *to degrade* were randomly chosen and *will* for modality. To obtain the collocation, each verb was entered in the search box in the collocates tab. Collocations are then generated. To generate concordances, the most frequent word in the collocation section is selected. This automatically opens the concordance tab in AntConc showing all concordances. It is noteworthy to mention that sometimes characters considered as *rubbish* appear in the collocation results. This *rubbishness* is caused by software conversion (further discussed in chapter 5) and is discarded from the analysis. It comes in form of $x, x\%92s, x\%96$.

This qualitative study of analyzing collocations and concordances is to show how, where, and when the U.S. uses transitivity and modality. This serves to answer the research questions and validate hypotheses. We start with Figure 10 that shows the collocates of the relational verb *to have* as it appeared in PR#35.

Rank	Word	Count	Log-Likelihood	Chi-Square	Log-Odds	Log-Odds Ratio
1	you	24	2.1	5.07280	0	0
2	is	23	1.7	4.67405	0.03	0.03
3	the	12	1.7	2.99174	0.04	0.04
4	that	10	1.0	2.70111	0.01	0.01
5	a	9	1.7	3.01176	0.04	0.04
6	and	8	0.5	2.02504	0.01	0.01
7	at	4	1.7	3.66212	0.01	0.01
8	to	3	0.0	0.01202	0.00	0.00
9	in	3	0.0	0.01202	0.00	0.00
10	of	3	0.0	0.01202	0.00	0.00
11	with	3	0.0	0.01202	0.00	0.00
12	by	3	0.0	0.01202	0.00	0.00
13	on	3	0.0	0.01202	0.00	0.00
14	from	3	0.0	0.01202	0.00	0.00
15	for	3	0.0	0.01202	0.00	0.00
16	as	3	0.0	0.01202	0.00	0.00
17	in	3	0.0	0.01202	0.00	0.00
18	of	3	0.0	0.01202	0.00	0.00
19	with	3	0.0	0.01202	0.00	0.00
20	on	3	0.0	0.01202	0.00	0.00

Figure 10. Collocates of verb *to have*

You is the most used collocate (x is rubbish) with the auxiliary verb *to have* in the U.S. speech. Concordances of the pronoun *you* should be extracted

to interpret the meaning, which is in the next section in Figure 11 which shows how the verb *to have* concords with its collocates shown in Figure 10.

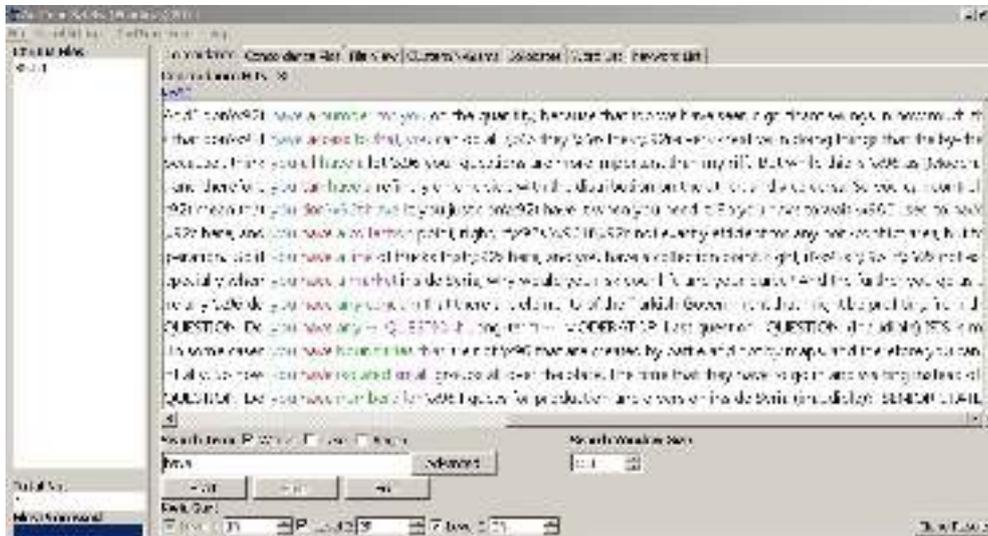


Figure 11. Verb *to have* concordances

Concordances of verb to have look like the following:

...you can have a refinery on one side with the distribution on the other, and vice versa.

...you have boundaries that are created by battle and not by map...

You concords frequently with verb *to have* in the U.S. speech to show control of the situation when it comes to ISIS. The processes of having and being are relational. Relational process has three traits: it establishes relationship, defines entities, and indicates possession. In this example the U.S. acts as if it owns the location. The next figure shows another example of transitivity represented by material process.

Figure 12 shows the collocates of the material verb *to degrade* as they appear in PR#35, sorted by frequency.

Decrease is the most used collocate with *to degrade*. How decrease co-exists in the text with *to degrade* is discussed in concordance Figure 13 where we see how the verb *to degrade* concords with its collocates shown in Figure 12.

Concordances of verb to degrade look like the following:

... and a strategic approach to degrade the ISIL operation and decrease significantly the level of revenues generated.

Decrease is used with action verb *to degrade* in the U.S. speech when the United States wants to prove that power is bearing down on ISIS's operations. The use of power is shown by the use of power verbs. Power verbs as defined by Faulkner and Faulkner-Lunsford (2013) denote action such as *ban*, *dodge*, *attack* and are usually transitive. Here, the concordance of *degrade* with *decrease* reinforces the idea that power is directly related to the decrease of ISIS. The more degradation happens, the more decreasing it is to ISIS.

Colloc.	Count	Percentage	Log Likelihood	Colloc.
1	2	0.2	1.062175	degraded
2	1	0.1	0.747254	lower
3	1	0.1	0.747254	verme
4	1	0.1	0.747254	colloc.
5	1	0.1	0.747254	colloc.
6	1	0.1	0.747254	colloc.
7	1	0.1	0.747254	colloc.
8	1	0.1	0.747254	colloc.
9	1	0.1	0.747254	colloc.
10	1	0.1	0.747254	colloc.
11	1	0.1	0.747254	colloc.
12	1	0.1	0.747254	colloc.
13	1	0.1	0.747254	colloc.
14	1	0.1	0.747254	colloc.
15	1	0.1	0.747254	colloc.
16	1	0.1	0.747254	colloc.
17	1	0.1	0.747254	colloc.
18	1	0.1	0.747254	colloc.
19	1	0.1	0.747254	colloc.
20	1	0.1	0.747254	colloc.

Figure 12. Collocates of verb *to degrade*

... is taking out strategic equipment and infrastructure that will make it difficult to produce the – to develop the oil, to produce it...

Will indicates future intent or prediction. And comes in to join two material processes with future intent. This shows that the U.S. is intending to fight ISIS and make things *difficult* for them at some point in time but not at the present time.

Figure 13. Verb *to degrade* concordances

Figure 14 explores modal verbs usage. It shows the collocates of the modal verb *will* as they appear in PR#35, sorted by frequency.

And collocates mostly with *will*. The next Figure 15 will explain the reason for the co-occurrences. It shows how the modal verb *will* concords with its collocates shown in Figure 14.

Concordances of modal verb *will* look like the following:

... *is taking out strategic equipment and infrastructure that will make it difficult to produce the – to develop the oil, to produce it...*

Will indicates future intent or prediction. *And* comes in to join two material processes with future intent. *This* shows that the U.S. is intending to fight ISIS and make things *difficult* for them at some point in time but not at the present time.

