Quantitative Analysis in the Service of Linguistics and Literary Study

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Abstract

Quantitative analysis of grammatical forms in literary texts can support linguistics; the linguistic hypotheses thus arrived at can in turn support literary studies. If the linguist is willing to entertain non-canonical categories and pay heed to literary aspects of texts, then meaning-based predictions about the distribution of linguistic forms can generate data that support both linguistics and literary studies. In this paper, data on simple counts of grammatical forms from published modern Italian texts illustrate this inter-disciplinary approach, at three levels of discourse: multiple texts, two chapters within one text, and one passage in one chapter of one text. The results support innovative grammatical hypotheses and in turn enhance our understanding of texts: overall themes and characterizations across texts, emphases that vary text-internally, and the dramatic structure of episodes within a text.

L'analisi quantitativa delle forme grammaticali nei testi letterari può supportare la linguistica, e le ipotesi linguistiche a cui si perviene possono a loro volta supportare gli studi letterari. Se il linguista è disposto a impiegare categorie non canoniche e a prestare attenzione agli aspetti letterari dei testi, allora le predizioni basate sul significato circa la distribuzione delle forme linguistiche possono generare dei dati capaci di supportare sia gli studi linguistici sia quelli letterari. Nel presente articolo i dati relativi al semplice conteggio delle forme grammaticali estratte da testi italiani moderni editi mostrano questo approccio interdisciplinare a tre livelli di discorso: testi multipli, due capitoli

all'interno di un testo, e un brano in un capitolo di un testo. I risultati supportano delle ipotesi grammaticali innovative e a loro volta arricchiscono la nostra comprensione dei testi: temi e caratterizzazioni generali all'interno dei testi, enfasi che variano internamente al testo, e la struttura drammatica degli episodi all'interno di un testo.

Introduction

Quantitative analysis of grammatical forms in literary texts can support linguistics, and the linguistic hypotheses thus arrived at can in turn support literary studies. If the linguist is willing to entertain non-canonical categories and pay heed to literary aspects of texts, then meaning-based predictions about the distribution of linguistic forms can generate data that support both linguistics and literary studies. In this paper, data on simple counts from published modern Italian texts illustrate this inter-disciplinary approach, at three levels of discourse: multiple texts, two chapters within one text, and one passage in one chapter of one text. The results support innovative grammatical hypotheses and in turn enhance our understanding of texts: overall themes and characterizations across texts, emphases that vary text-internally, and the dramatic structure of episodes within a text.

The potential for a mutually beneficial relationship between linguistics and literary studies was suggested by Diver (1982/2012) and illustrated there for verbal aspect in Homer's *Iliad.* Huffman's (1997, 233-256) use of DeGaulle's *Mémoires de guerre* in his validation of innovative hypotheses of meanings for the French dative and accusative clitics can easily be turned, reciprocally, into a discussion of the contribution of the grammatical meanings to the author's narrative ends. In the present paper, as in Diver and Huffman, the analyst is interested not merely in quantifying the distribution of the tokens of *a-priori* grammatical categories, nor of words, but in using authentic text

to support the development of entirely new grammatical hypotheses and in using those hypotheses, in turn, to illuminate aspects of texts.

Quantitative comparison of entire texts

Twentieth-century literary Italian has two masculine singular pronouns that routinely function as grammatical subject: *egli* and *lui*. As such, both get translated into English as 'he,' and so to the English reader they can seem interchangeable. But an analysis of the distribution of the two in authentic discourse thoroughly transforms one's view of the linguistic status of the two. Such analysis has led to a hypothesis that the two forms are not interchangeable grammatical subjects but actually *signals* with contrasting *meanings* (Davis 1992, summarized in Davis 1995). See Hypothesis 1.

Hypothesis 1

egli: signal of the interlocked meanings Number ONE, Sex MALE, Deixis LOW + Focus CENTRAL

lui: signal of the interlocked meanings Number ONE, Sex MALE, Deixis LOW

Egli bears a grammatical meaning that identifies its referent as the CENTRAL participant, the one worthy of the highest degree of the reader's Focus, in the event represented by the accompanying verb.[1] Example (1) illustrates. It comes from Calvino's whimsical novel *Il visconte dimezzato* '*The Divided Viscount*,' with its title character, the Viscount Medardo. This token of *egli* refers to that main character, while the oblique *le*, a signal of PERIPHERAL Focus, refers to a secondary character, Pamela.

