Names | A Journal of Onomastics

Urbanonyms and Their Linguistic Properties in Italian

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Abstract

The goal of this article is to offer an overview of Italian urbanonyms by analyzing the grammatical and lexical properties of urbanonyms from four cities (Rome, Naples, Milan, and Venice). A classification is offered via data extracted from each city's *PagineGialle* 'Yellow Pages' street directories, from which three key results emerge. First, Italian urbanonyms mostly involve two distinct constructions: nominal compounds (e.g., *Piazza Grande* 'Great Square') and genitive phrases (e.g., *Arco dei Volsci* 'Volsci's Arc'). Each construction can involve two or more "layered" generic terms (e.g., *via, san* in *Via San Francesco*). Secondly, generic terms attested in Italian urbanonyms can feature both "culture-general" items (e.g., *via* 'street') and culture and city-specific items (e.g., *lungotevere* 'Tiber riverside', *naviglio* 'navigable canal'). Thirdly, urbanonyms can carry commemorative but possibly also descriptive ("appellative") semantic functions. The article concludes by discussing how these results inform current research on urbanonyms.

Keywords: urbanonyms, Italian, morphology, syntax, semantics

Introduction

Standard definitions of toponyms identify them as vocabulary items that function as names for "places" (Ainiala, Saarelma, and Sjöblom 2012, chap. 3). Places, in turn, are usually defined as locations playing social, cultural, and cognitive functions for human activities (Cresswell 2007, chap. 1). Toponyms are a central object of study in toponomastics (Tent and Blair 2019, 2011; Nash 2015) and Geographic Information Science (GIS: Purves and Derungs 2015; Palacio, Derungs, and Purves 2015; Leidner and Lieberman 2011). In linguistics, recent research has begun to investigate again the category-specific, grammatical properties of toponyms (Stolz, Levkovych, and Urdze 2017; Nübling, Fahlbusch, and Heuser 2015; Köhnlein 2015), but there is a long history of research attempting to shed light on this category's distinctive linguistic properties (e.g., Van Langendonck 2007; Coates 2006; Anderson 2004; Zinkin 1969).

Each of these disciplines converges on the assumption that toponyms can include two units, respectively, known as *generic* and *specific terms* (Blair and Tent 2015). Generic terms establish the type of place a toponym refers to (e.g., *Street* in *Pitt Street*). Specific terms introduce the name assigned to a place (e.g., *Pitt* in *Pitt Street*). Toponyms usually feature both generic and specific terms, their order established via the rules of a language's grammar (Ainiala, Saarelma, and Sjöblom 2012, chap. 4). Toponyms including only specific terms are perhaps more frequently attested for large, culturally important places (e.g., *London* and other capitals; *France* and other nations). Nevertheless, both structure types can be attested across different types of toponyms.

A sub-type of toponym that has recently received attention is that of *urbanonyms*: names for places constituting the "parts" of the urban landscape (Way 2019; Ainiala and Vuolteenaho 2006). Examples include street names or *hodonyms* (e.g., *King Street*) and square names or *dromonyms* (e.g., *Times Square*) (Vaculík 2013). Most works observe that urbanonyms usually include what we label "complex" specific terms, e.g., terms identifying historical figures via their titles (e.g., *Lord* in *Lord Nelson Street*). Especially in European countries, urbanonyms are often dedicated to culturally salient figures, events, and places. Thus, they may carry a "commemorative" function (David 2011; Vannieuwenhuyze 2007). Beyond these initial observations, the grammatical, lexical, and semantic/ functional properties of urbanonyms constitute a still understudied domain. Three empirical questions that emerge for a theory of urbanonyms can be outlined as follows.

The first, grammatical, question is how urbanonyms' constructions may go beyond the "generic term & specific term" schema and can possibly involve category-specific constructions (David 2011). The second, lexical, question is what types of "parts" of the urban landscape their generic terms can individuate, and to what extent these parts are culture-specific (Way 2019). The third, functional, question is whether and how urbanonyms may carry semantic features, and how these features are related to each construction (Tent and Blair 2011).