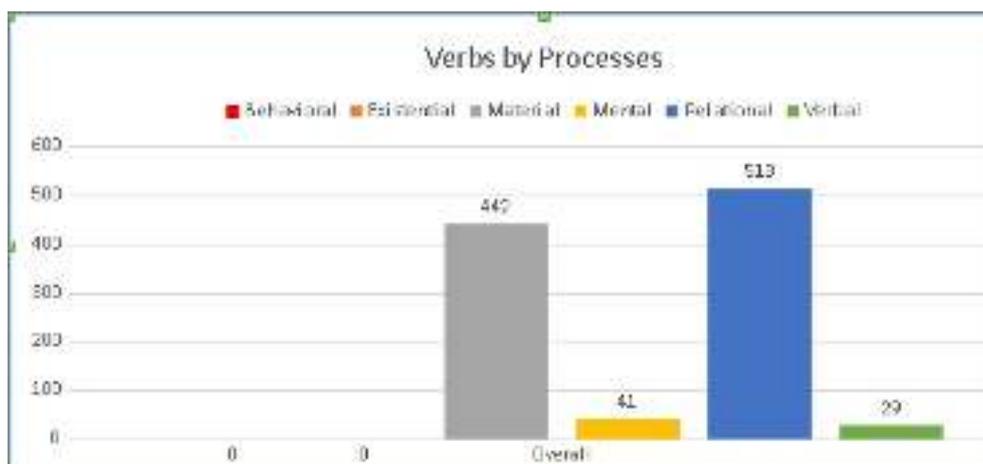


Figure 16. Overall verbs by Halliday's transitivity processes

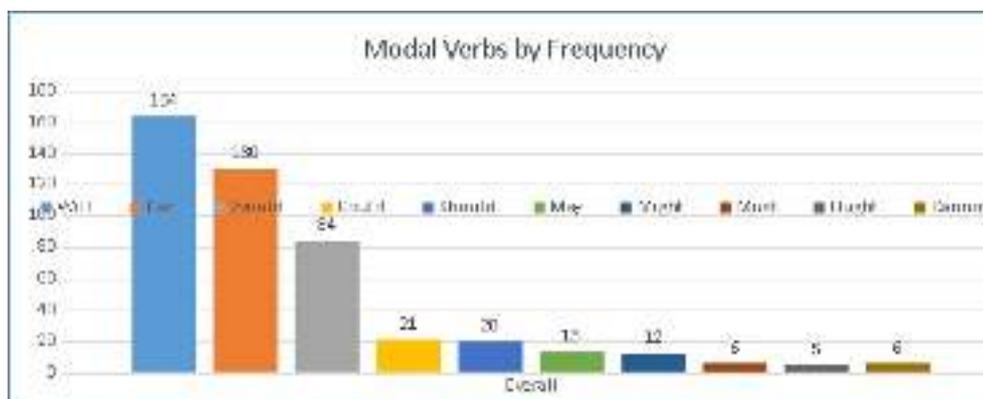


Figure 17. Modal verbs by frequency

Relational process leads the chart with 513 hits, followed closely by the material one with 442. Mental and verbal processes rank last with 41 and 29 hits, respectively. Verbs related to behavioral and existential processes are negligible or non-existent.

According to Halliday and Hasan [Halliday and Hasan, 1985], the choice of material, mental, and relational processes is strategic. These processes are always employed with reference to power. Material, mental, and relational are the main types of process in the English transitivity system. Figure 16 reinstates the dominance of relational and material processes in the speech of the U.S. State Department. Relational process establishes relationships and possession between two entities. There are always two participants: carrier and attribute. Material clauses are clauses of doing and happening of events as they take place through some action or energy. Material clauses, the source of the energy bringing about the change. There is typically a participant or the actor. More on the two processes will be discussed later in this chapter to see how relational and material processes unfold in the corpus.

The modal verb chart reveals that *will* dominates the chart with 164 hits while *can* ranks second with 130 appearances and *would* with 84. Other modal verbs such as *could*, *ought*, *should*, *might*, *cannot*, *must*, and *may* occupy low rankings. Saeed [Saeed, 2009] defines modality as a device that allows speakers certain levels of commitment and belief. *Must* is often used to indicate obligation. *Can* is used to indicate possession, ability, or permission. *May* is used to indicate a present or future possibility. *Should* is often used to indicate what is regarded as probable or reasonably expected. *Will* indicates future intent, prediction. *Could* indicates possibility or suggestion while would condition. The frequent use of *can*, *will*, and *would* in the corpus represent ability, future intent, and condition in the U.S. speech.

Combining all data, the affluence of relational and material processes in the speech of the U.S. State Department unravels that diplomacy and power come hand in hand. Halliday and Matthiessen [Halliday & Matthiessen, 2004] stated that relational clauses serve to characterize and to identify the process of being and having. There are three types of relational process in the clause: intensive (establishes a relationship of sameness between two entities), circumstantial (defines the entity in terms of location, time, manner), and possessive (indicates that one entity owns another).

Conversely, material clauses are clauses of doing and happening of events as they take place through some action or energy. Material clauses are concerned with our experience of the material world. On the other spectrum, mental clauses are concerned with our experience of the world of our own consciousness.

Mental processes is the processes of sensing perception (seeing, hearing, etc.), affection (liking, fearing, etc.), cognition (thinking, knowing, understanding, etc.). Another process which Halliday mentioned was the verbal process.

Verbal processes are symbolic relationships constructed in human consciousness and enacted in the form of language, like saying and meaning. Halliday and Hasan [Halliday & Hasan, 1985] said that it has been observed that the choice of material, mental, and relational processes is strategic. These processes are always employed with reference to power.

In this study, the aforementioned processes are predominantly present in the speech of the U.S. State Department regarding ISIS. Moreover, Van Dijk's micro level is studied at two levels: transitivity and modality. Modality is a device that allows speakers to express certain levels of commitment, assertion, or belief. Saeed [Saeed, 2009] stated that modality is the label given to meanings. These meanings include obligations, confidence, and assertions as to how confident the speaker is. The main carriers of modality are a set of auxiliary verbs called modals: *will*, *would*, *can*, *could*, *may*, *might*, *shall*, *should*, *must* and *ought to*. Modality is also encoded in adverbs such as *possibly*, *probably*, *presumably*, and *definitely*, as well as other expressions (e.g. *have (got) to*, *need to* and *be able to*). Modal systems allow speakers to modulate this guarantee – to signal stronger and weaker commitment to the factuality of statements. Auxiliary verbs in this role are called modal verbs. Deontic modality is where the verbs mark the speaker's attitude to social factors of obligation, responsibility, and permission. This means that the use of deontics is tied in with

all sorts of social knowledge: the speaker's belief systems about morality and legality and his or her estimations of power and authority.

The U.S. State Department's speech holds embedded intentions regarding the destruction of ISIL. The speech contains plenty of power verbs represented in the use of action verbs such as *destroy, fight, counter, defeat*. Power verbs as defined by Faulkner and Faulkner-Lunsford [Faulkner & Faulkner-Lunsford, 2013] denote action such as *ban, dodge, attack* and are usually transitive. The U.S. is resolved to fight ISIS, but at the same time, the U.S. is cautious. This cautiousness is represented by the use of relational verbs and modality. As the chart showed, relational verbs of *to be* and *to have* beat action verbs by a narrow margin, 513 to 442. The frequency of these verbs means the U.S. is willing to fight ISIS only with its allies' involvement. When the U.S. does that, it does it without obligation on its part. This is obvious in the choice of the modals *will* and *can* instead of a stronger one which reflects commitment such as *must*. The chart showed that *will* and *can* are used 164 and 130 times, respectively, as opposed to *must* and *should*, which appeared only 6 and 20 times. While *must* stresses obligation, *will* stresses personal choice. The modal verb *will* shows no obligation from the United States' part that their strategy is a success. Some of examples of how the U.S. uses its relations and negotiating before using power are shown in the following relational processes:

... so I don't think it should be a surprise to anyone that our coalition partners and us are involved in similar activities. PR#35

In this relational process, the United States uses the intensive type to establish a relationship of sameness between two entities.

