Dei Genitrix: A Generative Grammar for Traditional Litanies*

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Abstract

The object of the present paper is a study of two traditional litanies, *Litany of the Saints* and *Litany of Loreto*, in their most ancient attested form. We will design a narrative grammar to show how their litanic structures can be generated. We propose the notion of n-selection, a narrative rule which can't be reduced to syntax or semantics: it depends on culture. We will test the grammar on the *Litany to the Divine Mercy*, written by Saint Faustina Kowalska in the XXth century. Our purpose is to identify the rules of the genre which allow its reproduction in more recent versions.

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1 Introduction

Litany is a form of Christian prayer with different functions inside and outside the liturgy, set for public or private use. It exists (or used to) in Western and Eastern rites and its origin is almost as ancient as the Christianity itself. Western litany consists of a variable list of invocations, intoned by an officiant, to whom worshippers answer with a fixed formula: "Saint Ambrose – pray for us"; "Speculum iustitie – ora pro nobis" ... Being the litany a strong vehicle of the *devotio populi*, popular devotion, we register an increasing number of texts over the centuries. Nevertheless, all litanies seem subjected to precise rules: for example, the names of the Saints are listed by their type (martyrs, doctors, virgins ...) and age; the name *Mary* is replaced by rich periphrasis grouped by semantic affinity. Furthermore, all of them can be grouped in two classes: the first addresses a list of Saints, the second only one receiver: the *Holy Name of Jesus*; the *Most Precious Blood*; *Saint Anthony*. The endurance of the two structures let us think that a single narrative grammar can explain how the identity of a text is preserved during times, thus representing diachronic changes. For this reason, we design our grammar only on the most ancient versions of the *Litany of the Saints* (further mentioned as LS) and the *Litany of Loreto* (or LL): these two texts seem prototypical. The first is addressed to many Saints, while the second has a single receiver (the Virgin).

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1.1 Historical outline

The litany as a genre of discourse has a complex history rooted among the first communities of Eastern Christians, dating from the fourth century in Antioch, and the medieval Byzantine Church. According to Lapidge [12] and Sadowski [17], quite a mature version of LS reached England between the VIIth and the VIIIth century. As far as LL is concerned, its roots can be found in *The Akathist Hymn*, a Byzantine poetic and devotional composition, translated in Latin at the beginning of the IXth century in Venice: it is lexically linked with the *Letanie beatae Mariae virginis* said in the Basilica of Saint Mark in the XIIth century [13] [15] which on its turn manifests a number of concordances with LL. This way, the most ancient Western tradition of litany has been codified through Latin translations from languages of the early Christianity and the Byzantine Greek. LS is probably slightly older than LL, but if we assume that litany is a convergence of previously existing discursive forms (not only Christian) then LL has a number of common traits with LS. Between 1587 and 1608 they were both accepted within the canon of Catholic prayers by a papal bull, which excluded other popular and regional traditions. In the centuries to come, others were written and admitted (or not) to public or private use. For example, in the XXth century Saint Faustyna Kowalska wrote the auteur *Litany to the Divine Mercy* [10]. Sadowski [17] describes three qualities of the litanic genre:

- ektenial;
- polyonymic;
- chairetismic.

The *ektenia* is a supplicatory prayer of the Orthodox rite. In Western tradition only the formula "Kyrie eleison, Christe eleison" was preserved, and it opens each litany. Coming to the second quality, the greek *poly-onoma* means "many names". This quality develops the trend of laudatory listing of names (i.e. of Saints) or antonomasias (i.e. periphrasis, attributes), that might be even older than Christian culture [18]. Finally, a chairetism is an invocation typical of *The Akathist Hymn* ("Hail! By whom gladness will be enkindled; Hail! By whom the curse will be quenched . . . " – [13]). The litanies of any epoch merge this three components manifesting explicitly some of them, while some others remain implicit.

2 Textual analysis

The most ancient version of LL is published in [13]. The codex dates from the end of the XIIth century. LS is edited in [12], pp. 93–97, and the manuscript dates to the mid-XIth century. The two litanies can be subdivided in three parts. The first is an *introduction* in which we find the traditional Greek invocation Kyrie; then we have the *body* of the litany, which consists of the chairetismic formulas (*Virgo suavis, ora pro nobis; Virgo fidelis, ora pro nobis;*) finally, we have an *envoy* which closes the text, in which we can find the initial Kyrie, and/or the Agnus Dei, and/or an oration.

