

Do the meanings of abstract nouns correlate with the meanings of their complementation patterns?

A case study on English commissive shell nouns

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There is a widespread assumption in Construction Grammar (but also before and elsewhere) that the meanings of verbs correlate with or even determine their complementation forms and patterns. There is much less research on noun complementation, however, although this category is even more interesting for a number of reasons such as the potential for valency reduction, nominal topicalization constructions, and additional complementation options, e.g. *of*-PPs and existential constructions.

In this paper we focus on the class of nouns reporting commissive illocutionary acts (*promise, offer, pledge, refusal, bet, threat*, etc.), and address the question of whether there is a correlation (i) between the meaning of these nouns and their preferred complementation patterns, and (ii) between their semantic similarity and their similarity in the distribution of complementation patterns.

We report the results of a study of a set of 17 commissive nouns chosen from a wider collection of illocutionary nouns. Two types of analysis were carried out in order to compare the semantic and grammatical characteristics of these nouns. The semantic analysis was based on insights from speech act theory and the philosophy of language. We developed a framework for a systematic comparative description of the nouns in our word field. The results were tallied with a corpus-based grammatical analysis. Two hundred tokens of each noun type were randomly sampled from the Corpus of Contemporary American English. Using these data, the 17 nouns were subjected to an analysis of the relative frequencies of their complementation patterns.

Results indicate a general match between noun meanings and complementation patterns. More specifically, however, they indicate that the closeness of this match depends on the prototypicality of nouns as members of the class of commissives.

The study, then, contributes to our understanding of the relation between lexis and syntax. At the same time, it confirms the need for a close semantic analysis to account for the great extent to which item-specific information, i.e. properties of individual nouns, have to be taken into consideration at the expense of large-scale generalizations.

Keywords: commissive, complementation, item-specificity, prototype, shell noun

1. Introduction

In this paper we focus on nouns such as *promise*, *vow* or *assurance* which report a commissive speech act and its propositional content. Following Schmid (2000), we will refer to these nouns as *commissive shell nouns*.¹ This term reflects the idea that the nouns encapsulate a propositional content that is usually expressed in a complement or even separate clause or sentence. Examples (1–4), extracted from the *Corpus of Contemporary American English* (Davies 2008, henceforth COCA), illustrate some nouns and their major constructional patterns.

- (1) Koresh refused to honor his promise and has indicated he will keep his **promise** to come out when he receives further instruction from God.
Pattern: noun followed by *to*-infinitive ('N-*to* infinitive')
- (2) On that terrible night ending with Bev's **assurance** that she would never again speak his name aloud, Louis Owen drove north.
Pattern: noun followed by *that*-clause ('N-*that* clause')
- (3) "Fine. But what about our bet?" # "What about it, you won. You get Helga." # "That wasn't the **bet**."
Pattern: anaphoric pronoun as subject followed by copula *BE* followed by noun ('Pro-*BE*-N')
- (4) There's information going back a couple of years that said that planes might be used as weapons of some sort. This is how she explains how the **threat** had actually been described.
Pattern: definite article (usually with anaphoric reference) followed by noun ('Det-N')

1. Other terms referring to similar phenomena include *container nouns* (Vendler 1967, 1968), *unspecific nouns* (Winter 1992), *anaphoric nouns* (Francis 1986), *carrier nouns* (Ivanič 1991), *anaphoric encapsulators* (Conte 1996) and *signalling nouns* (Flowerdew 2003, 2006, Flowerdew & Forest 2014).

The shell nouns, rendered in bold print, characterize the actions performed in uttering some content. The underlined parts are the propositional contents encapsulated and characterized by the nouns. The nouns provide characterizations of how the content is to be taken, i.e. as a promise, an assurance, a bet and a threat, respectively.

Schmid (1998, 2000) defines shell nouns as “an open-ended functionally defined class of abstract nouns that have, to varying degrees, the potential for being used as conceptual shells for complex, proposition-like pieces of information” (2000: 4). Nouns, therefore, are not shell nouns because of some inherent property; they have the potential to be used as shell nouns and some of them have this potential more than others.

Illocutionary shell nouns are metalinguistic in nature. Indeed, meta-representation is their main function. Meta-representation involves a higher-order representation with a lower-order representation embedded inside it.² The higher-order representation is generally an utterance (or a thought). The referents meta-represented by shell nouns are utterance-acts. More precisely, when the reporting speaker in the current discourse situation uses an illocutionary shell noun, she is conceptualizing the pragmatic action of another speaker in the original discourse situation in a specific way, characterizing it as a promise, a bet, a threat, etc., and attributing to the speech act of the original speaker all the components of the illocutionary force, or the script behind that specific speech act. Therefore, the reporting process implies that all these components are attributed to the original speaker in the resource situation and are coded as belonging to her. However, it is entirely up to the reporting speaker in the current discourse situation to decide how she wishes to characterize a given utterance.

From the morphological point of view, most, though not all illocutionary shell nouns, are deverbal abstract nouns derived from speech act verbs.³ As such, they fall into the category of *nomina actionis*. More specifically, they are a sub-group of *nomina actionis* in that the action they denote is the specific illocutionary force of the speech act verb they come from. *Nomina actionis* involve the transcategorization from a grammatical category (the verb) to another grammatical category (the noun) (see, among others, Hopper & Thompson 1985, Bierwisch 1990, Gaeta 2002). The main function of deverbal nominalization is of a syntactic nature, i.e. that of operating a recategorization. Semantically and conceptually, this has the effect of

2. See Wilson (2000) for metarepresentation, and Noh (2000) for metarepresentation as representation by resemblance.

3. In fact, from a diachronic perspective, not all illocutionary nouns are deverbal nouns derived from illocutionary verbs. Some nouns entered the English language before the corresponding verbs. However, most of them are nominalizations of, or morphologically related to speech act verbs (see also Schmid 2000: 148).

reifying an action or process (see Schmid 2016: 168–174). This means that the action is conceptualized as a ‘THING-like’ entity (see Langacker 1987: 183–213) and can participate in the properties generally ascribed to nouns, such as, for example, the possibility of being pluralized. Moreover, there is (i) a loss of deictic properties (e.g., tense markers), and (ii) the backgrounding of the participants.

From a semantic point of view, illocutionary shell nouns are a subset of linguistic shell nouns. They share the property of referring to a verbal action – reified as a THING – which is portrayed as having the communicative intention that the speaker’s utterance should count as having the illocutionary force of performing the act named by the shell noun. As such, illocutionary nouns, whether or not in their function as shell nouns, convey concepts of communication because they refer to acts of verbal communication.

The present paper reports the results of an analysis of a set of commissive shell nouns. This type of nouns was chosen because the domain of illocutionary nouns has not yet been thoroughly described. The only existing descriptive analysis specifically focusing on English illocutionary nouns is Chapter 8 of Schmid’s (2000) general study on shell nouns, in which illocutionary shell nouns are analyzed as one type of linguistic shell nouns. A fine-grained, item-specific investigation of illocutionary shell nouns was not possible within this scope.