...but our coalition is measurably already making a difference. PR#10

Here, the United States uses possessive type of relational process to indicate that one entity owns another by using *our coalition*.

We are critically dependent on all 60-plus nations that are engaged in this effort. The United States will keep tracking...PR#11

This is another reference of power-sharing through the use of the relational verb *to be*, as in *we are*.

We will keep working with the new Government of Iraq to respond to ISIL brutality against women and girls from all communities in Iraq, including vulnerable minority populations. PR#5

And we have the technology, we have the know-how. What we need is obviously the willpower to make certain that we are steady and stay at this. PR#14

Here, the United States resorts to relational verb *to have*, in particular the possessive type, to indicate ownership and possession.

While the U.S. resorts to diplomacy and cooperation with allies, this does not rule out the use of power against ISIS as it is shown in the following examples of material process:

...we value the contributions and efforts of all partners in the mission as we work together on a multifaceted and long-term strategy to degrade and defeat ISIL. PR#22

Acting together, with clear objectives and common purpose, we will degrade and destroy ISIL capabilities and ensure that it can no longer threaten Iraq, the region, and the world. PR#15

The actor in material processes has always been the United States and allies represented by the use of *we*. The process is that of degrading, destroying. The goal is ISIS. This shows power with non-obligation from the part of the United States by using material verbs or action verbs reflecting power, as in *degrade* and *destroy* coupled with the modal verb *will*, which denotes non-obligation. The actor in the material process is the United States and allies, the process is degrading, and the goal is ISIS.

Another look at how much the U.S. is committed in fighting ISIS is represented in the use of modal verbs as the following examples show:

We are uniting the world against a unified threat, and the President's strategy will succeed because doing it with allies and partners isn't just smart, it's strong. PR#2

The modal verb *will* shows no obligation from the United States' part that their strategy is a success.

...those local mobilization forces to train them in a manner that makes sense, to arm them, and to then marry them up, pair them up with Iraqi Security Forces so they can begin the process together to reverse the trends that Daesh has achieved. Okay. PR#9

...my early travels will be about the consolidation of the membership and the integration of what partners and potential members can contribute and how we integrate... PR#6

The U.S. speech here reflects power through giving permission to allies. This permission lies in the use of the deontic modality *can*, where the verbs mark the speaker's attitude to social factors of obligation, responsibility, and permission.

In overall, the United States mixes its usage of relational, material, and modality when speaking about ISIS. It uses the intensive type in relational process to establish a relationship of sameness between two entities and possessive type to indicate that one entity owns another by using our coalition. Another reference of power-sharing is through the use of the relational verb to be, as in *we are*. The United States resorts to relational verb to have, in particular the possessive type, to indicate ownership and possession.

The show of power and non-obligation from the part of the United States is achieved by using material verbs or action verbs reflecting power, as in *degrade* and *destroy* coupled with the modal verb *will*, which denotes non-obligation. The U.S. speech is characterized by overwhelming usage of the relational and material processes. This answers two research questions: firstly the type of process the U.S. has constantly used and secondly the use of power in U.S. discourse. The U.S. uses relational verbs of *to have* and *to be* coupled with material verbs of action such as *to destroy* and *to defeat* to show power and leniency at the same time. Of all other modal verbs in the corpus, the predominant presence of *will* and *can* questions the commitment of the U.S. in destroying ISIL. *Will* and *can* are used when there is no obligation. The U.S. believes that although it stands against ISIL, it does not feel obliged to destroy

it. This combines power and possession in the speech of the U.S. State Department. Moreover, the collocations and concordances of the relational and material verbs in the text depict how the U.S. exactly balances power and possession based on context.

To sum up, this chapter interpreted the speech of the U.S. State Department when speaking about ISIS. The analysis shows that the United States always uses material and relational processes reflecting power words in association with its allies' cooperation. Although the U.S. calls for the destruction of ISIS, it is not under obligation to do so. This is shown through the use of the modal verbs *will* and *can*. However, this does not mean the U.S. is weak. The corpus showed the use of relational possessive verbs *to have* to show possession of things and or others.

6. Conclusion

In this chapter, I will sum up the main points undertaken in this research, answer the research questions and hypotheses raised in this research, outline the limitation, and suggest for further research.

This research aimed at studying the discourse of the U.S. State Department using Halliday's transitivity theory to find out to what extent the U.S. is committed to destroying ISIS. This study compared the U.S. State Department's discourse on ISIS with their action by analyzing the U.S.'s speech regarding the terror group. This research used Hallidayan functional grammar, in particular transitivity theory, to analyze the speech of the U.S. State Department regarding ISIS. Transitivity theory uses the clause as a representation by looking into six types of processes: material, existential, relational, behavioral, verbal, and mental. Each process is characterized by participants and circumstances and therefore is directly related to the speaker's own experiences and needs.

This paper analyzed the U.S. speech using Van Dijk's model by semantically studying power through modality verbs. At the macro level, Fairclough's definition of power was applied. CDA is concerned with how power can be manifested in language. It studies discourse, which includes texts, talk, video, and practices. Political discourse is considered as a confrontation of personal interest over money, influence, and liberty. Van Dijk identified the dominant notions in CDA as inequality, power, dominance, ideology, hegemony, class, discrimination, gender, race, and others, which he labels as the macro level of analysis. Van Dijk stated that the micro-level of social order involves discourse, language use, verbal interaction, and communication. Reciprocally, power, dominance, and inequality belong to the macro level of analysis. In this, CDA has closed the gap between micro and macro approaches. In everyday interaction and experience, the macro and micro level form one, unified whole.

This study of discourse analysis is based on the clause as representation which is the model of language as a social semiotic outlined in the works of Halliday and his systemic functional linguistics. Functions of language are the way people use their language to do different things through writing and speaking.

Clause as representation, according to Halliday a language evolves in response to the specific demands of the society in which it is used. It reflects aspects of the situation in which it occurs, such as representation of human experience, where we use language as an instrument of thought or to conceptualize or represent the experiential or real world to ourselves. The six processes, which constitute the clause as a representation, were analyzed by adopting Fairclough's power in discourse at the macro level, looking for verbs that reflect power at the micro-level, analyzing Van Dijk semantically through the use of modality verbs. Modality, as defined by Saeed [Saeed, 2009], is a device that allows speakers to express certain levels of commitment, assertion, or belief. Griffiths [Griffiths, 2006] stated that modality is the label given to the meanings. These meanings include obligations, confidence, and assertions as to how confident the speaker is. The main carriers of modality are a set of auxiliary verbs called modals: *will, would, can, could, may, might, shall, should, must* and *ought to*. Modality is also encoded in adverbs such as *possibly, probably, presumably, and definitely*, as well as others.

The corpus for this study was provided from U.S. State Department press releases related to ISIS (www.state.gov). The corpus for this study is a 200-page corpora (around 46,806 words) consisting of speeches made by the Secretary of State, John Kerry, his deputies, and spokespersons regarding ISIS. The paper analyzed the corpora quantitatively and qualitatively. It searched for high frequency and modality verbs used in the speech of the U.S. State Department to see which process the U.S. is in. It then searched how these verbs collocate in sentences and how they reflect the status quo of the U.S. towards ISIS.