The goal of this article is to answer these questions within one theoretical perspective. We aim to achieve this goal by analyzing the urbanonyms of Italy's three major cities (Rome, Naples, and Milan), and its perhaps most unique city, Venice. Our choice of these four hinges on two reasons. First, previous studies on Italian urbanonyms mostly focus on their etymological origins (Rizzo 1983), thereby leaving aside the three aforementioned questions. Second, the urbanonyms naming these cities' landscapes can offer us crucial insights on culturespecific aspects of urbanonyms, such as the

existence of city-specific generic terms (e.g., *calle* in Venice). They thus offer us an important opportunity for enriching etymological/historical perspectives with grammatical insights. Our article is organized as follows: Section 2 presents an overview of previous work on Italian toponyms; Section 3 presents the methodology of our study; Section 4 the results; and Section 5 offers a discussion, before moving on to our conclusions.

Literature Review: Italian Toponyms and Urbanonyms

Italian is standardly considered a fusional language (Salvi and Vanelli 2004). Nouns usually involve two morphemes, i.e., minimal "forms" carrying a meaning of varying abstractness. One morpheme, labeled as a "root", individuates a type of entity. Roots combine with inflectional morphemes carrying information about the gender and number of entities under discussion to form fully formed nouns. For instance, the noun *can-e* includes the inflectional morpheme *-e*, which establishes that a male, singular dog is under discussion (e.g., *un can-e* 'one dog'). Nouns are a lexical, open class that allows the coinage of novel words according to inflectional but also derivational (i.e., form- or category-changing) morphological processes.

Italian toponyms are standardly treated as a sub-type of (proper) name (Pellegrini 1990; De Felice 1987). They often involve "single item" forms that can be traced to diachronic processes of suffixation. For instance, the toponym *Pineto* originates in the suffixation of a root with a place-marking derivational morpheme (i.e., *Pin-etum* 'Pines' place'). Such suffixation processes can be traced to the non-Italian sub-strata that have influenced Italian (e.g., Latin, German, Celtic: Marcato 2010−2011, 2009). Italian toponyms also commonly involve *compounding* constructions, featuring the juxtaposition of (at least) two nouns to form a complex noun (Scalise and Bisetto 2009; Granucci 2004). Nominal compounds involve a head determining the grammatical and lexical properties of the whole compound (e.g., *uomo* in *uomo rana* 'frog man'). Toponyms involve left-headed compounds, and may involve generic terms tracing their origins in non-Italic and/or dialectal sub-strata (e.g., *Gualdo Tadino* from Germanic *Wald* 'wood(s)': Marcato 2010−2011; Calafiore 1975).

A third, "relational" construction involves the preposition *di* 'of'. Toponyms including *di* resemble the genitive construction attested in other noun phrases, e.g., *una fetta di torta* 'a slice of cake' (Salvi and Vanelli 2004). For instance, *Bassano del Grappa* is the *oikonym* (city name) for a city located in, and thus part of the Grappa region. It includes the inflected preposition *del*, which is the result of *di* fusing with the definite, singular, and male gender article *il* (i.e., from *di* 'of' plus *il* 'the' we have *de-l* 'of-the'). An agreement pattern can be established between the name acting as the head (here, *Grappa*) and the (usually) inflected preposition, thereby establishing that the head is the specific term. Other prepositions may also be found, one example being *in* 'in' for toponyms such as *Schiavi in Abruzzi*. We however leave aside a discussion of these toponyms for reasons of space.