In a first attempt to redress this shortcoming, Vergaro (2015) has investigated 13 English assertive shell nouns (*affirmation, allegation, argument, assertion, claim, conjecture, contention, guess, hint, presumption, statement, suggestion, supposition*) with a view on their meanings and grammatical behaviors. She shows that the construal of such nouns corresponds to the components of the illocutionary force of an assertive speech act⁴ and is reflected in the nouns’ behavioral profiles, i.e. in their complementation patterns (see Gries 2010). This indicates that (i) constructional possibilities are part of the semantic meaning of the noun, and (ii) there is a correlation between semantic similarity and distributional similarity. However, although the results of Vergaro’s study tally with the assumption of meaning correlation between nouns and complementation patterns, the set of assertive nouns investigated in her study is limited to exemplary members of the assertive family (Green 2013), and some of their synonyms (Word Net).

4. Searle’s characterization of assertive speech acts is that “[t]he point or purpose of the members of the assertive class is to commit the speaker (in varying degrees) to something being the case, to the truth of the expressed proposition.” (Searle 1979: 12). However, this is a graded commitment, as if there were a cline of assertiveness, with some members showing more assertoric commitment – association of belief, truth and knowledge – than others. Therefore, an *assertion* shows more assertoric commitment than a *guess* or a *conjecture*.

Focusing on a set of commissive nouns, the present article goes beyond Vergaro's approach in three ways. Firstly, it looks at the field of commissive nouns; secondly, it investigates it in its entirety; and, thirdly, while checking for correlations between semantic similarity and distributional similarity, it opens up the issue of how to achieve the widest possible generalization without glossing over relevant item-specific properties of individual nouns. Indeed, as research on verb complementation has shown (Faulhaber 2011a, 2011b, Herbst 2011, 2014), whereas we can generally assume that the meanings of valency carriers (especially verbs, nouns and adjectives) co-determine the choice of complementation patterns, lexical items show a considerable extent of ungeneralizable idiosyncratic behavior that needs to be taken into consideration and explained. As Herbst (2014: 206) states, "there is no guarantee that a particular lexical item with certain semantic characteristics will be able to occur in a particular valency pattern simply because other lexical items with the same characteristics do".

Applied to the domain of English illocutionary nouns, this amounts to claiming that a thorough description of such a domain will have to account both for generalizations, though of the weaker type – if *x*, then probably *y* (if *commissive*, then probably *to*-infinitive) –, and for item-specificity to find out how each sub-domain (assertives, commissives, directives, expressives and declaratives) of the illocutionary domain is structured.

2. Theoretical background

Our investigation is situated in the context of cognitive semantics, more specifically in prototype theory (see, e.g., Croft & Cruse 2004, Ungerer & Schmid 2006, Taylor 2009). Even though we assume that word meanings correspond to cognitive categories or concepts which can be arranged on two dimensions of variation, we will use semantic features, which are usually associated with a structuralist approach to semantics, as convenient analytical and descriptive tools.

On the vertical level of class inclusion relations, basic-level categories stand out as particularly salient and balanced categorization options. While the notion of *basic level* in a narrow sense is restricted to nominal and verbal categories of concrete things and events (see Ungerer & Schmid 2006: 66–76, 101–109), the idea of a privileged level of access to a conceptual hierarchy can be transferred to abstract domains such as the nouns denoting commissive illocutionary acts under investigation here. Basic-level categories show an ideal balance between within-category similarity and between-category difference. The difference between specific forms of promises such as *vows*, *pledges*, *oaths* or *covenants* and their relation to the noun

promise are comparable to those between the subordinates *convertible*, *pickup* or *SUV* and their relation to the basic-level category *car*.

Orthogonal to the distinction between basic-level and subordinate categories is the distinction between prototypical, less typical and marginal representatives of a category. Prototypes are usually marked by large numbers of the attributes or features that are particularly characteristic of the category, while less prototypical members show fewer category-specific attributes and often add features that are more strongly associated with neighboring categories. As we will see, the noun *assurance* is of this type with respect to the category of commissive illocutionary nouns. Members of categories do not have to share necessary and sufficient features, but can be connected by means of family resemblance relations (Ungerer & Schmid 2006: 28–30).

The notion of basic level meshes with the prototype structure of categories: “The basic level has to do with what things are called. [...] Prototypes have to do with what words refer to.” (Taylor 2009: 53). Prototypes of basic-level categories which lie at the intersection of the two dimensions, e.g., a German shepherd labelled by the basic-level term *dog*, provides the most salient access to a conceptual domain (Ungerer & Schmid 2006: 75–76). In Geeraerts, Grondelaers and Bakema’s (1994) terms, prototypes of basic-level categories are onomasiologically salient because they come to mind first and with least effort, and they are semasiologically most salient because they instantiate the most typical representatives of a concept. As will transpire in Sections 3 and 4, a prototypical example of a commissive speech act labelled as a *promise* would correspond to the example of the German shepherd labelled as a *dog*.

3. Methodology

The subject of this study are 17 commissive shell nouns: *acceptance*, *assurance*, *bet*, *bid*, *commitment*, *consent*, *covenant*, *menace*, *oath*, *offer*, *pledge*, *promise*, *refusal*, *rejection*, *threat*, *volunteering*, *vow*. These belong to a set of 28 commissive nouns collected by the first author using speech-act theoretical literature as a source. The 17 target nouns were selected for this study because only they were found to occur in the function of shell noun in the COCA corpus.⁵ Given that some nouns were sometimes indeterminate with respect to the question of whether or not they involve verbal communication, co-textual and contextual clues have been used to

5. For example, nouns such as *avow*, *guarantee* or *espousal*, among others, are cases of non-shell commissives in our corpus.

filter illocutionary and non-illocutionary uses. For example, in *We yell the oath of the Marines: "I will always place the mission first."* there is an indication of a direct quotation introduced by the verb *yell*. And, in *The city's commitment to provide an initial \$ 2 million to help SRO operators will help guarantee the continued existence of SROs*, although there is no direct quotation, it is likely that the commitment was put into words some time, but the occurrence of linguistic action cannot be guaranteed. When it was not possible to filter out non-illocutionary uses in a clear-cut way, it was decided to follow Vanparys' (1996) rationale in including indeterminate cases in the data for analytic purposes, because it is useful to consider what they would mean if they were intended to be used as illocutionary nouns.

To reach the aims of this investigation, the nouns were subjected to a semantic and a grammatical analysis.