Combining all data and the affluence of relational and material processes in the speech of the U.S. State Department reveals that diplomacy and power come hand in hand. The analysis showed that, although the U.S. is willing to fight ISIS as is shown in the use of power words, it does not feel obligated to do so. Even when it does, it is always associated with the cooperation of the coalition forces.

This study attempted to answer the following questions:

1. How does Hallidayan transitivity expose embedded intentions in the U.S. State Department's speech regarding ISIS?
2. How does the U.S. State Department use power in discourse when speaking about ISIS?
3. To what extent does U.S. speech contain power-sharing when calling allies to fight ISIS?
4. What type of Hallidayan processes has the U.S. State Department constantly adopted concerning ISIS?

In answering question one, the use of systemic functional grammar rather than traditional approach to grammar helped to unfold the ambiguity and connotation in the U.S. speech regarding ISIS. It switched the concept of words connecting with words to sentences interacting with sentences. It revealed the level of power and diplomacy which the U.S. is willing to take in fighting ISIS. This leads to not only answer question one but two also. In two, the exploration of material process in Halliday's transitivity contributed to finding a concrete answer

to the power use in the U.S. speech where material process came second to relational process. Moreover, the existence of relational process in number one position with modal verbs shows the U.S.'s will to share power with allies in defeating ISIS and this answers question number three. Finally, question number four comes as a result to previous questions which shows the U.S. constant choice of relational process over material one when speaking about ISIS.

Although the research questions aligned with the research findings, the data collected did not completely support original hypotheses. The following hypotheses were raised in the beginning of the research:

1. The U.S. does not have real interests in destroying ISIS, as reported by the speech of the State Department.

2. The U.S. seeks allies' cooperation to destroy ISIS.

While the result validated hypothesis number two, it did not for number one. The lack lies in the interests of the U.S. in destroying ISIS. The result showed that the U.S. has interests to destroy ISIS even if it is in the long run. This is proven in the use of material process and modality. The charts showed high frequency of power verbs such as destroy, fight, defeat and modal verbs such as will, can would. The results countered hypothesis number one.

Limitations of the Study

Limitation issues in this study arose in the use of multiple software and interfaces. This study faced problems in encoding when converting from Microsoft Word to Text file and then uploading the results to the AntConc platform. The conversion led to creation of rubbish or garbage characters such as x\92, x\94 in AntConc. This caused an oversize in the corpus and sometimes difficulties in reading the results in AntConc.

Recommendations for Further Research

Since language is ever-changing, studied diachronically and synchronically, this research could be further studied as a signpost of how discourse changes over time by applying different linguistic approaches to have more insight on how CDA is constructed.

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APPENDIX A SPEECH SOURCES

- PR#1: 08/03/14. ISIL Attacks in Ninewa Province.
- PR#2: 09/05/14. Remarks at Top of Meeting on Building an Anti-ISIL Coalition Co-Chaired by Defense Secretary Chuck Hagel, U.K. Foreign Secretary Philip Hammond, and U.K. Defense Secretary Michael Fallon.
- PR#3: 09/10/14. On the President's Speech on ISIL.
- PR#4: 09/13/14. Announcement of General John Allen as Special Presidential Envoy for the Global Coalition to Counter ISIL.
- PR#5: 09/18/14. The ISIS Threat: Weighing the Obama Administration's Response.
- PR#6: 09/19/14. Building International Support to Counter ISIL.
- PR#7: 09/23/14. Senior State Department Official on Diplomatic Efforts to Build a Coalition to Confront ISIL and Iraq in Syria.
- PR#8: 09/24/14. Underscoring ISIL and Assad Regime Abuses, Secretary Kerry Meets With Syrian Women Human Rights Activists.

PR#9: 09/25/14. G-7 Foreign Ministers' Statement on Joint Action to Fight the Terrorist Organization ISIL/DAESH.

PR#10: 09/26/14. ISIL's Murder of Iraqi Human Rights Lawyer Samira Salih al-Nuaimi.

PR#11: 10/09/14. Special Presidential Envoy John Allen Meetings with Turkish Officials on Efforts to Counter ISIL.

PR#12: 10/14/14. ISIL's Dehumanization of Women and Girls.

PR#13: 10/15/14. Remarks to the Press on Countering ISIL.

PR#14: 10/17/14. Readout of the International Working Group Meeting on Sanctions Targeting ISIL, al-Nusra Front, and the Assad Regime.

PR#15: 10/31/14. U.S. Condemns ISIL Executions in Anbar Province.

PR#16: 11/03/14. State Department Hosts Inaugural Plenary Meeting of the Global Coalition to Counter ISIL.

PR#17: 12/03/14. Joint Statement Issued by Partners at the Counter-ISIL Coalition Ministerial Meeting.

PR#18: 12/09/14. Authorization for the Use of Military Force against ISIL.

PR#19: 01/22/15. Remarks with U.K. Foreign Secretary Philip Hammond before the Counter-ISIL Coalition Small Group Meeting.

PR#20: 01/24/15. ISIL Murder of Japanese Hostage Haruna Yukawa.

PR#21: 02/03/15. Secretary Kerry Hosts Plenary Meeting of the Global Coalition to Counter ISIL.

PR#22: 02/24/15. New Zealand Defense Force Training Contribution to the Counter-ISIL Coalition.

PR#23: 03/20/15. Establishment of the Counter-ISIL Finance Group in Rome, Italy.

PR#24: 03/25/15. Counter-ISIL Coalition Provides Air Support in Battle for Tikrit.

PR#25: 04/15/15. Deputy Secretary Blinken and Iraqi Prime Minister Abadi Brief the Plenary Meeting of the Global Coalition to Counter ISIL.

PR#26: 08/06/15. Plenary Meeting of the Global Coalition to Counter ISIL.

PR#27: 09/28/15. Statement by the Members of the Global Coalition to Counter ISIL: The Coalition at One Year.

PR#28: 09/29/15. Rewards for Justice - Reward Offers for Information that Leads to Disruption of Financing of Islamic State of Iraq and the Levant (ISIL).

PR#29: 10/23/15. Under Secretary of State for Public Diplomacy and Public Affairs Richard Stengel to Travel to the United Kingdom for Meeting of Counter-ISIL Coalition Strategic Communications Working Group.

PR#30: 10/30/15. Meeting of the Small Group of the Global Coalition to Counter ISIL in Brussels, Belgium.

PR#31: 11/04/15. Statement by Members of the Small Group of the Global Coalition to Counter ISIL.

PR#32: 11/18/15. Rewards for Justice – Reward Offer for Information on ISIL Terrorist Abu-Muhammad al-Shimali.

PR#33: 11/20/15. Coalition Efforts against ISIL.

PR#34: 11/23/15. Readout of the Plenary Meeting of the Global Coalition to Counter-ISIL.

PR#35: 12/04/15. Background Briefing on ISIL and Oil.

APPENDIX B
BACKGROUND BRIEFING ON ISIL AND OIL
Office of the Spokesperson; Washington, DC

MODERATOR: Great. Guys, without further ado, all of you or many of you know [Senior State Department Official] here to talk to us today on background as a senior State Department official about a topic that's been front-page news, especially in the last week or so: ISIL and oil. So given the time constraints, [Senior State Department Official] has got about a half hour. I'll let [Senior State Department Official] say a few words at the top and then we'll open it up to questions.

SENIOR STATE DEPARTMENT OFFICIAL: And I'll be brief at the top because I think you all have a lot – your questions are more important than my riff.