Genitive constructions pose an interesting puzzle. It is generally assumed that complex names involving appositive or genitive constructions (e.g., respectively, *Tom the tailor*, *The Church of Saint Mary*) belong to the *appellative* sub-type of names (Anderson 2007, 2004, chap. 3; Van Langendonck 2007, chap. 2). This type includes names that may partially describe a distinguishing feature of an entity, including a relation with a second entity. For genitive constructions, the presence of relational elements (e.g., English *of*) may hint that they carry this function. Italian genitive toponyms may also display such a function. Case in point, *Bassano del Grappa* names a city via its spatial relation to the surrounding region. However, beyond this initial possibility, the existence of toponyms carrying appellative functions remains an empirical question.

Italian urbanonyms present an understudied area. Previous studies have observed that urbanonyms often involve compound constructions (e.g., Slovenian: Seidl 2019; Czech: Vaculík 2013; David 2011; Dutch: Vanieuwenhuyze 2007). Works on Scandinavian languages have confirmed that hodonyms (street names) can also involve genitive constructions (e.g., Swedish: Koptjevkaja-Tamm 2013; Finnish: Ainiala 2012; Norwegian: Eriksen 2012). They do not address, however, whether these constructions may carry either semantic function (i.e., appellative or commemorative). Furthermore, previous work on Italian urbanonyms has mostly focused on their etymological aspects (Buzzi and Buzzi 2005; Timpanaro 2004; Delli 1993; De Felice 1987; Rizzo 1983; Doria 1982). Their language-specific grammatical and lexical properties, and with them the three questions outlined in the introduction, remain unaddressed. Therefore, little is known about Italian urbanonyms and their constructions (first question), the lexical properties of their generic terms (second question), and the semantic features they can carry (third question). We undertook the present study in order to address these questions.

Methodology

Our methodology worked as follows. We extracted data on urbanonyms from Rome, Naples, Milan, and Venice, using the *PagineGialle* 'Yellow Pages', a gazetteer containing a street directory and detailed city maps (scale 1:100000) (Seat Publishing 2019). These gazetteers also cover satellite cities that are part of each city's province (*provincia*), the next administrative unit above the municipality level ("Provincia" 2019). We selected these four cities, excluding satellite cities within their provinces, for four reasons.

First, we chose Rome, Naples, and Milan because they are the three most populous and oldest metropolitan areas in the country ("Italia" 2019). Hence, they offer a wealth of historical information presented through the lens of their urbanonyms. Second, we decided to add Venice because of its unique architectural landscape and history (Rizzo 1983). Third, we ignored neighboring citiesnbecause they often involve their own administrative history and naming policies. For instance, Ciampino, near Rome, was declared an independent municipality in 1974 ("Ciampino" 2019). Fourth, by focusing on these four cities we could guarantee that our data cover spatially continuous domains or "wholes", of which urbanonyms name places as distinctive "parts". For satellite cities, this condition could generally not be respected, e.g., Merano being separated from Venice by the lagoon ("Merano" 2019).

We performed data extraction manually, thanks to the directory's format. The names of streets, squares, and other places were listed alphabetically. Their types (i.e., generic terms) were listed within round brackets, thus following their specific terms (e.g., *K. Marx, (v.)* for *Via Karl Marx*). After collecting these data, we investigated the origin of the attested generic terms. The gazetteers adopt terminology and maps from the Army Geographic Institute (*Istituto Geografico Militare*). This Institute represents the chief public cartographic organization in Italy, and follows international landscape classification terms and practices (e.g., the UN Geographical Indications committee: Cantile 2013, chap. 1) However, The Institute also implements documenting procedures that aim to capture the unique nature of a given landscape. Thus, terms such as *via* 'street' may be generic terms indirectly representing normative, top-down naming practices, while terms such as *pallonetto* in Naples represent generic terms rooted in each city's culture and landscape, thus representing bottom-up naming practices. Finally, we analyzed each city's map for urbanonyms not listed in the directories: names for hospitals, bridges, parks, and other relevant places.