The semantic analysis followed Proost (2007) and relied on the structuralist method of feature analysis. We started from the observation that illocutionary nouns refer to concepts of communication. By reporting a proposition as being a *promise*, a *vow*, etc., the speaker in the current discourse situation (S_o) attributes specific values to the act produced in the original discourse situation that the noun names, i.e. she attributes values to the speaker in the original discourse situation (S_o), to the hearer in the original discourse situation (H_o), to the speaker's original communicative attitude and to the original utterance containing the propositional content. Each noun, in reporting an utterance as being an act with an illocutionary force, lexicalizes a combination of these specifications.

Following Proost (2007), we consider three types of specifications as necessary and sufficient for a systematic analysis: categorial aspects, attributes and attribute values (see Table 1 for a summary and application to the commissive prototype). *Categorial aspects* refer to S_o 's propositional attitude, S_o 's intention, S_o 's presupposition, and propositional content. Each of them can be further specified by *attributes* having a specific *value*. Thus, S_o 's propositional attitude, corresponding to Searle's (1976: 4) notion of "psychological state", can be further specified by attributes such as 'epistemic' (value: S_o knows P_o , and S_o takes P_o to be true), 'evaluative' (value: S_o considers P_o good/bad), 'emotive' (value: S_o feels joy/anger/sorrow (etc.) because of P_o).

S_o 's intention may have, among others, the following attributes and values: epistemic attitude of H_o (S_o wants: H_o knows P_o , or S_o wants: H_o recognize: S_o takes to be true P_o), reference to action of H_o (S_o wants: H_o do/not do P_o).

S_o 's presupposition refers to utterance position (values: initial, reactive, re-reactive), expectability of P_o (P_o expectable, P_o not expectable), interest of S_o and H_o (not in the interest of H_o : P_o , or in the interest of H_o : P_o), and world of

interaction, namely the social domain or the institutional setting in which the interaction of S_o and H_o takes place (values: private, official, public, institutional).

Lastly, the attributes of the propositional content have to do with the event type of P_o (values: action, event, state of affairs), temporal reference of P_o (values: [+Past] and [−Past]), in the case that P_o is an action, the agent of P_o (values: S_o , H_o , Third Person, H_o or Third Person), and so the ‘control’ of P_o .

Table 1 reports the combination of specifications of the prototypical commissive. Thus, a prototypical commissive noun reports a propositional content that refers to a future action occurring under the responsibility/control of the speaker. Its utterance creates the obligation to do it. Indeed, a general agreement exists in speech-act literature on the existence of a link between social commitment and prototypical or core commissives. A social commitment, unlike a private commitment to an action, which is an intention that stabilizes the speaker’s choices and actions, is a form of goal adoption, in the sense that the speaker is committed to doing an action because the addressee is interested in that action. In this sense, it is not simply a declaration of personal intention. This form of goal adoption seems to be the key feature of core commissives (see, for example, Castelfranchi & Guerini 2007, Ambroise 2013), and, as a consequence of it, the addressee is entitled to harbor expectations.

Table 1. Prototypical commissive noun

General situation type	Categorial aspects	Attributes	Values
Utterance	Propositional content	Prop. Cont. type: Event type: Temporal reference: Agent:	Information content Action Future S_o
Attitude (S_o)	Propositional attitude Intention	Attitude of wanting: Epistemic:	want (S_o (do, P_o)) want (S_o (recognize (H_o (want (S_o do, P_o)))))) undertake obligation (S_o (do, P_o))
	Presupposition of S_o	Interest of S_o and H_o : Expectability of P_o : Abilities of S_o and H_o : Utterance position:	in the interest of S_o or H_o (P_o) expectable (P_o) able to do P (S_o) not specified

The bundle of specifications lexicalized by each noun were identified and compared to those of this prototype.

For the grammatical analysis, two hundred randomly sampled tokens were extracted from the COCA and analyzed, yielding a total of almost 3,400 datapoints.⁶ The methodology used for data analysis involves descriptive as well as exploratory statistics.

For descriptive statistics, reliance scores were calculated by dividing the number of all tokens of a noun (i.e. 200 in all cases but one) by the number of tokens in a given complementation pattern. Reliance is a syntagmatic measure that accounts for the combinations of nouns with types of patterns (Schmid 2000: 54–55). Reliance scores refer to the relative frequency of tokens of a noun type in a construction vis-à-vis tokens of the same noun in other constructions, and thus capture the degree to which a particular noun relies, or depends, on a pattern for its occurrence.

As for exploratory statistics, an agglomerative hierarchical cluster analysis was applied to the data in order to visualize similarities in distributions of complementation patterns.

4. Analysis and results

The following paragraphs report the semantic analysis (Section 4.1), describe the results of the grammatical analysis (4.2) and explore similarities (4.3).

4.1 Semantic analysis

The result of the semantic analysis – which is based on some of the literature on speech acts and speech act expressions (Bach & Harnish 1979, Searle & Vanderveken 1985, Wierzbicka 1987, Vanderveken 1990, Vanparys 1996, Castelfranchi & Guerini 2007, Kissine 2008, Ambroise 2013) – is described in the form of a two-dimensional family resemblance network (Rosch & Mervis 1975) charted by a vertical dimension of class inclusion (from basic level to subordinate level) and a horizontal dimension of class intersections (from prototype to periphery). As shown in Figure 1, *promise* is the pivot of the network of commissive nouns under scrutiny, functioning as basic level noun on the vertical dimension and prototype on the horizontal dimension, in that it incorporates all the features of the prototypical commissive. We consider this noun as being located on the basic level, because it meets the classic criterion of striking an ideal balance between category-internal similarity and

6. Since the noun *volunteering* is attested not more than 87 times in the COCA, the exact number is 3287.

between-category difference (Ungerer & Schmid 2006: 71). This seems convincing even though a superordinate term to be placed above it, comparable to *animal* or *mammal* as a superordinate to *dog*, does not exist.

There are two dimensions of variation in this network: on the *vertical dimension* elaboration/specification implies an increase in the specificity of meaning, from basic level to more specific meanings, reflected in an increase in the number of semantic features added to those of the specification of the basic level. Figure 1 shows the nouns that instantiate or elaborate the features of core commissives on the vertical dimension.

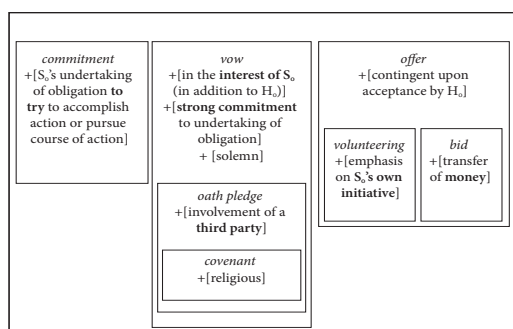


Figure 1. Semantic network of core commissives (the bold-line box represents bundle of features of prototypical commissive)

Promise has all features of the prototypical commissive (not listed in Figure 1, but given in Table 1). The other eight nouns retain these features, but add additional semantic aspects and are thus essentially hyponyms.