But while this is – as [Moderator] said, while this has been in the press for – specifically for the last couple of weeks with some of the Russian – with help from some of our Russian friends, this is an issue that we've obviously been looking at for quite some time. And as [title withheld], we look at the relationship between where – energy and national security and energy and terrorism and so on all around the world.

So when the conflict first began before ISIL even became a household name, we looked at the energy assets in Syria and in working – we had quite a bit of information about the fields that were operating in Syria before the conflict and what their capacity was, how they work. And if you – obviously, if you take a look at the areas of control – territory of control for the last 18 months and you do a fast-forward and look at who's controlled what territory, clearly, the energy infrastructure was something – both the natural resources in the ground as well as the infrastructure around them were of great interest to – throughout the conflict for those vying for control. And ISIL has done a good job of taking that control of a lot of the energy assets. So we've been looking at this for quite some time.

At the beginning of the conflict, what we wanted to do – what we did was take out the refining capability and took out most of the existing and mobile refineries that ISIL was utilizing that already existed as well as new ones that they were putting in place, these mobile ones that are – that you can put it together in pieces. And we took that capability out several months ago. We also attacked some of the oil collection points.

After – once we had – after the Abu Sayyaf raid, the so-called oil emir, which has given us more data than any other operation has ever given us, we were – we spent some time analyzing it from – cross-referencing it, first translating it and understanding it, and that gave us a better understanding of the operation and how they were – how ISIL was both monetizing as well as effectively managing the infrastructure. And I believe that the energy for ISIL is not only about revenue. It is also about symbols of control of territory, symbols of a state that are – that I believe are false, which means – even more important to address this.

So – but I don't believe that what some have suggested in the press of – oh, all you have to do is attack an oil field and that's the solution. It's a lot more complicated than that. If you attack the wrong assets, they can be rebuilt, and they take it out of commission for a matter of days, weeks, months, but not – doesn't have that degrading capability. So what we look to do is how do you both degrade the capability and decrease the revenue generation? And that's what we started doing several weeks ago already, as you've seen. One was going after the trucks, and the message there is that there is no safe part of the operation. If you go

on Google Earth from a few months ago, you will see these massively long lines of trucks at collection points. If you go on Google Earth today, I don't think you'll see them. So it disrupts the operation and slows it down.

And in addition, it's to ramp up the targeting of more significant and strategic assets and infrastructure within the oil and gas operation. Additionally, the other aspect of it is what my colleagues at the Treasury Department did when they designated certain entities for the trade with the regime. That is obviously not going to stop the trade with the regime. It doesn't all happen through that one channel that was identified. It will take a combined effort of what we do from State, Treasury, DOD in order to bring that – to slow that down.

I'll say the last word that I'll say and then I'll open it up to questions, is the – we've seen a lot of discussion on smuggling from ISIL into Turkey. Russia has put together, I think, a website where they have a lot of this information with beautiful colored maps. We – our assessment is that there is not a lot of smuggling happening of any significant volume between ISIL-controlled territories and Turkey. Actually, if you want to talk about smuggling of oil products, we believe it's decreased over time rather than increased, and that's partly because of efforts of the Turks and partly because of our efforts in the air campaign that have targeted some of the supply chain lines.

When you talk about trucks and you talk about significant volume – I just want to pause on that for a minute – there's 200-250 barrels of oil per truck depending on quality of the truck and so on, but that's – that's sort of the range. If you talk about significant volumes of oil being smuggled into Turkey – so let's say significant – at the low end of significant would be 20,000 barrels a day – that's over a thousand trucks a day that would have to go through these areas. The economics don't make sense for that to happen, the evidence is not there to suggest that they are – that we would see – we would all, you and us, would see thousands of trucks going through this territory. It would have to cross several different areas of control from ISIL to Free Syrian Army to regime, et cetera, and across the border.

At every point, you would have to pay fees, so the economics of this are also – of this assertion are challenging. So I don't see a lot of merit in the argument that there is significant smuggling going on between the regime and Turkey, certainly not with knowledge of the regime. Is there some smuggling across the border? I'm sure there is. But it's small amounts and it's probably of a variety of products and these are areas that have had – probably had smuggling operations since the Roman Empire. So – but I don't think it's of any significant volume or – volume from a – volume of oil or volume of benefit financially.

I'll leave it there.

QUESTION: So where is it going?

SENIOR STATE DEPARTMENT OFFICIAL: Where is what going?

QUESTION: The oil.

SENIOR STATE DEPARTMENT OFFICIAL: Where is the oil if it's not going to Turkey? The oil is being consumed almost entirely inside areas of control of Syria and trading with the regime, and so it's almost entirely in that controlled territory.

QUESTION: And so how do they make money off of it if they're selling it to themselves?

SENIOR STATE DEPARTMENT OFFICIAL: ISIL is not selling it to itself as an organization. It is selling it to – into the economy. Conflict zones have economies of their own. People still need diesel, petrol for fuel for cars, rudimentary power generation. So if you look at the size of Syria from a population perspective, a classic in-conflict economy, it still needs that. This is not a volume that is outside of what is needed to supply this size of an area and population.

QUESTION: Do you have numbers for – I guess for production and diversion inside Syria (inaudible)?

SENIOR STATE DEPARTMENT OFFICIAL: I can't share a number of what their actual production is at the moment. We do track that, but it also – it fluctuates. So before an air campaign, after an air campaign, very different production levels. What you – what we can see is the number of stills and pits that are being dug into. So again, Google Earth is my friend sometimes, and you can see across territories that a year ago was just flat desert or flat open area and now is hundreds if not thousands of small pits, stills. And part of that is moving the operation from a 20th-to-21st century operation to a 17th century operation. But that shows you, again, the volume of oil that is being produced as well as the system of how it moves.

QUESTION: What is your estimate on the amount of trade between ISIL and the regime directly, about what percentage of ISIL's oil capacity does that take up?

And then secondly, in a briefing – I think it was in a briefing that Mark did earlier this week, he mentioned that a lot of the oil coming out from ISIL's controlled area is of low quality. So with that in mind, what's the target market or is there a middle person who's doing something to enhance the quality of it?

SENIOR STATE DEPARTMENT OFFICIAL: Let me start from the end because it informs the beginning. If you go back nine months ago when they – or maybe longer when they had the – when they had these refineries that I was referring to earlier – the word I should have used before is the modular. They have – they had – they put together these modular refineries, and the quality was much higher as a result. So they, at that point, still had the ability early in the conflict to produce the oil and using the – utilizing the old Syrian infrastructure that was there, which was not bad, and using existing refinery – new modular refineries that were all producing higher-grade, higher-quality products. And therefore you could get a higher price for it both internally and in trading with other parts such as the regime.

The low quality is because of the degrading effort that we are doing. So the success of our operation is not to take away their ability to refine – to produce. That can only be achieved from – by losing the territory, right? If you control the field – these are fields that almost produce on their own. But as long as you keep it low quality, what you can get for it is much lower, the interest of smugglers is reduced. And for the regime, they are largely looking at gas that they need from them and some petroleum products. And I don't have a number for you on the quantity, because that too we have seen significant swings in how much they're buying at any given point. And at some points it's – when they get a crunch in inside regime-controlled areas you'll see a spike up of volume, and then it will be reduced again.

QUESTION: But that's not traffic that's unusual in this – during the civil war. I mean, the – one of the oddities of the Syrian civil war has been that when the FSA takes a refinery or a gas transmission plant or something, it never disrupts the flow of fuel to the Syrian Government. In fact, the Syrian Government pays for it, maybe pays the salary of the people working there, and that's been going on well before ISIS was declared an enemy organization. I mean, the FSA worked with the Syrian Government in the same way too to provide services to cities. Isn't that the case?