Once all of the tokens were collected, we first partitioned them according to the construction type they instantiated. For instance, *Piazza San Paolo* 'Saint Paolo Square' (Naples) was classified as a compound construction; *Piazza della Madonnina* 'Holy Virgin Square' (Milan), as a genitive construction. Tokens lacking generic terms were classified as belonging to the simple type, e.g., the name of the quarter *Rebibbia* (Rome), in contrast with compounds and genitives as complex (morphological) types. Several tokens featured specific terms corresponding to a possibly complex name for an individual or place. For instance, *Via Casal Bertone*, in Rome, includes the first generic term *via*, and the second generic term, *casal* 'cottage', combining with the family name *Bertone*.

The second partitioning step organized the data according to the generic term they included. We thus divided tokens into those belonging to the *via*, *piazza* (and so on) types. The third step involved the classification of tokens with respect to their semantic function. We classified urbanonyms as either commemorating some cultural-historical entity, "commemorative" type, or as partially describing some entity or feature related to the given place, "appellative" type. We then partitioned the commemorative type into "individual" and "place" sub-types. The first sub-type involves places dedicated to individuals of various cultural/historical salience (e.g., *via Karl Marx*); the second, to salient places (e.g., *Via Bologna* in Rome).

We also partitioned appellative types into the "descriptive" and "part" subtypes. We analyzed the category of the specific terms to confirm the potential descriptive content of each urbanonym. Examples include adjectives (e.g., *nazionale* in *Via Nazionale* 'National Street') or common nouns (e.g., *calzolai* in *Via dei Calzolai* lit. 'Shoemakers Street'). Thus, we classified as "descriptive" urbanonyms those tokens describing a group, family, or other entity after which the place is named. We classified as "part" urbanonyms those tokens describing a salient place as part of a larger place (e.g., *Piazza della Madonnina*). We note here that, for the part sub-type, we always consulted maps as means to confirm that this spatial, mereological information was accurate. Furthermore, when genitive constructions instantiated this sub/type (e.g., *Piazza della Madonnina*), we evaluated whether and how agreement patterns were attested (e.g., *de-lla Madonnin-a* involving *-a* marker for singular number, feminine gender). In this way, we were able to identify the common nouns (e.g., *calzolai*) or names (e.g., *Karl Marx*) that were included in complex specific terms.

We organized the data via four Excel spreadsheets, one per city, in which generic term types formed rows, and "upper" and "lower" rows were, respectively, dedicated to the distinct compound and genitive sub-type constructions. Columns included complex specific terms, in turn partitioned

according to sub-types(e.g., generic terms such as *casal(e)*, *santo*, and other types). The list of all generic terms was then collected into a distinct Excel sheet for further analysis and classification of "layered" generic terms. The results of this analysis are presented next.

Results

The first key result sheds light on how morphological complexity is manifested in Italian urbanonyms, and includes a quantitative and qualitative aspect. Quantitatively, urbanonyms invariably instantiate compounds and genitive con structions. They are inherently morphologically complex, as Table 1 shows:

Table 1. Numbers and Percentages of Tokens per Construction Type

| City | Compound | | Genitive | | Simple | | |
	Percentage	Token	Percentage	Token	Percentage	Token	Total token
Rome	77.00	8630	22.60	2533	0.40	44	11207
Milan	69.00	1532	29.50	668	1.50	34	2234
Naples	77.09	2828	21.89	803	1.02	37	3668
Venice	57.10	2062	42.78	1545	0.12	4	3611

Compound constructions are more commonly attested than genitive constructions, and simple urbanonyms are extremely rare. This is not the case only for names of quarters (e.g., *Vomero* in Naples, *Sestiere* in Venice), and highly salient, unique places, e.g., *(il) Vittoriano* and *(il) Colosseo* in Rome. This is also not the case for Venice's urbanonyms, which feature a higher frequency of *de'* 'of', the Venetian (dialect) counterpart of Italian *di* 'of'. Irrespective of the construction type, the presence of generic terms in urbanonyms is the norm. Crucially, previous works suggest that this is not the case for other toponyms, although do not offer precise numbers. It is generally assumed that oikonyms often only include a specific term (Marcato 2010−2011). To an extent, oikonyms often name a place as a distinctive but perhaps "whole" entity in the landscape. We therefore contend that urbanonyms always define places as distinctive parts (e.g., streets, squares, and so on) of a city. Compound and genitive constructions can thus act as grammatical forms representing this inherently relational status.