Commitment reports the undertaking of an obligation to try to accomplish an action or pursue a course of action. It is thus a declaration of an intention and, as such, it does not have the normative effects of promises.

Vow, *pledge* and *oath* are hyponyms of *promise* in that the level of specificity increases as one moves down on the vertical dimension with *covenant* being the most specific. *Vow*, *pledge* and *oath* denote illocutionary acts which are in the interest of H_j, in addition to S_i, are considered as particularly strong commitments and often involve a third party authorized to witness or record the commitment. They have an additional component of solemnity and strength, and are not necessarily hearer-oriented. More specifically, *vow* reports an act that is, or can be, a purely private one, whereas *pledge* one that is public. Moreover, *pledge* does not necessarily have the solemnity of *vow* and *oath*. *Oath* is the strongest and most solemn of the three. It names a speech act that, in general, invokes God or some sacred entity as

witness, and entails some price if what is stated in the propositional content of the oath is not kept.

Covenant adds to all this the fact that it refers to an action that is even more solemn, archaic and dignified, and hence is associated with the religious domain.

An illocutionary act described as an *offer* is a promise that is conditional upon the hearer's acceptance. If the addressee accepts the offer, then she will be entitled to have expectations on the fulfilment of the action.

Volunteering and *bid* are more specific types of offers. *Volunteering* reports an action implying a self-initiated willingness to do something more time-consuming and/or more effort-consuming than offering, and generally based on one's competence or expertise. *Bid* refers to the offer of an amount of money, which generally takes place under the special conditions of an auction or a contract negotiation.

Figure 1 represents nouns mainly arranged on the vertical dimension of elaboration and class inclusion. Nouns that deviate with regard to some features from the core commissives are represented on the *horizontal dimension* (see Figure 2). Deviating nouns are characterized by (i) diversity of meaning, from prototype to periphery, fading into neighboring categories, and (ii) the increasing presence of feature values different from those of prototypes and additional features beyond those of prototypical commissives. (Note that Figure 2 is arranged vertically nevertheless, so that semantic relations to the prototypical core can be indicated.)

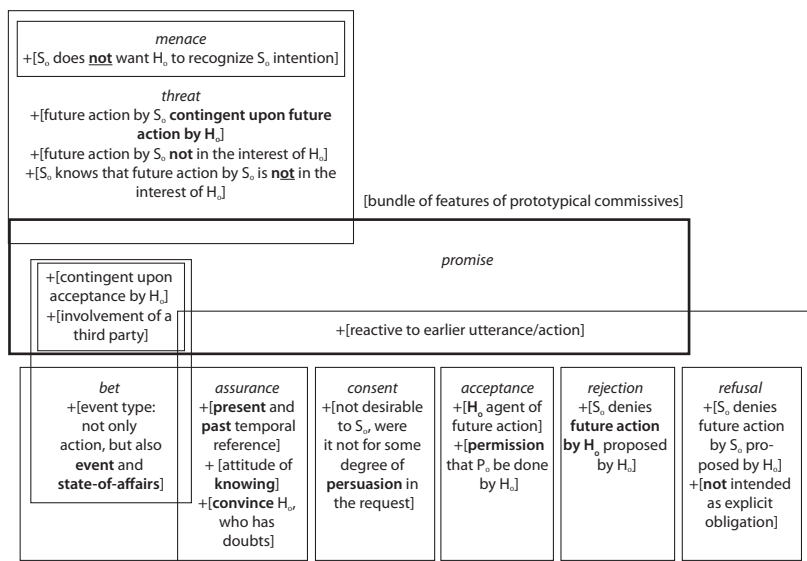


Figure 2. Semantic network of less prototypical commissives

Threat and *bet* deviate from prototypical commissives in that they lack the idea of goal adoption as social commitment that seems to be the key element of core commissives – with *menace* elaborating a threat that is sly and underhanded in nature. *Threat* also shows a directive component in that it reports an act that counts as an attempt to influence the interlocutor's behavior. Indeed, Searle (1979) classifies threats within the group of directive illocutions, since they count as means of getting the addressee to do something, and Bach and Harnish (1979) posit the existence of a directive-commissive illocutionary category for threats. *Bet* also has the non-prototypical feature of referring not only to actions but also to events and states of affairs that are neither agentive nor dynamic, a feature that characterizes assertives more than commissives.

Consent, *acceptance*, *rejection*, *refusal* and *assurance* diverge from the prototypical commissives in that they are reactions to an earlier utterance or action. *Consent* has the additional feature that it names an act that is not immediately desirable to the speaker, and that the speaker accepts because she has been convinced to do so. In *acceptance* and *rejection* the responsibility of the action belongs to the addressee, rather than to the speaker as in prototypical commissives. A *rejection* is the illocutionary dismissal of the acceptance of an offer. A *refusal* is instead the illocutionary denial of the acceptance of a request. It reports an act of strong willingness: it conveys the speaker's intention of following her own will without any justification, thus highlighting the self-confidence of the refusing person. Lastly, *assurance* also reports an act that is a hybrid of an assertive and a commissive, and therefore lies at the periphery of the category 'commissive'.

4.2 Grammatical analysis: Descriptive statistics

4.2.1 *Uses in shell-noun function*

The first step of the grammatical analysis consists in the identification of shell noun uses among the 200 tokens of each noun type. As mentioned above, shell nouns are a functional category, which means that nouns can be used in functions other than as shell nouns. For example, in (5), the noun *consent* is not used as a shell noun in either instance, in that it does not report, and in so doing, characterize any utterance as a specific speech act.

- (5) Consent was sought and, therefore, given, and the issue of whether the consent was voluntary remains open.

Table 2 reports the proportion of examples that actually serve a shell-noun function.

Table 2. Proportion of shell-noun uses in the 200 sample (*only 87 occurrences in COCA)

Noun	Proportion of shell-noun uses in the 200 sample
<i>refusal</i>	79.5%
<i>vow</i>	52.5%
<i>pledge</i>	42.5%
<i>assurance</i>	41.5%
<i>promise</i>	38.0%
<i>bet</i>	31.5%
<i>offer</i>	31.0%
<i>oath</i>	21.5%
<i>commitment</i>	21.0%
<i>threat</i>	14.0%
<i>bid</i>	10.5%
<i>covenant</i>	10.5%
<i>consent</i>	6.5%
<i>rejection</i>	6.0%
<i>menace</i>	5.5%
<i>volunteering*</i>	3.4%
<i>acceptance</i>	2.5%

As the results show, prototypical nouns and their closest hyponyms (both of which are highlighted in Table 2) are positioned in the first half of the table, towards the top. They are used more frequently in the function of shell nouns than less typical commissive nouns. On the other hand, semantically very specific nouns (both elaborating and deviating ones) are found towards the lower end of the table, except for *refusal*, *assurance* and *bet*.