SENIOR STATE DEPARTMENT OFFICIAL: So first we see this in – around the world in conflict areas where you have some oddities of trade that happens at the ground level of the people there because – and sometimes disrupting the flow would disrupt the flow not only to your enemy but to yourself as well. So it's hard to control flow direction in some cases. In other cases it's a revenue generator and you need the money. And in some cases you

have boundaries that are not – that are created by battle and not by maps, and therefore you can have a refinery on one side with the distribution on the other, and vice versa. So you can control the power plant but not the distribution. So I have the power plant and you have the fuel, and we either both have no power or we both have power, because you can't do one without the other. So there is some element of that.

It doesn't mean, however, that my answer to the previous question isn't true --

QUESTION: No, I'm just saying --

SENIOR STATE DEPARTMENT OFFICIAL: -- that trade is happening and it --

QUESTION: But you haven't seen it change particularly over the last four years. I mean, an energy facility that's in the opposition's hands, whoever they may be, is often still providing fuel to the regime.

SENIOR STATE DEPARTMENT OFFICIAL: So that's right. There is a lot of trading with the regime, and ISIL has at some point had highs of trading with the regime. I think, actually, over time there's – it ebbs and flows not – the regime would prefer not to. What it – what we can see is that they prioritize other areas of self-supply and – but there is still that trade.

I was asked the question – again, I'm answering the question of what happens to this oil that's being produced. Where is it going? It's being utilized inside – my point is it's being utilized inside Syria and to some degree ISIL-controlled areas of Iraq. It is not going outside of there.

QUESTION: So --

SENIOR STATE DEPARTMENT OFFICIAL: And there is enough of a market – sorry.

QUESTION: So what do these Russian images show? Or are they completely fabricated?

SENIOR STATE DEPARTMENT OFFICIAL: The images are obviously not fabricated, but they're dated in some cases. They had an image that I saw that they were producing that was of the lines of trucks. These are lines of trucks in front of collection points. No doubt there are lines of trucks in front of collection points. That's why we attack them. And that was my point before, that there's no safe area.

That doesn't mean that those – their suggestion or I think inference is that here's a line of trucks and that's how it goes to Turkey. No, this is a line of trucks that collects the oil but then distributes it throughout Syria. That's the veins of the operation, if you will. What I have not seen is imagery of the border crossing with trucks crossing the border, and that's because I don't believe that exists.

QUESTION: At all? (Inaudible.)

SENIOR STATE DEPARTMENT OFFICIAL: Very – small numbers. I'm not saying at all.

QUESTION: Well, and if – and then, so in that small amount, is there any – do you have any concern that there are elements of the Turkish Government that might be profiting from them?

SENIOR STATE DEPARTMENT OFFICIAL: I have not seen any evidence to suggest that the Turkish Government is behind smuggling operations --

QUESTION: No the government. Elements of the government. (Inaudible.)

SENIOR STATE DEPARTMENT OFFICIAL: I have not – I don't have any information to suggest that. But again, it's also of such small – we believe that it's of small volumes that makes money and makes sense at the lower level of the territory where it's happening, the cross-border exchanges, but not at the level that makes a – that makes a much bigger difference.

QUESTION: The physical equipment that's been destroyed so far by coalition airstrikes, where has ISIL been able to get the replacement parts – the pipes, the concrete, the rebar – in order to rebuild it? Is that from existing inventory inside Syria? And if it's coming from outside the country, how is ISIL getting around existing sanctions?

SENIOR STATE DEPARTMENT OFFICIAL: So it's a great question, because --

QUESTION: And the mobile refineries.

SENIOR STATE DEPARTMENT OFFICIAL: Yeah.

QUESTION: Yeah.

SENIOR STATE DEPARTMENT OFFICIAL: So the mobile refineries was very early on in the conflict before there was a lot of understanding and blocking of smuggling routes and so on. So they were just bringing that stuff in across a variety of borders. That has stopped. That we haven't seen since we've taken out the mobile refineries and since we became aware of it. It's been months since we've seen any of that activity.

As far as the equipment that you need, it's important because that's part of the stepped-up approach here is to look at the infrastructure, the equipment and infrastructure that we've taken out. Some of it can be repaired by cannibalizing their own fields. And we see that whether you do that by aggressively taking out equipment, or in the case of Iran sanctions where you need replacement parts because the part broke down, what do you do? You can't import it because of sanctions, so you go to another field, you take a piece out of there and you put it in here and you start prioritizing your fields, and some will not be able to be operational.

That is why the capacity – the capacity of production for Syria is far higher than the production itself, because there's that delta they're not able to utilize the fields in the same way because they don't have the equipment. However, if you go to a service – an oil services company, they will tell you, "Here's what you need to operate a field." That's in optimal positions of the Western and modern era. But I can tell you from going around the world in areas that don't have access to that, you can do all – they – they're very creative in doing things that the by-the-book engineering doesn't actually provide for. So they've been able to do some things with some chicken wire and a pack of chewing gum. But there's a limit to that.

QUESTION: Right.

SENIOR STATE DEPARTMENT OFFICIAL: So they've been able to do it from within Syria and from areas that they have – remember we had a whole battle around the Baiji refinery. There was a – they controlled fields inside Iraq for a while before they lost that territory, the Ajeel fields. So that's a production capability that they had when they controlled that territory in Iraq. They've lost that territory since. But they've also been able to take equipment out of some of these places and re-use them in other places.

The stepped-up approach that we are engaging at the moment of taking out some of this infrastructure is a lot harder to replace, a lot harder to rebuild, and that's the goal. And I will say smuggling is – the oil smuggling from Syria or from ISIL-controlled territory into Turkey is what I was saying I don't believe happens. There is still smuggling that we are concerned about and look at and we want to do a better job at stopping, and that's – sometimes it's not the oil, it's the equipment. And we were also – while we're attacking, we're also making sure that we have a better control of equipment coming in in order to avoid what you just described.

QUESTION: Two questions. One is that ISIL has been controlling some of those areas over two years, 2013, even 2012. If – how about those years, '13 and '14, how was the smuggling of oil to Turkey then?

And the second question is: Talk about the Abu Sayyaf information and there are many credible reports published in the Western media that those reports show some of the important links between Turkey and Turkish government officials and ISIL. Can you talk a little bit about all those?

SENIOR STATE DEPARTMENT OFFICIAL: So first, on '13, '14 – I don't have information of – any credible information at all of Turkish Government and ISIL coordinated smuggling operations. And look, if you look to the history of this area pre-conflict, during the Assad, Sr., Hafez al-Assad, you will see that there was some smuggling happening because of the arbitrage. You have – and you have this black market emerge when one side of a border has subsidized prices and the other one has less subsidized prices, and you therefore have a liter of petrol being sold at 50 cents here and \$2 on the other side. You just created a black market, right? Just by the fact that those two – those two facts.

So was – is there smuggling that happens that has gone on for over a hundred years on this? Yes. My argument is that there is no – there hasn't been, that I know of, a government-inspired smuggling operation from ISIL control at any given point. Overall, I will say that my discussions with my Turkish counterparts have been good on this issue. We have shared information. We are working to avoid it, and that's why we're seeing this decrease in the smuggling. It's a very long border. So that's as far as the 2013, 2014.