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[1] Following Columbia School tradition, hypothesized semantic substances are here indicated with an initial capital letter (e.g., Focus) and hypothesized meanings within those substances with small capitals (e.g., CENTRAL).

1. Io, Pamela, ho deciso d'essere innamorato di te, — *egli le* disse. (Calvino 1951, 61)

   "I, Pamela, have decided to be in love with you," <u>he</u> (*egli*) told <u>her</u> (*le*).

The evil viscount's targeting of the goatherd Pamela is a major point in the plot, one of his many tools in a reign of terror against his people. It is important in the story that the Viscount perpetrates this act. *Egli* places the reader's focus of attention on the Viscount in this act of saying, more than on Pamela, its other signaled participant.

    Lui, by contrast, bears no such Focus meaning. *Lui*, traditionally labeled a disjunctive pronoun, is not syntactically tied to a verb but appears also in isolation or as object of a preposition—and then translates into English as 'him.' The non-canonical Hypothesis 1 entails that *lui*, even when it is parsed as a grammatical subject, retains that essential independence from the verb. As a consequence, *lui* as grammatical subject is more than just subject of a verb; it always has some connection to something else in the text. *Lui* may suggest a comparison with another character. Or it may insinuate some innuendo, supported by context, having to do with a character's personality traits. Example (2) illustrates. This example, like (1), comes from Calvino's novel, and the *lui* here refers again to the main character, the Viscount Medardo, who will soon literally be blown in half in battle, his evil half surviving to terrorize the folk of his countryside.

2. Ancora per *lui* le cose erano intere e indiscutibili, e tale era *lui* stesso. (Calvino 1951, 22)

   For <u>him</u> (*lui*), things were still whole and unquestionable, and so was <u>he</u> (*lui*) himself.

As shown in the example, *lui* may be grammatical subject or not. Even when it is, its relevance, as here, extends beyond its verb. Here, the (ill-fated) wholeness of Medardo is compared with the wholeness of the other things of the world; *lui* relates to *cose* 'things' as much as it relates to *era* 'was.'

Because the aim here is to demonstrate statistical tendencies in texts, the examples provided, including (1) and (2), are not intended to be representative but rather illustrative of points being made. Nor does their presence here implies anything about acceptability judgements relating to the choice between *egli* and *lui* in isolated sentences.

The hypothesized meanings of *egli* and *lui* factor into how each token gets interpreted as a narrative unfolds. But in addition to such local effects, there are text-level quantitative observations to be made and accounted for.

In a typical text with a single male principal character, that character will tend to be referred to by *egli*, while secondary male characters will tend to be referred to by *lui*. This is because, in a typical text with a single principal character, it is that person who primarily advances the action of the narrative (the story is "about" him), while secondary characters get introduced often only because they relate in the narrative to something or someone else, such as that main character. Such typical texts include: Berto's (1951) novel *Il brigante* with its hero, the brigand Michele; Calvino's (1951) novel *Il visconte dimezzato* with its hero, the Viscount Medardo; Montanelli's (1976) history *Italia in camicia nera* with its anti-hero Benito Mussolini; Russoli's (1974) essay "Il sogno della ragione produce mostri" in a treatment of the Spanish painter Francisco Goya; and Ronconi's (1948) essay "Lucrezio nel bimillennario" in a volume of *La natura* by the Roman poet Lucretius. In each of these texts the main character (unproblematically identified by the title and by frequency of mention) tends statistically to be referred to by *egli*, relative to lesser characters, who tend to be referred to by *lui*.

Examples (3) and (4), respectively, illustrate *egli* referring to a principal character and *lui* to referring a secondary character. In (3), *egli* refers again to the Viscount Medardo—or at least to his evil half; Medardo is uncle of the young narrator.