2.1 Further articulation of the body

As far as the body is concerned, the main difference between LL and LS consists in the fact that the second one can be subdivided in two parts. In the first, worshippers address the Saints. In the second part the receiver of the supplication is God. The object of the two prayers is different too: in the second part, worshippers pray Christ to free them (*libera nos*) and to hear them (*audi nos*), whereas in the first part we find a "second-degree prayer": worshippers pray a mediator to pray for them (*Sancte Johannes ora pro nobis*). The structure of the first part of LS is similar to LL, since the Virgin is a mediator, too. The list of Saints

in LS is hierarchically ordered: Holy Mary, Angels and Archangels, Patriarchs and Prophets, Apostles and Disciples, Martyrs, Confessors, Monks and Hermits, Virgins. During centuries, new categories have been added to this list: Doctors, Priests and Religious, Laity. Some martyr women have been shifted from the category of the Virgins to the Martyrs, after men. Coming to the LL, the antonomasias of the Virgin are subdivided in groups too: *Sancta, Mater, Magistra, Virgo, Vas,* some short lists of various epithets which are semantically related each other, and eventually *Regina*. The symmetry between the two structures is really interesting.

2.2 Why a narrative grammar?

Generative grammars have been used to analyse narrative structures since the seminal work of Lakoff [11]. We can't simply use Chomsky's syntactic grammar because it does not include the notion of *narrative selection* (n-selection), as we are going to explain. First let us consider the two sentences:

1. *Mary wondered the time;
2. *Bill drank the schrimps;

According to generative linguistics, (1) is not correct because it violates a syntactic rule (a *c-selection rule*), whereas (2) is not correct because it violates a semantic rule (a *s-selection rule*) according to which the verb *to drink* implies a liquid object [22]. Now, let us consider these two sentences:

3. *O Lord, pray for us;
4. *Mirror of justice, save us;

Both (3) and (4) are correct from a linguistic point of view, but they are unacceptable for cultural reasons: in fact, *Mirror of justice* is an antonomasia of the Holy Virgin, which can't save worshippers because only God can. On the other hand, who should God pray? Umberto Eco [2] would say that these are not linguistic rules, but *encyclopaedic knowledge*. Nevertheless, a *n-selection* has the strength of a rule: for every version of the text, in every epoch, there are not litanies in which worshippers ask Christ to pray, nor litanies in which the Holy Virgin is asked to save them. As Eco [3] wrote, «every prophet sees only what his culture has taught him to see and allows him to imagine». *N-selections* are the kind of rules which can be caught by a narrative grammar.

2.3 The structure of the invocation

We are going to compare the different invocations of LS and LL. To describe the deep structure which is implied by both models, we'll refer to the notion of actantial structure first formulated by Tesnière [19] and generalized to narrative by Greimas [8]. According to Tesnière the core of the enunciate is the verb, which he calls *stemma* (T). The stemma selects an actantial structure with a maximum of three actants: the *subject*, the *object* (O), the *indirect object* (I). Finally the stemma admits some *circumstants* (C), i.e. the indirect complements. In our case, the subject is further articulated in a *name* (N) and an *antonomasia* (A). Given these categories, let us analyse the structure of the invocations to God (Table 1, Table 2).

As we can see, the main difference between the two kinds of invocation to God concerns the number of enunciates: in the case of the stemma "Deliver us" we deal with a single enunciate with two actants and a circumstant, whereas in the case of the stemma "hear us" we deal with two enunciates; they would become three if we'd analyze also the embedded structure of the first *O* ("that Thou would spare us"). Let us compare now the structure of the invocation to the Holy Virgin and to the Saints (Table 3):

Table 1 Narrative structure of the invocation to God (simple form).

N	*A*	*T*	*O*	*I*	*C*
ø	O Lord	deliver	us	ø	from the snares of the devil
ø	O Lord	deliver	us	ø	in the day of judgement

Table 2 Narrative structure of the invocation to God (double form).

N	*A*	*T*	*I*	*O*	*C*
We	ø	beseach	Thee	that Thou would spare us	ø
ø	ø	hear	ø	us	ø

Table 3 Narrative structure of the invocation to the Holy Virgin and the Saints.

N	*A*	*T*	*O*	*I*	*C*
Saint Mary	ø	pray for	us	ø	ø
ø	Holy Virgin of Virgins	pray for	us	ø	ø
Saint Felicity	ø	pray for	us	ø	ø
All ye holy Martyrs	ø	pray for	us	ø	ø

We deal with a single enunciate with two actants and no circumstances. This structure is similar to the simple kind of invocation to God. The difference between the simple and the double structure reflects their different historical roots: as we said, the Byzantine *ektenia* is the model of the double structure, whereas the model of the simple structure can be found in a Syriac litany of the VII century, probably a translation from a Greek text, discovered by Baumstark and Lapidge [12]. Both the models are present in LS. We find their blend in more recent litanies, such as the *Litany of the Holy Name of Jesus* and the *Litany of the Most Precious Blood of Jesus*, which adopt the scheme of the simple invocation.