As far as the Abu Sayyaf information, I have – I've seen the areas of the information that are relevant to what I do for a living, which is going after the energy pieces, and in what I've – all I can tell you is that from what I've seen, I have not seen any of the rumors that are reported in some areas on the internet.

QUESTION: Can I ask, you said they were not coordinated – nothing – you haven't seen any coordinated effort between what's coming out of Syria and then the Turkish Government. But what about the henchmen, the middlemen? I mean, is it possible that some of that does find its way into the market through the henchmen, through the middlemen, and making the --

SENIOR STATE DEPARTMENT OFFICIAL: But I'm saying a much broader --

QUESTION: Well, there's about a dozen of them, right?

SENIOR STATE DEPARTMENT OFFICIAL: But I'm – what I'm saying is a much broader point, and that is that the volume itself of the oil being smuggled is extremely low and is decreased over time and is of no significant – significance from a volume perspective, both volume of oil and volume of revenues.

So is there some? There's always some. In everywhere part of the world oil smuggle – smuggling happens, in conflict areas more. But I don't believe – counter to what is being suggested in the press, I don't believe that there is significant smuggling between the two. So we can argue about the few dollars that are there, who's making them, and that. But to me, that's less important than the fact that we are taking a systematic approach and a strategic approach to degrade the ISIL operation and decrease significantly the level of revenues generated.

QUESTION: And where does this smuggled oil that goes to Turkey go after that? Just if –

SENIOR STATE DEPARTMENT OFFICIAL: So here --

QUESTION: The problem --

SENIOR STATE DEPARTMENT OFFICIAL: Yeah.

QUESTION: The reason that we're harping on this --

SENIOR STATE DEPARTMENT OFFICIAL: Yeah.

QUESTION: -- is the Russians came out on the record -- unlike this -- and presented all this stuff that they claim is evidence. And you guys --

SENIOR STATE DEPARTMENT OFFICIAL: So I -- no, no, no -- but we have said on the record -- I will say on the record I do not believe there is significant smuggling between ISIL-controlled areas and Turkey of oil of any significant volume. I'll say that on the record. I'll say it now. I --

QUESTION: I'll check the spelling of your name now. (Laughter.)

SENIOR STATE DEPARTMENT OFFICIAL: I said it in a -- at a congressional testimony three days ago. And I think that [Moderator] addressed that in [Moderator] comments, and DOD addressed it I don't know how many more times.

MODERATOR: Right.

SENIOR STATE DEPARTMENT OFFICIAL: So the reason that I'm -- I was smiling when you asked the question, because I'm saying that there's very little smuggling going on, and you're saying, but what's being smuggled; where's it going?

QUESTION: Exactly.

SENIOR STATE DEPARTMENT OFFICIAL: But it's small, and it's going -- it's -- if you look at the overall -- let's go back to what I said at the beginning. What is a -- what is a real volume of oil where you start to say, okay, this is somewhat meaningful? A couple thousand barrels a day in a country like Turkey is -- I wouldn't even recognize it in the overall because of the amount of consumption in Turkey, right? So let's say 20,000 barrels a day, right, out of the millions that they consume. And that still would be -- for most companies, that would be a speck that they wouldn't even notice, but let's say. That's over 1,000 trucks a day. And I don't see 1,000 trucks a day; I don't see 500 trucks a day; I only see even half of that. So we're talking about very small amounts of oil.

Now as far as going into what -- going into the pipeline -- so people are going to risk their careers and everything else to make a few dollars. And remember, spectrum of the -- the arbitrage revenue here is tiny. It's meaningful to a truck driver, right? But to a company or a government official and so on, it becomes less and less meaningful. And the more hands this goes through, the less revenue there is here. So you got to look at sometimes -- I understand that the Russians came out on the record, but you got to also operate some common sense. They're talking about the arrows -- the beautiful arrows that they have -- it's a great PowerPoint -- that are going in different directions. Look at through which areas of control on their own map of the different color coding. You have to pay a lot of money -- every truck driver got to pay a lot of money, relatively speaking, to cross boundaries from territory to territory.

So this is not an economically viable operation. Especially when you have a market inside Syria, why would you risk your life and your purse? And the further you go as a truck, you make less money because you got to drive back empty, right? Taxi drivers in New York hate taking you to Newark, right? Got to come back empty.

QUESTION: How much -- how much of an impact have the strikes had on their overall oil fundraising operation? We always hear --

SENIOR STATE DEPARTMENT OFFICIAL: When you say "fundraising" --

QUESTION: Well, I mean, the -- their -- how they make money, how ISIS makes money then funds its operations. How much of an impact have you had?

SENIOR STATE DEPARTMENT OFFICIAL: It's a good question. The first phase, when we took out the refineries, took a hit on the value per barrel, right, on the how much money they can get per barrel, because the quality went down. Once you took out the refining – and when I say “took out the refining,” they're still refining. But you took out the quality refining and did stills and pits and so on which is much more rudimentary. So you – you degraded the value of the barrel.

The next step was by bombing some of the collection points is you're narrowing the scope of where the trucks would collect. So they're not collecting in as many places, which means trucks are standing in line for sometimes days, if not a week, waiting their turn to come and collect. So you degrade the operation then.

The next phase now that we're doing over the last several weeks is taking out strategic equipment and infrastructure that will make it difficult to produce the – to develop the oil, to produce it, take it out of the ground, and move it. And that will have – that already we are seeing – it's too early to say to – from a monetary perspective, but we're already seeing a very significant slowdown in the operation.

So if you have a line of trucks that's here, and you have a collection point, right, it's – it's not exactly efficient for any non-conflict area, but for a company that's not so bad, right? But if you now say the trucks can no longer feel safe and secure in waiting in this area – they have to disperse and every truck driver says, hey, you, don't get your truck near me, because the second they see a group, they're going to bomb it or potentially. So now you have isolated small groups all over the place. The time that they have to go in and waiting instead of one – instead of 5, 10 trucks at a time at a wellhead or at a collection point, now you have one at a time. Those – now you've – that slows down the operation. That's a monetary.

So it's not – it's – you have to look at it from the entire value chain of how ISIL does business in order to be able to understand that you're affecting the chain. So we've had a significant impact. Ask me again in three, four weeks from now when we've had more time to analyze and see what's lasting versus what's temporary adjustments, and I'll be able to give you a better answer on that.

QUESTION: Is there a --

QUESTION: (Inaudible) taking out the trucks?

QUESTION: (Inaudible) is ISIS making per day?

QUESTION: What do you make of the --

MODERATOR: Go ahead here and then --

QUESTION: What do you make of the ethical concerns of – taking out the trucks when it comes to the notion that some of these drivers are coerced by ISIS and may not be ISIS members themselves?

SENIOR STATE DEPARTMENT OFFICIAL: We are doing – we are going above and beyond what we can to minimize the loss of life in this, and I think the Pentagon has briefed that on --

MODERATOR: Yes.

SENIOR STATE DEPARTMENT OFFICIAL: -- we provide early warnings, enough time for the drivers to get away. And we have – remarkably have taken out a significant amount of trucks with a minimal loss of life.

QUESTION: How --

SENIOR STATE DEPARTMENT OFFICIAL: So I think we are paying attention to that.

QUESTION: You said, “We are doing above and beyond what we can.” Is that possible?

SENIOR STATE DEPARTMENT OFFICIAL: No, I’m saying as far – (Laughter.)

QUESTION: (Off-mike.)

SENIOR STATE DEPARTMENT OFFICIAL: Fair enough. Fair enough. Yeah, you’re right. You’re right. Good – linguistically, you are correct. (Laughter.)