Some nouns (at the bottom of Table 2) are very rare in shell-noun function, and, as in the case of *volunteering*, which has only 87 occurrences in COCA, rare in general. Even though the cutoff point indicated by the highlighted rows in Table 2 is of course totally subjective, this indicates that the nouns found at the bottom of the table are much less frequently used to report commissive illocutionary acts and are therefore also less revealing for our analysis of the grammatical patterns of commissive shell nouns.

4.2.2 Major patterns

Table 3 reports the four major lexico-grammatical patterns in which the nouns were found. We report absolute scores of shell noun uses for the data as a whole and absolute and relative scores (corresponding to *reliance*) for individual grammatical patterns.

Table 3. Distribution of nouns across major grammatical patterns (numbers do not add up to yield the total because the total includes tokens of minor patterns listed in Table 4)

noun	total	N- <i>to</i> inf		N- <i>that</i>		Det-N		Pro- <i>BE</i> -N	
		abs.	rel.	abs.	rel.	abs.	rel.	abs.	rel.
<i>promise</i>	76	31	41%	8	11%	24	32%	4	5%
<i>pledge</i>	85	39	46%	4	5%	34	40%	4	5%
<i>commitment</i>	42	20	48%			9	21%	2	5%
<i>vow</i>	105	42	40%	12	11%	44	42%	2	2%
<i>oath</i>	43	24	56%	3	7%	16	37%		
<i>offer</i>	62	22	35%	1	2%	38	61%		
<i>bid</i>	21	7	33%			13	62%	1	5%
<i>acceptance</i>	5			3	60%	2	40%		
<i>assurance</i>	83	1	1%	49	59%	16	19%	1	1%
<i>bet</i>	63	3	5%	3	5%	16	25%	8	13%
<i>consent</i>	13	9	69%	2	15%	2	15%		
<i>covenant</i>	21	2	10%	1	5%	14	67%	2	10%
<i>menace</i>	11					10	91%	1	9%
<i>refusal</i>	159	148	93%			11	7%		
<i>rejection</i>	12					9	75%	3	25%
<i>threat</i>	28	4	14%	2	7%	13	46%	5	18%
<i>volunteering</i>	3			1	33%	2	67%		

The table is divided into typical nouns in the top half and less typical ones in the bottom half. This can be justified by a general trend: prototypical nouns and their close hyponyms show a fairly consistent behavior for the patterns N-*to* inf and Det-N, and more or less also for Pro-*BE*-N and N-*that*. In contrast, there are extremely varied scores for the commissives that deviate from the prototypical ones. Among the deviant nouns, the massive reliance score of 93% for *refusal* in the *to*-infinitive construction stands out.

The *to*-infinitive is of course also the most important complement type for prototypical commissives. The two tokens in Example (6) illustrate this pattern.

- (6) His **pledge** to preserve and protect the land was forgotten; his **promise** to care for the land's life lost meaning.

In order to explain the strong reliance of commissive shell nouns on *to*-infinitive complements – in addition to the unspecific patterns Det-N – we have to discuss the grammatical meaning of this construction. Research on the semantics of the *to*-infinitive is abundant, and it is characterized by the general agreement that one of the central semantic components of the *to*-infinitive complements is that of

futurity. Quirk et al. (1985: 1191) mention the “potentiality for action” component of the meaning, and Wierzbicka (1988: 30) talks about a “volitional TO” in which the elements of thinking, wanting and future time are conflated. According to her, the idea of wanting is as important to the construction as the idea of future expectations. Moreover, she associates the construction with a personal, subjective, first person mode. Mair (1990), whose study does not focus on the semantics of *to*-infinitive, is led by his careful examination of data to observe that the matrix verbs followed by *to*-infinitive can be characterized as forward-looking predicates (Mair 1990: 102, 104–105).

In Egan (2008), the notion of *potentiality* plays a central role. For him, this term implies the existence of possible alternative situations, and the situation encoded by the *to*-infinitive is the focused or targeted alternative, the alternative with the spotlight on it, the most likely of two or more alternatives in some specified domain. The idea of futurity, however, is clearly present in the definition the author gives of “forward-looking *to*-infinitive complements” in which “a situation, viewed as a whole, is profiled as likely to be true” (p. 97), as is the idea of lack of objectivity in what he describes as “judgement *to*-infinitive complements” (p. 98), which encode a conjecture on the part of the subject about the event expressed. Note that infinitival complements are not *grounded*, in the sense of Langacker (1987: 126), by finite verb marking indicating situational aspects such as participants or setting. As an anonymous reviewer of an earlier version of this paper suggested, this may contribute to the meaning of potentiality.

With the only exceptions of *acceptance*, *menace*, *rejection* and *volunteering*, which are very rare in shell noun usage anyway, all commissives have the *to*-infinitive pattern as their main type of complementation, with core nouns showing a fairly consistent behavior in the reliance to this pattern. As commissive nouns have future-orientation as a key feature of their meaning, this indicates a strong semantic match between nouns and complements.

Interestingly, *refusal* and *consent*, which do not belong to the prototypical commissives, show the highest reliance scores for the *to*-infinitive construction. As nouns of opposite meanings, they are also semantically related. *Refusal*, being strongly action-oriented, occurs only with the *to*-infinitive construction. Wierzbicka (1987: 94) states that the act named by the noun *refusal* highlights the self-confidence of the refusing person. However, this self-confidence is not based on the concept of RIGHTS (‘I have the right not to do it’), but simply on the conviction that one doesn’t have to do the action if one does not want to do it. *Consent* shares with *refusal* the strongly individual basis of the act, as well as the willingness implied in it. Wierzbicka (1987: 1139) states that the difference between a *permission* and a *consent* is that “The person who *permits* something says, at some level, ‘All right. I don’t say that I don’t want it to happen’ or ‘I don’t say that I don’t want you

to do it'; the person who *consents* says, at some level: 'All right. I say: I want it to happen'. Note that, in both cases, there is a combination of future orientation and volition, expressed by the conjunction of the atomic predicates "want it to happen" in Wierzbicka's framework. This semantic complex seems to be particularly conducive to the use of *to*-infinitive complements.

The core commissives do not boast reliance scores for *to*-infinitives that come close to those of *refusal* and *consent*. This may come as a surprise, since they also feature the combination of futurity and volition. The reason is that prototypical commissives entail an assertoric component. This becomes clearer once we look at the result for the pattern N-*that*, i.e. the pattern in which the shell noun in the matrix clause is followed by a *that*-clause. Example (7) exemplifies this pattern.

- (7) On that terrible night ending with Bev's **assurance** that she would never again speak his name aloud, Louis Owen drove north.

Grammarians generally highlight the 'factual' component of *that*-clauses, which is opposed to the potentiality and futurity of infinitives. Quirk et al. (1985: 1180), for example, add to this semantic feature that of *suasiveness*, suggesting that a cline exists between *factual* and *suasive that*-clauses.