3.   In quel tempo mio zio girava sempre a cavallo: s'era fatto costruire dal bastaio

        Pietrochiodo una sella speciale a una cui staffa <u>egli</u> poteva assicurarsi con cinghie,

        mentre all'altra era fissato un contrappeso. (Calvino 1951, 41)

        In that time, my uncle always went around on horseback. He had had the saddle-

        maker Pietrochiodo construct a special saddle upon one stirrup of which <u>he</u> (*egli*)

        could secure himself with straps, while a counterweight was attached to the other.

Egli places the focus where it often is in this novel: on the main character as he enacts the plot, at this point by securing himself to a saddle so that he can wreak his havoc about the countryside.

        In (4), *lui* refers to the saddle-maker Pietrochiodo (Peter Nails), a secondary character.

4.   Ma un cruccio pungeva sempre il cuore del bastaio. Ciò che <u>lui</u> costruiva erano

        patiboli per gli innocenti. (Calvino 1951, 43)

        But a worry continually pierced the saddle-maker's heart. What <u>he</u> (*lui*) was building

        were scaffolds for the innocent.

The import of this reference to Pietrochiodo is not simply that he 'was building' (*construiva*) scaffolds; rather, it implies a comment—by the author through the narrator—that Pietrochiodo has had his skills appropriated to evil ends by the Viscount and therefore feels guilt about his action (a worry pierced his heart).

Such examples illustrate the general trend. In such typical hero texts, taken together, the odds of a principal character being referred to by *egli* as opposed to *lui* are over twice as high as the odds of a secondary character being referred to by *egli* as opposed to *lui* (that is, an odds ratio of over 2.5[2]). See Table 1.

Table 1: *egli* and *lui* in typical hero texts

Character	egli	lui		total	
principal	296 (.8)	145 (.6)	|	441	
secondary	79 (.2)	100 (.4)	|	179	
	375	245	|	620	Odds ratio > 2.5

Texts: Berto, Calvino, Montanelli, Russoli, Ronconi: non-dialogue, grammatical subject only

In contrast, now, with such typical main-character texts, Lampedusa's *Il gattopardo* '*The Leopard*' can be called a "quirky text." In this novel, the principal character, Don Fabrizio, Prince of Salina (the Leopard of the title), tends to be referred to not by *egli* but by *lui*, while secondary characters show no particular preference between the two forms. Examples (5) and (6), respectively, illustrate *lui* referring to this principal character and *egli* referring to a relatively minor character. The examples will be commented upon following the presentation of the statistical results.

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[2] Unlike a test of statistical significance, such as chi square, the odds ratio does not require the assumption of a representative sample from some large population, nor the mutual independence of tokens in the data set. See Davis (2002). The null value for an odds ratio (even odds) is 1.

5.   Fra questi signori Don Fabrizio passava per essere uno "stravagante"; il suo interessamento alla matematica era considerato quasi come una peccaminosa perversione, e se <u>lui</u> non fosse stato proprio il principe di Salina e se non lo si fosse saputo ottimo cavallerizzo, infaticabile cacciatore e medianamente donnaiolo, le sue parallassi e i suoi telescopi averbbero rischiato di farlo mettere al bando (Lampedusa 1958, 150)

Among these men, Don Fabrizio was thought of as a bit of an "eccentric." His interest in mathematics was considered almost like a sinful perversion. And if <u>he</u> (*lui*) had not been in fact the Prince of Salina, and if he had not been known as a skilled horseman, a tireless hunter, and a middling ladies' man, his parallaxes and telescopes would have risked making him an outcast.

6.   Poi vennero le notizie private che si adunavano attorno al grande fatto dell'annata: la continua rapida ascesa della fortuna di don Calogero Sedàra: sei mesi fa era scaduto il mutuo concesso al barone Tumino ed <u>egli</u> si era incamerata la terra (Lampedusa 1958, 44).

Then came the private rumors that were gathering about the great event of the year: the continuous rapid rise of the fortune of Don Calogero Sedàra. Six months earlier, the loan granted to Baron Tumino had expired, and <u>he</u> (*egli*) had confiscated the land.

Table 2 quantifies the tendency in Lampedusa illustrated by Examples (5) and (6).