3 Dei Genitrix: the grammar

For reasons related to space we will propose a grammar (DG: Dei Genitrix, Table 4) for the simple structure. We will present a similar grammar for the double structure derived from the *ektenia* in a future publication. The grammar consists of two alphabets: Z, non-terminal symbols (upper case letters) and T, terminal symbols (lower case letters), with the initial symbol $I \in Z$. It also contains a set of rules of substitution $\alpha \to \beta$ where α is a non-terminal symbol and β can be a string of both terminal and non-terminal symbols. Starting from the initial symbol S, a derivation applies the rules of substitution till we get a string made of only terminal symbols. On their turn, terminal symbols are variables which can be interpreted by an appropriate member of a subset of litanic elements. Basically, each enunciate belongs to one of the two possible types (W/Z) of stemmas: “to pray for” (p) and “to deliver” (d). Each of them selects a different kind of actantial structure. The W-type is a *mediation structure*: worshippers pray a mediator to pray God. It selects the subject: one of the Saints’ names (s) or the name of the Virgin (n) and one of her antonomasias (a). Since one of these two can be omitted, we inserted the empty string ϵ in these two sets. The object (o) of the W-type is always manifested by the pronoun “us”. The Z-type is a “petition structure”: worshippers address directly God. This structure selects two actants and a circumstant. The subject is represented by the fixed antonomasia (l), “O Lord”. The object (Q) is manifested once again by the pronoun “us” (o). The circumstant (C) is a member (c) of the set of

Table 4 Dei Genitrix Grammar.

Symbolic repertoire	Rules
$Z := \{S, W, P, O, Z, D, Q, C\}$	1) $S \to kW$
$I := \{S\}$	2) $W \to sP$
$T := \{k, s, a, n, p, o, d, l, c, e\}$	3) $W \to nA$
	4) $A \to aP$
Introduction k = (Kyrie eleison . . .);	5) $P \to pO$
Subjects s = (Saint Steven; Saint Swithun; Saint Eormenhilda . . .);	6) $O \to oW$
n = (Saint Mary, ϵ); l = (O Lord); a = (ϵ, Mother of God, Gem of mercy . . .)	7) $O \to oZ$
Stemmas p = (pray for); d = (deliver);	8) $O \to oe$
Objects o = (us);	9) $Z \to lD$
Circumstants c = (From the future rage; Through the Cross	10) $D \to dQ$
and Thy passion . . .);	11) $Q \to oC$
Envoy e = (Agnus Dei, Kyrie eleison . . .)	12) $C \to cZ$
	13) $C \to ce$

Table 5 Dei Genitrix derivation of LS.

Derivation	Interpretation of the derived string in LS
S	
kW (rule 1);	(k) kyrie eleison, kriste eleison, kyrie eleison;
ksP (rule 2);	(s) Saint Guthlac
kspO (rule 5);	(p) pray for
kspoW (rule 6);	(o) us
ksposP (rule 2);	(s) Saint Eormenhilda
kspospO (rule 5);	(p) pray for
kspospoZ (rule 7);	(o) us
kspospolD (rule 9);	(l) O Lord
kspospoldQ (rule 10);	(d) deliver
kspospoldoC (rule 11);	(o) us
kspospoldoce (rule 13)	(c) from the snares of the devil;
	(e) Kyrie eleison, Christe eleison, Kyrie eleison;

the complements (locative, separation, instrumental. . .). Rule (1) generates the introduction of the litany. Rules (1–8) generate the W-structure of the body, whereas rules (9–13) generate the Z-structures. Rule (2) generates the names in the litany of the Saints, whereas rules (3–4) generate the antonomasias of the Virgin. Rule (6) assures the recursive generation of the number of the needed W-verses. Rule (8) ends the litany with the *envoy* (e) without generating Z-verses, as it happens in LL. On the contrary, rule (7) ends the series of W-verses and starts the recursive generation of Z-verses. Rules (8 and 13) generate the envoy. We derive (Table 5) some litanic lines belonging to LS to exemplify how the grammar works.

In Table 6 we see how the grammar can be used to generate strings as 'knaponapoe', corresponding to LL. We see also how the grammar can generate different litanies. For example, to generate the *Litany to the Divine Mercy* (DML) it is sufficient to substitute the symbolic repertoire with the one represented in Table 7 preserving the same narrative structure.