QUESTION: But there is a notion that State --

SENIOR STATE DEPARTMENT OFFICIAL: Thank you.

QUESTION: There is a notion that State has pushed the Pentagon in terms of the Pentagon having concerns and legal concerns about what it’s doing in the strikes, and that State has been more eager to take risks or to green light strikes of these truck drivers that are moving out the oil.

SENIOR STATE DEPARTMENT OFFICIAL: When you say “there is a notion” --

QUESTION: Heard in the halls of the Pentagon.

SENIOR STATE DEPARTMENT OFFICIAL: I – it would – far be it for me to respond to the rumors in the halls of the Pentagon. This – we operate in a coordinated effort. We work very closely with our colleagues from the Pentagon, the White House, Treasury Department, others, on a regular basis. And so, again, I’m not going to respond to water coolers at the Pentagon.

QUESTION: Are the Brits, the French, and the Russians --

MODERATOR: A couple more questions, guys. Dave.

QUESTION: Yeah. Are the Brits, the French, and the Russians operating off the same target lists? Are they aiming for the same oil infrastructure?

SENIOR STATE DEPARTMENT OFFICIAL: This is a coalition effort, and we have a very --

QUESTION: The Russians aren’t really in your coalition. They’re parallel.

SENIOR STATE DEPARTMENT OFFICIAL: Oh, I thought you said the British.

QUESTION: The British, the French, and the Russians.

SENIOR STATE DEPARTMENT OFFICIAL: We’re not going in with the Russians. The British and the French and others, to that part of your question, it’s a coalition effort, and we are – we obviously share information with each other. And I would direct you to the Pentagon to ask on specifics of coordination.

QUESTION: Okay. I had asked because the first targets, when the Brits got into the operation, was oil. And the French, when they got into the operation in Syria, their first target was oil, as well. And I’ve heard in the halls of some embassies that they were keen to – (laughter) – they were keener than some Americans to make that the priority for their strikes.

SENIOR STATE DEPARTMENT OFFICIAL: Well, I think that they’re coming at a time when we have been publicly briefing that we are addressing the energy infrastructure, so I don’t think it should be a surprise to anyone that our coalition partners and us are involved in similar activities.

QUESTION: Okay, that’s my warmonger question. But now my hippie question. Is there environmental blowback damage if you hit the well heads? Could you trigger environmental damage? We all remember the images from Kuwait when Saddam deliberately blew up oil wells.

SENIOR STATE DEPARTMENT OFFICIAL: Yeah, we are sensitive to that. And I actually think that the things that create the environmental damage are also less effective. So what

we're trying to do is be strategic, is not bomb everything that is near an oil spot. But rather, look at what infrastructure is utilized most effectively by ISIL, harder to replace, rebuild, repair, and has the least degree of all kinds of collateral damage, environmental being one of them.

QUESTION: Do you have any --

QUESTION: Long-term --

MODERATOR: Last question.

QUESTION: (Inaudible) ISIS is making per day, would you estimate, in revenue?

SENIOR STATE DEPARTMENT OFFICIAL: I know that some people give estimates of numbers of dollars. I don't like it, because I think it changes radically. The numbers out there have -- well, no, I'm going to leave it at that. I don't want to guess the revenues. People have talked about \$500 million from the oil revenue a year.

QUESTION: That's revenue (inaudible) --

SENIOR STATE DEPARTMENT OFFICIAL: Right.

QUESTION: -- a day and the Pentagon says \$1 million a day.

SENIOR STATE DEPARTMENT OFFICIAL: One and a -- yeah I would say probably close to one and a half, one to one and a half. But that's -- again, that's based on what's the price of oil. And I would say that the revenue -- we have to do a reassessment on that in a month from now, now that we've had a significant effort, which means that the cost basis of the value per barrel has changed.

Remember, a truck driver now has to think very differently about do I want to engage in this operation than it did before. That usually means not only consideration when I talk with my family, "Is this a good business to be in," from a health perspective, but also if you decide to do it, we're going to charge more money for this. So it changes the modernization aspects of it. And --

QUESTION: Because since the bombing strikes have started from Incirlik a few weeks ago, the dollar amount hasn't changed significantly.

SENIOR STATE DEPARTMENT OFFICIAL: And you know that because?

QUESTION: You just said they were one to one and a half million.

SENIOR STATE DEPARTMENT OFFICIAL: No, I'm saying that's been the number that we've been using, is the -- about one-and-a-half million. But I just said give me another few weeks. I can't analyze last week's effects today. It takes a little bit of time to see.

Also, remember that with any targets ISIL is going to take some time to adjust. And I don't know how they're going to adjust. And when they adjust -- what I tell you -- people talk about their ability to adapt, and people underestimate that we have an ability to adapt, as well. And so they will adjust to what we've done and what we're doing, and we will counter-adjust as well.

MODERATOR: Folks, last question here.

SENIOR STATE DEPARTMENT OFFICIAL: I hope this is --

QUESTION: Okay. The system you're describing here, as you break up this infrastructure and discourage them, what have you detected is the impact on the supply of fuel to the residents of the Islamic State-controlled area? Do they still have cooking gas? Are they having difficulty just carrying out normal transportation around the areas? What do you see as the impact on the local populations?

SENIOR STATE DEPARTMENT OFFICIAL: So, first, as I've described, over the last year you've seen lower-quality oil, which means that it's going to be a lot harder to utilize effectively, if you're -- you all know here, in the United States, depending on what fuel you put in your car, it's going to affect the -- your engine.

But there is still a functioning – relatively speaking, functioning – capability, but without a doubt, it's under strain. And it's much more difficult. And you've seen that the hours of power generation have been cut down. People are using less the grid and more generators, and so on. And that's part of a function of just --

QUESTION: Generators require fuel, too.

SENIOR STATE DEPARTMENT OFFICIAL: That's what I'm saying. So the grid goes down, you start using a generator – I mean, this is normal, I can tell you this in almost every conflict that I've been in. The grid gets affected first. Second, people move over to generators to supplement the grid. But then fuel costs go up. And what you are going to see with the campaign, the recent bombing campaign, is the cost of fuels go up. How much they go up, I don't know yet.

So, before you ask me how much, I don't know. And that affects – that has a knock-on effects on the ability to have power, fuel, et cetera, readily available. But they're still producing. It's still being distributed. It's just slower. And sometimes it doesn't mean that you don't have it; you just don't have it when you need it. So you have to wait – I used to have to wait two days to get my fuel, and now I have to wait six days or seven days or eight days.

But the idea that ISIL is an effective state is false. And I think you can see that by the fact that one of the basic elements is to provide power, water, fuel, cooking. And that's going to – that's been degraded, and it will continue to be degraded, their ability to serve as a regular, functioning state.

QUESTION: I have a very quick follow-up just in terms of personnel. You talk about truckers, fewer may be out there, so the price of fuel would go up. But in terms of trying to maintain this infrastructure in the wake of the bombings, where are the engineers? Where are the plumbers? Where are the electricians? Are they still there in the same numbers, or are they all disappearing and that makes it harder to keep the infrastructure going as well?

SENIOR STATE DEPARTMENT OFFICIAL: Well, I think that, for those who are considering recruitment efforts around the world by ISIL for engineers and all kinds of other, more skilled labor, which they need in order to operate these fields, I think that the – that is going to be a bigger challenge for them to recruit those folks as well.

Are they still there? We have – I think that it's now clear to anybody that oil – energy facilities and infrastructure are targets, and you should think twice before working there.

MODERATOR: Great. Thanks, everybody.

QUESTION: Thank you.

MODERATOR: Have a good weekend.