Wierzbicka (1988) underlines the association of *that*-clause complementation and knowledge. More precisely, she says that *that*-complements are acceptable in those kinds of sentences where a component of the frame 'know' can be reconstructed. However, the type of knowledge she talks about is not 'personal' knowledge. She defines it as 'public' knowledge, i.e. something that is generally knowledgeable, i.e. 'one can know this', and this implies an objective, factual perspective on what is said: "THAT complements introduce an objective, impersonal, 'one can know' perspective." (Wierzbicka 1988: 164). She adds that this would explain the use of *that*-complementation with assertive verbs such as *assume*, *presume*, *expect*, etc., which can be regarded as semantic derivatives of *know*. Wierzbicka's introspective analysis is supported by Vanparys' (1996) corpus-based study on English illocutionary verbs, in which the objective, informative aspect – contrasted with the binding aspect of the *to*-infinitive – seems to be the main reason for the occurrence of assertive verbs with *that*-clauses. All these definitions, though not exhaustive of research carried out on the topic,⁷ share the association of the *that*-clause construction with truth, knowledge and objectivity.

It is not surprising, therefore, that a noun such as *assurance*, which reports a hybrid illocution occupying a transitional/intermediate position between an assertive

7. For further convergent opinions, see, e.g., Frajzyngier & Jaspersion (1991) and Langacker (1991).

and a commissive, should rely so strongly on the *that*-clause construction. Indeed, in our data, the assertoric component of the noun meaning is as important as the promissory meaning: 42.9% of N-*that* clause occurrences portray an assertive commitment, i.e. commitment to the truth of an assertion, 57.1% a commissive commitment, i.e. commitment to the truth of a prediction. A second noun with a significant reliance score for the *that*-clause construction is *acceptance*. *Acceptance* is different from *consent* in that it lacks the strong willfulness component of *consent*. Indeed, it construes the speaker as a mere passive agent.

As the data show, the assertoric component of *that*-clauses can also be combined with core commissives. For example, in the case of *promise*, all examples in the corpus can receive an assertoric reading.⁸ As is shown in the following examples, this has the effect that what is reported is not characterized as a commitment to a future act attributed to S_o, but rather as an assurance regarding a state of affairs that the hearer, or the hearer and the speaker, want to become true.

- (8) It is important to note what EPA does not do through its comfort letters: it does not provide any kind of **promise** that it will refrain from taking action under CERCLA on the site in question.

This difference comes to the fore when we rephrase the sentence with a *to*-infinitive construction:

- (8a) It is important to note what EPA does not do through its comfort letters: it does not provide any kind of **promise** to refrain from taking action under CERCLA on the site in question.

In Example (8a), reporting the event in the shell content with a *to*-infinitive would trigger the pragmatic inference that the speaker is characterizing EPA's future behavior as an action implying a definite commitment and determination to fulfill the task. Indeed, as Vanparys (1996: 178) comments with regard to verb complementation,

8. Exceptions are cases in which the *that*-clause could be explained as a case of *horror aequi* (e.g., *There was bipartisan opposition in the Senate and bipartisan support in the House concerning the administration's decision not to pressure China for a written **promise** that it would not sell missiles to the Middle East*), or lack of referentiality between the person to whom the utterance of the speech act is attributed and the person who is responsible for the complement event (e.g., *Brennan's **promise** that management would get a chance to cash in on its hard work was made good in late 1987*), or as a *preferred* choice because of coreferentiality with the direct or indirect object of the matrix clause (*The engagement date was fixed for three weeks later, with a **promise** from both Jitendra and Nilima that they would spend nights in their respective beds*).

[t]he assertive/commissive distinction should not be taken as a polar opposition. [...] The extent to which a construction possesses commissive features is a gradual phenomenon. A future complement with a first person S with agent-like properties gears the construction towards the commissive prototype. A complement that lacks an indication of posteriority or one that does not explicitly involve S as an agent points to the assertive character of the speech act. [...] the verb *promise*, too, – a commissive *par excellence* – may be used as an assertive.

In other cases, too, the use of *that*-clauses seems to be associated with a loss of the strength of the commitment and determination to carry out the complement action. In Example (9), Obama's pledge is portrayed as something that guarantees less than it should, suggesting that, according to the reporting speaker, his intention to accomplish the action had never been that sincere, and thus a fake pledge. In Example (10), the use of a *to*-infinitive would have underlined forcefully the contrast between what was being vowed and what could be accomplished. The use of the *that*-clause seems to weaken the contrast.⁹

- (9) TRUMP: You know, it is interesting with Obama if you look at Wisconsin. He made a **pledge** that he was going to march in Wisconsin with those teachers. Where is he? He is all talk.
- (10) We didn't have guns and horses and wide-open plains, but I made a **vow** back then that I was going to buy a ranch.

As far as the other two patterns are concerned, the pattern Det-N expands over all types of shell nouns (Schmid 2000), not just those belonging to the illocutionary type. It signals anaphoric and cataphoric uses and mainly exploits the cohesive function that shell nouns perform in providing referential continuity within texts. Example (11) exemplifies this semantically highly unspecific pattern which does not seem to be able to exert strong lexicogrammatical constraints or preferences. The shell content is represented by a direct quotation here, which might be considered a semantic or conceptual complement but should not count as a grammatical one.

- (11) But in his heart of hearts he had made a **vow**: "I'll hunt up his family. I'll find out who they are, where they live, and I'll do what I can to make their life a little easier."

As for Pro-BE-N, this is the pattern with the most conspicuous characterizing potential (Schmid 2000: 309). It highlights the characterization incorporated in the meaning of the noun because it puts the noun into the rhematic position at the end

9. We are grateful to Gregory Conti (University of Perugia) for this and other observations on the data.

of the clause. In Example (12) the noun *bet* makes up the focus of the clause that contains the new information. On the other hand, the leftmost noun phrase of the clause – the pro-form functioning as subject – refers to given information. In quite a number of cases, in this construction there is an evaluative AdjP as a noun premodifier (see *rotten* in 12) that reinforces the characterizing feature of the construction.

- (12) “Any way you slice it, the market is in trouble. And if interest rates have indeed bottomed, it’s trouble with a capital T.” Up in smoke: Who knew what? And did it matter? So far, at least, it’s a rotten bet.

4.2.3 Minor patters

Table 4 shows the results of the distribution of nouns across minor patterns. As numbers are generally quite low here, we report only absolute figures.

Table 4. Minor patterns (numbers do not add up to yield the total because the total includes tokens of major patterns listed in Table 3)

[illegible]

The purpose of Table 4 is mainly to document results. We will only comment selectively on a few noteworthy findings. The pattern N-prep-*Ving* shows some importance for core commissives, with *commitment* boasting a 19% reliance on this pattern. As Example (13) shows, the preposition is always *to* followed by the gerund. Compared to a corresponding *to*-infinitive – here *commitment to provide consumers... –*, the nominal quality of the gerund results in a THING-like conceptualization of the event. In Langacker's term, the infinitive construes a more sequential dynamic scanning, the gerund a more summary, holistic one.