Table 2: *egli* and *lui* in *Il gattopardo*

Character	*egli*	*lui*		total	
principal (Fabrizio)	22 (.4)	39 (.6)		61	
secondary	31 (.6)	29 (.4)		60	
	53	68			121	Odds ratio < 1

Text: Lampedusa, non-dialogue, grammatical subject only

In this novel, the odds of the principal character being referred to by *egli* as opposed to *lui* are about half as high as the odds of a secondary character being referred to by *egli* as opposed to *lui* (an odds ratio of 0.5).

This reversal of the usual correlation gives empirical support to an otherwise impressionistic thematic characteristic of this exceptional text: In this novel, the main character is *not* the prime mover of the action. Don Fabrizio, is no typical action figure. He is a thinker among men of action. He is a nobleman in a time of revolution, a Sicilian watching Italian mainlanders sweep over his land, an ivory-tower intellectual bemused by the advent of soldiers, mayors, senators, and the like. An astronomer, he is a kind of lodestar around which other flashy bodies move, effecting their historical changes. In this 'anti-teleological' novel marked by a great deal of 'repetition,' it is not that so much Don Fabrizio does—accomplishes—things; it is that things happen 'around him. Fabrizio's world is 'insular' and 'inert' relative to the larger world, which includes the new Italy (Palermo 2009, 159, 161). In *Il gattopardo*, the people who get things done—who move history along into the modern era—are secondary characters, chief among them the town's bourgeois mayor. These are the kinds of characters who get referred to by *egli*.

In Example (5), therefore, the reference to Fabrizio by *lui* prompts the reader to consider the significance of Fabrizio's personality and status: mathematician, prince, horseman, hunter, ladies'

man, to list just the traits given in the immediate context. *Lui* is present here not merely in order to specify who is (*fosse stato*) the Prince of Salina; that has been known practically since the beginning of the novel. In Example (6), the reference to Sedàra by *egli* places focus on the principal participant in an action, the confiscation (*si era incamerata*) of land. True, this action may say something about Sedàra's character, but the author reveals Sedàra's character through the acts that the man commits in his drive to consolidate his power and standing in the town, not through commentary about Sedàra.

The pattern of distribution of *egli* and *lui* in *Il gattopardo* provides empirical support for the view that, in this idiosyncratic novel, the main character is not the prime mover of the action but instead a witness to what others accomplish. Thus, linguistics informs literary study. At the same time, literary study provides both the basis for and the validation of the innovative linguistic hypothesis. No linguistic analysis of *egli* and *lui* in constructed sentences in isolation could possibly have revealed the essence of the semantic difference between them: that a token of *egli* is conceptually tied to its particular verb in the sequence of a narrative's events, while *lui* is free to imply wider associations. And no sentence-based linguistic analysis using *a-priori* categories—such as the statement that either *egli* or *lui* can be subject of a sentence's verb—would have revealed the correlations that support the innovative linguistic hypothesis of Focus for *egli* versus its absence for *lui*.

Quantitative comparison of chapters within a text

A similar methodology—an analysis of the distribution of forms in authentic discourse— leads to Hypothesis 2: that several of the Italian clitics—the datives *gli, le* (f. pl.) and the accusatives *lo, la, li, le* (f. pl.)—are signals of meanings that rank the Degree of Control of participants in events, while the clitic *si*, also referring to a participant in an event, bears no such meaning of Degree of

Control. A signal of Degree of Control gives information about the relative degree of responsibility that the referent of the pronoun bears for the occurrence of the event denoted by the associated verb; *si* gives no such information (Davis 2017b).

Hypothesis 2
Signals meanings

*gli, le*dat*, lo, la, li, le*acc   Participant Focus INNER + Degree of Control (MID or LOW)

si   Partiipant Focus INNER

The *l*-clitics are suitable for participants in events in which control is relevant, while *si*, the clitic traditionally labeled impersonal and reflexive, is relatively more appropriate for participants in events in which control is irrelevant. *Si* is neutral to Degree of Control; control goes unspecified.