The qualitative side of this result is that these constructions always involve at least a second morphological layer. Their complex specific terms include a combination of a second generic term and a proper name. Standard examples include agionyms for compounds (e.g., *san* 'saint' in *Via San Francesco*, *conte* 'count' in *Piazza Conte di Cavour*). One can also find complex toponyms as specific terms (e.g., *Via Val di Susa*, the latter being a toponym for a valley in the Trentino region). Furthermore, genitive constructions may involve forms of iteration. One example is *Via dei Cavalieri di Malta* ('Knights of Malta Street') in Rome (Delli 1993). This hodonym finds its etymological roots in its historical link to this knights' order and their foundation in Malta. The presence of two *di* prepositions and the "layered" genitive constructions they represent acts as a grammatical "mirror" to this web of conceptual relations.

Another result distinctive enough to warrant discussion involves Venice and its urbanonyms (Rizzo 1983). Venice's quintessential street type is the *calle*, a narrow, alley-like connection between its squares (e.g., *Piazza San Marco*) or family houses (e.g., *Ca' Foscari*, now the location of Venice's university). Venice is also divided into six quarters or *sesti* 'sixths' (e.g., *Sestiere*, *Ghetto*), which often feature identical names for their *calli*. Thus, to disambiguate *calli* names, it is common to include the quarter's name as part of the specific term. *Calle San Marco-Castello* is thus the name of a different *calle* from *Calle San Marco-Levante*. In the spoken language, speakers usually add a preposition (e.g., *Calle San Marco in Sestiere*) for disambiguation purposes, although this practice seems optional (Rizzo 1983, 4−5). Thus, these name types and their use in everyday conversation clearly reflect Venice and its unique landscape and features.

The second key result has mostly a qualitative connotation, even though a quantitative dimension emerges as well. Both construction types can involve a wealth of generic terms, many of them culturally and geographically unique to each city. Although this result may not be surprising for Venice, we can confirm that each city's urbanonyms featured generic terms unique to each city. The lists are presented in Table 2.

The data reveal the following facts for each city. For Rome, these terms reveal their cultural specificity in subtle ways. For instance, Rome's *lungotevere* is a term referring to Rome's river and its riversides, which act as avenue-like connecting places. *Clivo* originates in the Latin term for slopes, *clivus*, which has persisted up to modern times (Delli 1993). *Obelisco* is also used as a specific term (e.g., *Piazza dell'Obelisco* 'Obelisk Square'), but all nine obelisks receive

Table 2. List of City-Specific Generic Terms

City	Unique Generic Terms
Rome	*Clivo* 'slope', *Foro* 'forum', *Lungotevere* 'Tiber riverside', *Obelisco* 'Obelisk', *Scalea* 'church staircase'
Milan	*Alzaia* 'riverside service street', *Naviglio* 'navigable canal'
Naples	*Calata* 'descent', *Cavone* 'big cavity', *Cupa* 'cavity', *Fondaco* 'foreigners' storage space', *Pallonetto* 'alleys' network', *Rione* 'quarter', *Sottoportico* 'portico's alley'
Venice	*Borgoloco* 'hotel's place', *Bretella* 'beltway', *Calle* 'narrow street, alley', *Callesella* 'small alley', *Campo* 'square', *Chiovere* 'drying place', *Fondamenta* 'canal riverside', *Marzaria* 'haberdashery', *Ramo* 'secondary street', *Riva* 'big canal riverside', *Ruga* 'shops' street', *Salizzada* 'cobbled street', *Sotoportego* 'portico's alley'

their name from the square or quarter they are part of (e.g., *Obelisco di Porta Pia*). Furthermore, one can mostly find these urbanonyms in Rome, for this city is the main place outside Egypt preserving these monuments ("Obelisco" 2019). *Colosseo*, *Vittoriano*, *Mausoleo* are names for highly specific (and unique), iconic places in Rome, and thus do not qualify as generic terms, whence their absence in the list. Overall, out of 50 attested "first layer" generic terms, 10 (i.e., 20.00%) seem unique to Rome and its urban places.