Further developments of the grammar concern the double-structure which can be found in the most ancient forms of LS, which proves its relation with the Greek *ektenia*.

Table 6 Dei Genitrix derivation of LL.

Derivation	Interpretation in LL	Interpretation in DML
S		
kW (rule 1);	(k) Kyrie eleison ...	(k) Kyrie eleison ...
knA (rule 2);	(n) Saint Mary	(n) Divine Mercy
knaP (rule 4);	(a) ϵ	(a) crown of all God's handwork
knapO (rule 5);	(p) pray for	(p) we trust in
knapoW (rule 6);	(o) us	(o) you
knaponA (rule 3);	(n) ϵ	(n) Divine Mercy
knaponaP (rule 4);	(a) Singular vessel of devotion	(a) sweet relief for anguished hearts
knaponapO (rule 5);	(p) pray for	(p) we trust in
knaponapoe (rule 8);	(o) us	(o) you
	(e) Kyrie eleison ...	(e) Lamb of God, who ...

Table 7 The Litany to the Divine Mercy – XXth century.

Symbolic repertoire
Introduction k = (Kyrie eleison ...);
n = (Divine Mercy); a = (greatest attribute of God, incomprehensible mystery, better than the heavens ...);
Stemmas p = (we trust in);
Objects o = (you);
Envoy e = (Agnus Dei, Kyrie eleison ...);

Another implementation concerns semantic categories to explain both the thematic groups of Saints and the coherent sets of antonomasias of the Virgin. We consider them as *isotopies* [7]. First we will try to design a regular grammar which generates each group; then we will simply sum the two grammars, since it is a theorem that the sum of two regular grammars is a regular grammar [9].

4 Discussion

Meister [14] defines computational narratology as a methodological instrument which aims to construct models which can be extended to larger bodies of text, providing empirical testing of their predictions in actual corpora, and precise and consistent explication of concepts. The computer-suitable form [21] helps to develop applications aimed to Digital Humanities. In this framework, the design of a generative grammar seems useful to different purposes. First of all, the notion of *n-selection* justifies an inquiry on cultural structures such as the narrative ones. In other terms, narrative grammars are not a simplification of syntax grammars, since they aim to explain forms of textual organisation which are wider and deeper than the enunciates analysed by generative linguistics. A second point concerns the form of the grammar: Dei Genitrix is formulated in Greibach normal form. Each rule has the form $Z \to tZ$, $Z \to t$ or $Z \to tt$, being t a terminal and Z a non-terminal symbol. Thus, it generates a *regular language*, which could be computed by a finite-state automaton [9]. Other forms of narrative structures are self-embedded, thus requiring a Context-Free Grammar with an higher computational power [6]. Though the construction of any grammar allows different solutions and subjective decisions, according to Chomsky's hierarchy regular grammars can not compute CF languages: thus our grammar proves the narrative structure of the litany to

be regular beyond every reasonable doubt. This difference in computational power can be interpreted in a morphological framework. The generation of CF structures has a limit related to memory [1]. In fact, CF languages are computed by pushdown automata with an infinite stack of memory. In this perspective, regular structures seem easier to memorize: the origins of litany are related to oral transmission. Notice how Finlayson formalises Propp's model of the morphology of the folktale as a finite-state automaton [4]. Morphology gives us another clue: Propp considers complex forms as the historical developments of simpler ones [16]. The simplicity of litanic structures is an argument on their ancient origins. Thus, computational power is a type of *complexity* which can be considered when dating the different versions of a text. Goethe [20] proposes two notions of forms, considered as structure (*Gestalt*) and development (*Bildung*): our narrative grammar tries to catch this morpho-dynamic dimension. In fact, we saw how our generative grammar can be used to show how posterior litanies share the same structure of LS and LL. Thus, litany is a Gestalt which codifies and transmits sacred knowledge. On the same line, knowledge stored in a litany can be developed (Bildung): during times, the names of the older Saints are continuously forgotten and replaced by newer Saints, such as Saint Maria Goretti or Father Kolbe; the same happens to the Virgin's antonomasias. However, the form is transmitted through the epochs, as it happens with the Byzantine icons. And, to quote Florensky [5], "A window is a window because a region of light opens out beyond it; hence, the window giving this light is not itself *like* the light, nor is it subjectively linked in our imagination with our ideas of light – but the window is that very light in itself, in its ontological self-identity, that very light undivided in itself and thus inseparable from the sun".

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