This exclusion of *si* from the substance of Degree of Control has quantitative effects. In Devoto's (1951) history *Gli antichi italici* 'The Ancient Italic Peoples,' a chapter on 'Italic Alphabets and Dialects' has little to say about human beings and contains only one personal name as subject of a finite verb. By contrast, a chapter on 'Becoming Part of the Roman World,' contains fifty-four personal names as grammatical subject. Now since inanimates are routinely viewed as not controlling events the way humans do, it can be predicted that the chapter on alphabets and dialects, where control is largely irrelevant, will have a higher ratio of *si* to the *l*-forms than will the chapter about humans, where control is more relevant. The results of a count (with one of the signals of Degree of Control contrasting with *si*) appear in Table 3.

Table 3: *si-* and the opting out of the substance of Degree of Control

	Ch. VI	Ch. XI		total
	'Italic Alphabets and Dialects'	'Becoming Part of the Roman World'		
si (no Control meaning)	122 (.9)	196 (.8)	|	318
lo (a Control meaning)	9 (.1)	35 (.2)|	44	
	131	231	|	362
	Ratio 14:1	Ratio 6:1		OR > 2.4

Text: Devoto

The chapter on alphabets and dialects has a *si*-to-*lo* ratio of about 14:1; the chapter on humans has a *si*-to-*lo* ratio of only about 6:1, relatively fewer *si*'s, relatively more signals of Degree of Control. Signals of Degree of Control tend to be used in contexts where distinctions of Control among participants are more relevant; *si* tends to be used in contexts where Control is less relevant.

Example (7) illustrates *si* in a context about the history of Italic languages.

7.   Ma la storia dei rapporti tra lingue italiche e latino, se non <u>si</u> può più rappresentare

come la coerente e costante ramificazione da un tronco italico comune, né come la

definitiva e totale unificazione di due correnti relativamente diverse nelle origini, non

<u>si</u> esaurisce nemmeno in questa equilibrata e pacata contrapposizione di tipi italici e

di tipi latini, cui le circostanze storiche hanno impedito di fonder<u>si</u> compiutamente.

(Devoto 1951, 178)

But the history of the relations among the Italic languages and Latin, if it can no longer

be represented as the cohering and constant branching of a common Italic trunk, nor

as the definitive and complete merging of two currents that are of relatively different

origin, nevertheless does not end in this balanced and calm opposition between Italic

types and Latin types which historical circumstances have kept from fusing altogether.

In (7), *si* is appropriate because ranking the Degree of Control of the participants in the acts of representing (*rappresentare*) and exhausting (*esaurisce*) is not the writer's point; it matters not at all that, in fact, historians such as the writer have more control over such representation and complete telling than does the field of diachronic linguistics. Rather, the writer is making a point about history (*storia*); the Degree of Control over the telling of that history is irrelevant.

Example (8) illustrates *lo* in a context about human actions.

8. Durante l'impresa di Pirro, [i Mamertini] non <u>lo</u> combatterono direttamente; ma, quando ritornò dalla Sicilia rinunciando al piano di espellere i Cartaginesi anche da Lilibeo e sbarcò nel Bruzio dopo aver patito una dura sconfitta navale da parte dei Cartaginesi, furono i Mamertini che gli si precipitarono addosso pronti a dargli il colpo di grazia: e Pirro riuscì a stento a salvarsi. (Devoto 1951, 315)

During Pirro's undertaking, the Mamertini did not fight <u>him</u> (*lo*) directly. But, when he returned from Sicily renouncing his plan to expel the Carthaginians even from Lilibeo and landed in Bruzio after having suffered a serious naval defeat on the part of the Carthaginians, it was the Mamertini who threw themselves at him prepared to give him a finishing stroke. And Pirro barely managed to survive.

The passage is all about conflict among human beings: who can exercise more control than whom. The reference to Pirro by *lo* is a signal that he had less control than the Mamertini over whether they would 'fight' him or not. Indeed, the wider context shows that the Mamertini were a rather powerful people, picking fights all over the place.