Milan's *alzaia* and *naviglio* refer to the places related to once navigable and now mostly filled in channels or *navigli* (Buzzi and Buzzi 2005). Milan thus features only two unique generic terms, out of the 32 attested for this city's urbanonyms (i.e., a 6.25% of the total). Naples includes *calata,* as a unique Neapolitan term defining the vertical direction of a given street (i.e., a descent). One can say that *clivo* and *calata* are near-synonyms, minimally differing in their geographic origin. *Rione* is a Neapolitan term for (some) quarters and zones (e.g., *Rione Latino*), and *fondaco* describes storage spaces that foreign merchants used while in Naples (e.g., *Fondaco dei Tedeschi* 'Germans' Storage Space': Doria 1982). *Cavone* and *cupa*, respectively, describe gorges and chasms that may be found in the more rural outskirts of the city. Naples' *pallonetto* represents the most distinctive term. It names three networks of alleys in which children once played a traditional game with balls and rackets (Doria 1982, 80–2). Thus, 8 out of 45 (i.e., 17.77%) generic terms are unique to this city.

Venice represents the most distinctive case, with 12 out of 48 (i.e., 25.00%) generic terms being unique. Its generic terms mostly originate in the Venetian language, as their spelling and distinct forms testify (Rizzo 1983). For instance, although Naples also includes *sottoportico* as a distinctive generic term, Venice's urbanonyms follow the Venetian spelling, *sotoportego*. Similarly, *calle* describes Venice's narrow alleys; *ca'* (for *casa* 'home') its houses as meeting places, *campo* its squares, and so on. A crucial quantitative aspect is that tokens including *calle*, *campo*, *ca'* and *fondamenta* as generic terms constitute 56.30% of the total. Instead, "standard" generic terms are uncommon, in this city's urbanonyms (e.g., 74.20% tokens for *via*). Places in Venice are mostly classified by the city's unique categories and labels.

These data illustrate the wide range of semantic variation attested in the first layer of generic terms, which establishes the urbanonym type: we found 72 generic terms occurring in this "slot". The second layer, i.e., the layer attested in complex specific terms, involves 61 generic terms that originate in other domains. For reasons of space, we cannot offer an exhaustive list. Nevertheless, some examples include *santo/a* 'saint' for agionyms occurring as complex specific terms; *monte* 'mount', *montagna* 'mountain', *val(le)* 'valley', *isola* 'isola' for toponyms. Genitive constructions can thus include generic terms from the first list to precede *di*, and generic terms from the second list to follow this preposition. Adjectives, common nouns, demonyms (names of inhabitants), and family names can be the specific terms of this second layer. For instance, *Largo di San Domenico* 'Saint Dominic's

Esplanade' in Rome features *san(to)* as the generic term in the complex specific term *San Domenico*. *Via dei Cinesi* 'Street of the Chinese' in Naples features the common noun *Cinesi*.