- (13) “The actions we are taking today are in keeping with our more than 100-year commitment to providing consumers with safe, high-quality products,” said David Mackay.

In the bottom area of less prototypical nouns we find very interesting outliers: *bet* stands out for its reliance on *it*-extraposition and N-*BE*-to inf. In both cases what the noun reports are not real bets in the narrow, everyday sense, but strong predictions or claims. N-*BE*-to inf constructions, as is typical of infinitives, have an action and future-related element, as is demonstrated by Example (14). In fact *bet* is only used in the collocational pattern “Your best/safest bet is to ...”, illustrated here.

- (14) Your safest **bet**, says Doctor Greenwald, is to go low-fat.

In the cases in which it occurs in *it*-extraposition, *bet* is always followed by a *that*-clause, and is always modified by the AdjPs *safe*, *sure*, *fair*, as the following example illustrates.

- (15) It's also a safe **bet** that a diet high in saturated and total fat leads to heart disease and obesity.

The juxtaposition of (14) and (15) nicely demonstrates that the *that*-clause is related to knowledge rather than actions and is assertive rather than commissive.

Lastly, *assurance* shows a 10.8% reliance on the *there*-existential construction. This construction has a signaling or presentative function (see Martínez Insua (2004) for an overview): it signals the existence (or non-existence) of a given entity or a particular state of affairs. In our corpus, when *assurance* is used in the existential construction, it is an assertive act that the noun reports, not a commissive one. Indeed, the noun is always followed by a *that*-clause.

- (16) Confidence in one's personal ability to contribute to the success of the group was a recurring theme within the stories. There was an **assurance** that one's skills, whether personal or professional, could be an enabling factor.

The *there*-existential construction provides the reporting speaker with a maximally strong means of backgrounding the original speaker. The assurance in Example (16) seems to come out of the blue.

4.3 Visualization of similarities in grammatical distribution

Tables 3 and 4 give a clear picture of the similarities and differences between the nouns regarding their grammatical behavior. In order to provide a better visualization of the distributional similarities we performed an agglomerative hierarchical cluster analysis. This technique organizes large sets of data into clusters or groups such that the members of one group are very similar to each other and at the same time very dissimilar from members of other groups. Thus, it provides a visually intuitive representation of the similarities between nouns in terms of their grammatical behaviors. The results are represented in dendrograms, i.e. tree diagrams that illustrate the arrangement of the clusters produced by hierarchical clustering. The analyses were performed with the help of the software R (version 3.2.2) using the command `hclust`. Since the choice of distance measure and the amalgamation/linkage algorithm – the two basic metrics on which clusters are based – may influence the clustering results, we ran ten possible combinations of two distance measures (Manhattan and Euclidean), and five types of linkage (average, single, complete, ward.D and ward.D2). The combination of Euclidean distance and ward.D linkage was selected for reporting because it boasted the highest AC score (Agglomerative Coefficient), which is an indicator of the clustering structure of the dataset. Nevertheless, it must be emphasized that cluster analysis is an exploratory technique. It is helpful for discovering and visualizing structure in datasets that are too large for manual inspection, but also subject to subjective decisions and should therefore only be interpreted with some caution.

Figure 3 shows the results of the cluster analysis. Overall, the clusters confirm not only the manual inspection of Tables 3 and 4, which is to be expected, but also to some extent the semantic similarity structure represented in Figures 1 and 2.

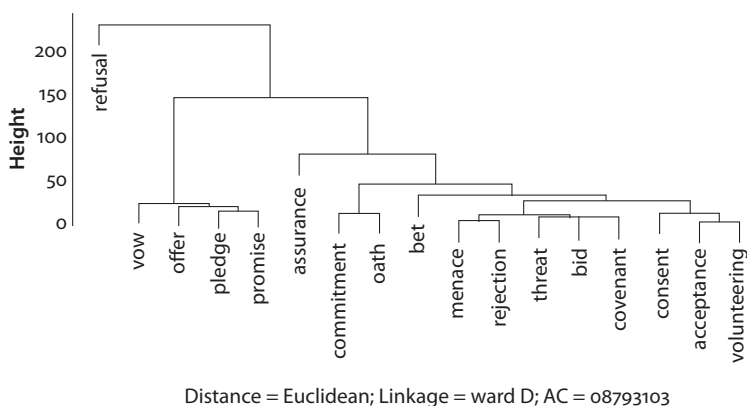


Figure 3. Cluster analysis

Beginning with the grammatical perspective, the prototypical commissive *promise* is joined with one of its closest hyponyms – *pledge* –, immediately followed by two of the other closest hyponyms, *offer* and *vow*. *Oath* and *commitment*, and *bid* and *covenant*, two pairs of more remote hyponyms are also joined, but in a different branch, because they differ from the prototypical ones with regard to the minor patterns (*commitment* occurs with a lot of minor patterns, but never with *that*-clause), and some of the major ones (*oath* never occurs with the topicalizing construction for which there is a shared behavior among more prototypical nouns; for *covenant to*-infinitive is still the most frequent pattern but the percentage of occurrence drops compared to the other nouns of the core commissive group because there are only 21 examples of shell noun usage in our corpus). *Bid* and *covenant* also have similar reliance scores as far as the Det-N pattern is concerned.

Both *acceptance* and *volunteering* have no attestations in minor patterns, nor in N-*to* inf, or Pro-BE-N. Both nouns only occur in the Det-N and *that*-clause constructions. *Consent* relies strongly on *to*-infinitive for its occurrence but shares the other characteristics, i.e. Det-N and *that*-clause. Moreover, these are the three nouns that are less used as shell nouns: 13 tokens for *consent*, 5 for *acceptance*, and 3 for *volunteering*.

With regard to the semantic side, the prototypical nouns and their hyponyms collected in Figure 1 also cluster very nicely in Figure 3. This indicates that their semantic similarity is to a large extent matched by similarities regarding their complementation behavior. However, the deviating nouns cluster in groups that do not directly correspond to their semantic similarity, at least as described by us above (see Figure 2). Their specific features seem to correspond to distributions of grammatical patterns in a much less predictable way than the prototypical commissives. *Threat* is amalgamated with *bid* and *covenant*, and only later is this subcluster grouped with the subcluster in which *menace* and *rejection* are paired. The variables that drive the pairing of *threat* with *bid* and *covenant*, which belong to the prototypical space of the commissive category, are the reliance scores on the two patterns – Pro-BE-N and *to*-infinitive – for which prototypical nouns show a fairly consistent behavior. *Menace* and *rejection* have very high scores in Det-N, and the only other construction in which they occur is the Pro-BE-N, the pattern on which *threat* relies most for its occurrence. *Menace* and *rejection* also are very rarely found in shell noun function.