Quantitative comparison within a chapter within a text

The final illustration in this paper is local, concerning a three-page episode in one chapter of one book. The linguistic forms observed are the two locative clitics *vi* and *ci*, which have been—unhelpfully—said to be "fully synonymous" (Russi 2008, 57). They both often translate into English as 'there.' But analysis of the distribution of the two forms in authentic text suggests the non-canonical Hypothesis 3: that the two differ in the degree of Restrictedness of Space that they signal: *vi* signals a relatively RESTRICTED and *ci* signals a relatively UNRESTRICTED Space for the event denoted by the associated verb (Davis 2017a).

Hypothesis 3

vi = RESTRICTED Space

ci = UNRESTRICTED Space

A climactic scene in Silone's novel *Pane e vino* 'Bread and Wine' tells of the assassination of the elderly priest Don Benedetto, the very first character to appear in the novel and a mentor of its hero. And the episode illustrates dramatically how the distribution of linguistic forms responds to—and contributes to—the development of narrative plot. In this case, the observed forms contribute meanings that have the effect of narrowing the reader's focus from first rather inconsequential spaces to then terribly crucial spaces.

Don Benedetto has spent his later years opposing the Fascist regime in Italy, but the esteem in which he is so widely held has up to this point prevented the authorities from eliminating him. He has now been called out of retirement to celebrate mass at a small country church. A young woman named Cristina goes to assist him. The excerpt in (9) introduces the episode. The church's unexceptional interior architecture is described. The description contains three sequential tokens of *ci*, Space UNRESTRICTED, the effect being that the exact locations of the three architectural features— an altar at the back of the church, a fresco to the left of the altar, and a painting to the right of the altar—do not matter.

9.   Il pavimento della chiesa è ricoperto di lapidi mortuarie, del tempo in cui non esistevano i cimiteri e i morti erano sepolti nelle cripte delle chiese. . . . In fondo alla chiesa <u>c</u>'è l'altare che ha l'aspetto di un blocco disadorno di pietra, con un crocifisso di legno dipinto in nero e quattro candelieri sopra. A sinistra dell'altare <u>c</u>'è un affresco rappresentante l'inferno con diavoli neri di orribili e ripugnanti forme, che tormentano in varia guisa le anime dei cafoni dannati, ... Alla destra <u>c</u>'è una raffigurazione della leggenda dei tre morti e dei tre vivi. . . . Il sacrestano accende le quattro candele dell'altare e suona una campanella per annunziare l'inizio della messa. (Silone 1937, 342)

The floor of the church is covered with memorial stones from the time when there were no cemeteries and the dead were buried in the crypts of churches. . . . At the back of the church (*ci* 'there') is the altar, which looks like an unadorned block of stone, with, above, a crucifix painted black and four candlesticks. To the left of the altar (*ci* 'there') is a fresco depicting hell with black devils of horrible and repugnant shapes who are tormenting in various ways the souls of the damned countryfolk. . . .

15

To the right (*ci* 'there') is a depiction of the legend of the three dead and the three living. . . . The sacrestan lights the four candles on the altar and rings a little bell to announce the beginning of the mass.

This is mere scene-setting. But now the noose tightens. The sinister purpose of the occasion begins to make itself felt, with a switch from UNRESTRICTED *ci* to RESTRICTED *vi*. Excerpt 10 is given here in three parts (10a, 10b, 10c).

10a.　In chiesa <u>vi</u> sono, tra donne e ragazzi, circa una dozzina di fedeli. Don Benedetto coi paramenti sacri è ora in piedi, davanti al primo scalino dell'altare. . . . Don Benedetto sale sull'altare a <u>vi</u> dispone gli oggetti che dovranno servire alla consumazione del mistero. . . .

In church (*vi* 'there') are—all women and girls—about a dozen of the faithful. Don Benedetto, with the holy vestments, is standing now before the first steps of the altar. . . . Don Benedetto climbs up to the altar and places there (*vi*) the objects that will be used in the consummation of the mystery.

For the success of the impending assassination, it is important that the attendance be very sparse ('a dozen') and inconsequential ('women and children') in the space of this particular country church (*vi*). And it is important that Don Benedetto be precisely at the space occupied by the altar (*vi*).