The third key result sheds light on the function of each construction type, and combines qualitative and quantitative aspects. Tables 3–6 show the four semantic functions and their relation to constructions, divided by city:

Table 3. Distribution of Tokens for Rome

Construction/Function	Commemorative (Individual)	Commemorative (Place)	Appellative (Descriptive)	Appellative (Part)
Compound	63.20	29.20	6.70	0.90
Relational	36.79	7.81	35.50	19.40

Table 4. Distribution of Tokens for Milan

Construction/Function	Commemorative (Individual)	Commemorative (Individual)	Appellative (Descriptive)	Appellative (Part)
Compound	79.50	11.60	8.60	0.20
Relational	60.19	3.69	23.71	12.41

Table 5. Distribution of Tokens for Naples

Construction/Function	Commemorative (Individual)	Commemorative (Place)	Appellative (Descriptive)	Appellative (Part)
Compound	64.00	10.79	15.11	10.10
Relational	56.90	3.10	22.60	17.30

Table 6. Distribution of Tokens for Venice

Construction/Function	Commemorative (Individual)	Commemorative (Place)	Appellative (Descriptive)	Appellative (Part)
Compound	30.30	5.90	57.89	5.71
Relational	2.30	2.90	74.40	20.00

Three patterns emerge from these results. First, compound constructions generally carry a commemorative function, with the Venice data representing an exception to this pattern. Exceptions emerge when specific terms do not involve (complex) proper names, but surnames or adjectives. Thus, *Via Flaminia* in Rome is a hodonym involving the adjective *Flaminia*, an indirect reference to the *gens Flaminia* who played a key role in Rome's ancient history. Second, genitive constructions tend to be ambiguous or "underspecified" (Kearns 2006). That is, their semantic function is not unique, and seems to depend on the senses and sense types of the terms they relate via the preposition *di*. For instance, some genitive constructions describe an entity once defining a place's uniqueness. One example is *Via del Babuino* 'Baboon's Street' in Rome, which once featured the barbaric attraction of a caged monkey at its main entrance (Delli 1993, 100). Thus, genitive constructions seem to realize multiple possible functions, a point we further expand in the discussion.

The Venice data display the third pattern. Most places in Venice indirectly name the families or individuals who owned certain places, and can thus be considered as carrying an appellative function. One example is *Ca' Foscari*, a building once belonging to the Foscari family and now home of Venice's university (Rizzo 1983, 3). In these cases, urbanonyms still carry a reference to the original owners of the place; we therefore consider these urbanonyms as carrying the "possessive" sub-type of the appellative function. Perhaps, one could consider these cases as a "blending" of the commemorative and appellative functions; for reasons of space, we do not explore this option further. Clear commemorative tokens are nevertheless found as names for *calli* and *campi* dedicated to saints and historical figures (e.g., the poet Ugo Foscolo). Hence, Venice's urbanonyms carry a stronger relation to both the history and the landscape of this land than the other three cities.

Discussion

Overall, these results invite us to address three key points of discussion that also encapsulate our answers to the empirical questions, one for each key result.

First, Italian urbanonyms involve constructions that could be mostly represented as "generic & (generic & specific term)" (compounds) or "generic *di* (generic & specific term)" (genitives). The presence of an optional but frequent complex specific term, here represented via brackets, distinguishes them from (most) oikonyms (Marcato 2010–2011, 2009), and seems to be their defining morphological property. Furthermore, although compound constructions are predominant, genitive constructions also act as an important sub-type. It is well known that toponyms can display some of the properties of (certain) noun phrases, e.g., appositive and genitive ones (Van Langendonck and Van de Velde 2016; Van Langendonck 2007, 69–78; Anderson 2007, chap. 4). Our study offers evidence that this is the case also for Italian urbanonyms.

Second, Italian urbanonyms involve several generic terms that seem strongly connected to the cities they describe (e.g., *alzaia, pallonetto, calle*). Non-unique terms also abound, with *via* 'street' *vicolo/vico* 'alley', *viale* 'avenue' as the most common hodonym markers in each city. *Piazza* 'square', *piazzale* 'large square', *piazzetta* 'small square' are the most common dromonym markers. Other generic terms can be often attested, whether an urbanonym is dedicated to an individual or a place. Together, these generic terms paint a complex picture of Italian (urban) landscape terms. Previous studies on this latter category have confirmed that cultural factors play a key role in non-urban, possibly pre-industrial societies and their languages (Mark et al. 2011; Levinson and Burenhult 2008; Levinson 2008). Our findings confirm that Italy's urban landscape terms reflect the cultural nuances and history of its cities, as "parts" of their history and culture (Way 2019; Ainiala and Vuolteenaho 2006).