Lastly, *bet*, *assurance* and *refusal* are not clustered pairwise, and are apparently difficult to accommodate for the cluster analysis. The grammatical reasons for this distribution are the following: *bet* is fairly unique in its role in extraposition and N-BE-*to* inf; *assurance* has high scores for N-*that* and for existential-C; *refusal* has an extremely high score in N-*to* inf. The semantic reasons that may explain the clustering are: *bet* is mainly used in the topicalizing function (which does not show in the semantic description because it is more pragmatic than semantic);

assurance has a strong assertive component reflected in the high reliance scores with *that*-clause; *refusal* has a particularly strong action component associated with a low commitment to the undertaking of an obligation and to goal adoption. It is, therefore, less 'commissive', but the strong volitional component is reflected in the fact that it only occurs with the *to*-infinitive pattern, and, indeed, it stands out in the reliance on this construction.

5. Discussion

Looking at the data, we observe a fairly close match between semantic and grammatical properties for the prototypical/basic level commissive and its immediate hyponyms, which represent the core of the class of commissive shell nouns. *Volunteering* is the only exception, but it is very rare both as a noun and in the shell noun function. The grammatical properties of core commissive nouns nicely tally with the two-fold potential of commissives: mainly committing to a future action (e.g., *her promise to come home*), but also committing to the truth of a prediction (e.g., *the promise that unemployment will go down*). However, what defines the core of the class is the social commitment and thus the binding strength of the obligation, and the ensuing expectations expressed in the act named by the noun. Considering the meaning codified by *to*-infinitive, then, this pattern in commissives is justified by these semantic components, and this would explain the fairly consistent behavior shown by core commissive nouns in the reliance on the *to*-infinitive construction. The only two nouns that do not show a completely consistent behavior as far as *to*-infinitives are concerned are *covenant* and *volunteering*. However, both are very rare in shell noun usage, with *volunteering* being the rarest of them all.

At first sight, these results might seem to be no more than a confirmation of existing claims (see Schmid 2000, 2007). However, when one looks at the data on the other members of the category, there is more to be said about our findings. Looking at more specific subordinates on the horizontal dimension, the proportion of uses in shell noun function drops dramatically, and the semantico-grammatical match deteriorates, too. This suggests that the addition of semantic features not only waters down the core commissive value, but also affects the grammatical behavior, in terms of different distributions of patterns that are shared with core commissive and/or in terms of patterns that are highly specific to the more peripheral representatives of the category (e.g., *bet*).

Some of the deviating grammatical distributions can be explained by semantic properties. For example, *assurance* represents the transition zone to assertives, and this emerges in the high reliance scores with *that*-clauses, and the reference to event types that are not necessarily future actions, but also representations of states of affairs in which the dynamic and agentive component of future actions is

missing (e.g., *his assurance that they were on the right track*). *Refusal*, on the other side, represents instead the transition to ‘pure’ action nouns, as shown by the strong reliance on *to*-infinitives (e.g., *her refusal to pay the bill*). That such explanations do not always work, as is the case for *menace* and *rejection*, indicates that there are limits to the match between noun meanings and complementation types. Complete compatibility would in fact be quite surprising.

All in all, our findings suggest the following:

- a. the semantic components of nouns are indicative of complementation preferences, as is manifested, e.g., in the occurrence of *to*-infinitives in almost all the nouns under investigation;
- b. nouns that incorporate the characteristic features of prototypical commissives and do not add many additional features show a fairly consistent complementation behavior marked by strong reliance on *to*-infinitives plus reliance on other patterns, including those containing *that*-clauses;
- c. the more features are added, and the more core features are not represented, the harder it becomes to predict the nouns’ behavioral profiles and their distributions on the basis of semantic criteria associated with commissives alone;
- d. the hypothesis of a match between lexical meanings and grammar can thus mainly be confirmed for the prototypical core of the class; it is less clear for the more specific and the semantically more distant nouns, even if deviations can partly be explained by semantic specifications of individual nouns (e.g., *refusal*, *assurance*, *acceptance*). The hypothesis is also much less strongly confirmed for the nouns occurring very rarely in shell-noun function (e.g., *volunteering*, *menace*, *rejection*).

To provide an answer to the questions underlying the present research, it is safe to say that the correlation between the meaning of the noun and the meaning of the construction is certainly not random, at least as far as the type of complementation analyzed in this study – clausal complementation – is concerned. However, this correlation is not absolutely rigid, and the idiosyncratic component – or, what we consider as idiosyncratic from the synchronic point of view, not having analyzed each noun in a diachronic perspective – still plays a role in our data.

6. Conclusion

In this paper, the complementation potential of commissive shell nouns has been examined with regard to clausal complementation patterns, based on the assumption that lexicogrammatical relationships have a semantic basis, i.e. in order for two or more elements to be able to integrate they have to be semantically compatible.

Combining qualitative, speech-act based, and quantitative approaches, our study shows that, in the case of the commissive nouns under investigation, lexical meanings and grammatical profiles match to a large extent in the prototypical core of the class, where the semantic component ‘binding’, deriving from the type of commitment (s-commitment) that characterizes the reported act, matches with the involvement and degree of control of the S_0 over the event expressed by the *to*-infinitive construction. However, this linking shows the feature of gradience when one moves from the prototypical cases, which are clustered around the central tendency within the similarity space of the category, to the more peripheral ones, which radiate away from this center, bordering other sub-domains – the assertive one, in our case – of the illocutionary domain. Thus, a lot of syntactic behavior is not random, and is predictable from the semantic features of the noun. However, it is not rigid. Indeed, the lexicogrammatical associations are partly governed by general semantic features that categorize the noun as a member of the category ‘commissive’, and partly by item-specific semantic properties (see Faulhaber 2011a, 2011b, Herbst 2011, 2014; see also “both item-specific knowledge and generalizations coexist” Goldberg (2006: 63)), which might not be transparent to speakers from a synchronic point of view.

In a 1975 paper on the “activity-state distinction” encoded by *to*-infinitives and *that*-clauses in verb complementation, Riddle concludes that “hopefully, after more research is done, it will be possible to predict what complementizer any verb of English will take in any context.” (Riddle 1975: 474). The results reported in this paper suggest that, for the commissive nouns under study, reliable predictions on complementation patterns seem to be possible but only in the space of core commissives. When one moves outside this space, prediction becomes more and more difficult. The direction for further studies is that, if one wants to provide an adequate account of the internal structure of the category ‘illocutionary shell noun’, a very close analysis of each noun belonging to each sub-domain (assertive, commissive, directive, declarative, expressive) of the domain of illocutionary nouns is needed.

Author contributions

CV designed the study, contributed theoretical background in pragmatics, retrieved corpus data, performed the grammatical, semantic and pragmatic analysis and wrote most parts of the first draft. H-JS contributed the theoretical background in cognitive linguistics, did the figures and statistical analysis, and revised the draft.

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