Continuing now:

10b.　Ogni volta che Cristina attraversa l'altare per andare da una parte all'altra, si genuflette nel centro. Or essa è alla destra e regge in una mano un'ampolla di vino e nell' altra un'ampolla

16

d'acqua. Don Benedetto va verso di lei col calice ed essa <u>vi</u> versa una parte del vino e

dell'acqua.

Every time Cristina crosses the altar to go from one side to the other, she genuflects

in the center. Now she is to the right, and she holds in one hand a cruet of wine and

in the other a cruet of water. Don Benedetto goes towards her with the chalice, and

she pours into it (*vi*) a portion of the wine and the water.

It is important that the wine and water be poured into the chalice (*vi*) and into no other space,

because the poison that will kill Don Benedetto is in that mixture, and he will sacramentally drink it

from the chalice.

Continuing:

10c.   All'inizio della consacrazione i fedeli s'inginocchiano e s'inchinano per terra. Don Benedetto

bisbiglia sugli elementi da consacrare le parole della santificazione. Egli <u>vi</u> alita sopra col suo

respiro. Egli confessa tre volte la sua indegnità. Poi si curva sull'altare e consuma l'ostia, alza

il calice e ne beve il contenuto. (Silone 1937, 342-344)

At the beginning of the consacration, the faithful kneel and bow towards the floor.

Don Benedetto whispers over the elements to be consacrated the words of

sanctification. He blows gently over them (*vi*) with his breath. Three times he

confesses his unworthiness. Then he bends over the altar and consumes the host,

raises the chalice, and drinks its contents.

Having finally gotten close enough into the space of the sacraments to breathe 'over them' (*vi*) and

consume them, the saintly old priest falls dead. The sequence of four tokens of *vi*, Space RESTRICTED,

serves to guide the reader to focus on the spaces that are narratively important inside the church:

not the locations of the altar, the fresco, or the painting, but the locations of the gathering of inconsequential witnesses, of the placement of the deadly sacraments, and—twice—of the poisoned bread and wine (cf. the book's title).

The switch from UNRESTRICTED *ci* to RESTRICTED *vi*—quantitatively, three consecutive tokens of *ci* followed by four consecutive tokens of *vi*—serves to direct the reader's attention to just where it needs to be if the passage is to fulfill its narrative purpose of illustrating the evil of the regime whose power the novel decries. Figure 1 below (where "D.B." refers to Don Benedetto) illustrates in a schematic way the literary effect of the signaled grammatical meanings. (In the figure, the narrative moves from top to bottom.)

Conclusion

Results like these support grammatical hypotheses of non-canonical categories. The *a-priori* canonical category *subject*—part of what has been called "the theory of the sentence" (Diver, Davis, and Reid 2012)—fails to distinguish the functions of *egli* and *lui*; the categories *impersonal* and *reflexive* fail to account for the distribution of *si* relative to the clitics with grammatical case; and the familiar term *locative* glosses over the meaningful difference between *vi* and *ci*. But an analysis of the distribution of the forms in authentic discourse, such as that represented by published literature, leads to hypotheses of non-canonical semantic categories such as the meanings of Focus, Degree of Control, and Restrictedness of Space . Thus literature informs linguistics, and linguistics informs literary study.

Figure 1: The Spatial structure of the assassination episode in Silone's *Pane e vino*

Setting	<u>c</u>'è l'altare '<u>there</u> is the altar' Space UNRESTRICTED
the	<u>c</u>'è una raffigurazione '<u>there</u> is a depiction' Space UNRESTRICTED
scene	<u>c</u>'è un affresco '<u>there</u> is a fresco' Space UNRESTRICTED

Narrating	<u>vi</u> sono una dozzina di fedeli '<u>there</u> are a dozen of the faithful' Space RESTRICTED
the	D.B. sale all'altare e <u>vi</u> dispone 'D.B. climbs to the altar and places <u>there</u>' Space RESTRICTED
assassination	col calice ed essa <u>vi</u> versa 'with the chalice and she pours <u>there</u>' Space RESTRICTED
	gli elementi ... D.B. <u>vi</u> alita sopra 'the elements ... D.B. blows <u>there</u>' Space RESTRICTED

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