Third, Italian urbanonyms perform two functions, commemorative and appellative, a fact suggesting that they carry partially transparent semantic content. Here we propose to compare our analysis, in which we focus only on these functions, with the binary-branching taxonomy introduced in Tent and Blair (2011, 80–7). According to this proposal, one can offer a semantic classification of toponyms via the semantic features that reflect the motivations underpinning their emergence. A basic partition for toponyms involves the "±descriptive" (binary) feature: toponyms may or may not describe the place they name. Toponyms carrying a "-descriptive" feature may be further enriched with a "±linguistic" feature (i.e., a linguistic feature is or is not overtly expressed), and with a "±move" feature (the toponym may be a loan word). Under this taxonomy, a commemorative urbanonym such as *Piazza San Marco* can be conceived as carrying the feature cluster "-descriptive, -linguistic, -move". This urbanonym does not describe a place's distinctive appearance, does not carry linguistic information, and does not originate from other languages. Thus, the lack of a mediating preposition may reflect this cluster of "negative" features, in this and other commemorative urbanonyms.

The appellative function instead seems to correspond to the super-category of toponyms that carry the feature "þdescriptive". This can be further enriched via the features "±emotive", "±inherent" and "±context", respectively, describing personal attitudes towards a named place, inherent (e.g., spatial), and contingent (e.g., historical) properties of this place. Our results suggest that the specific terms of genitive constructions usually determine which function is expressed via their semantic features. The results also suggest that their relational nature is explicitly established via the preposition *di*, as a relational marker (Van Langendonck 2017 on English *of*). For instance, *Piazza della Madonnina* carries the features "þdescriptive, þinherent" describing its most salient part. *Via dei Calzolai* carries the features "þdescriptive, -inherent, þcontext" describing the salient group in the historical context that lead to this name. Genitive constructions are thus semantically underspecified (i.e., ambiguous) as a type because each token's features determine the token's sub-type/function. Form and function dovetail in compound urbanonyms, but display a flexible relation in genitive constructions.

Before moving on to our conclusions, we observe that a full confirmation of these results can be obtained via a triangulation of this linguistic research with etymological findings. We decided to perform such a verification procedure on a sub-set of the data involving Venice and its bridges, based on Rizzo (1983)'s extensive analysis. Venice features hundreds of bridges, so their urbanonyms form 12% of the total tokens (i.e., 453 tokens). After assigning each bridge name to a semantic/function type, we compared our results with Rizzo (1983)'s analysis. The error rate of this procedure was overall low (22 tokens, 4.5% of the total), and mostly involved performance mistakes (e.g., *Ponte dei Sospiri* erroneously scored as a commemorative urbanonym). After this verification procedure, we re-assigned tokens to their matching type. Regrettably, we had to limit this verification procedure to this sub-set for practical reasons. The other relevant etymological sources (e.g., Delli 1993; Doria 1982) only cover a part of each city's hodonyms and their etymology, thus forcing us to leave a full inquiry aside. Nevertheless, this partial verification suggests that our linguistic analysis may offer results that corroborate etymological analyses.

Conclusion

This article has given an overview of Italian urbanonyms from Rome, Naples, Milan and Venice, and offered an account of their linguistic properties. Three results represent answers to three empirical questions. First, Italian urbanonyms display complex morphological constructions, whether they be compound or genitive types (e.g., *Via Monte Bianco* vs. *Ponte dei Sospiri*). Second, these urbano nyms involve hundreds of possible generic terms as items that describe place types unique to each city (e.g., *obelisco*, *ca'*, *cupa*), or more general parts of the urban landscape (e.g., *piazzetta*). Third, Italian urbanonyms can have two functions. They can be dedicated to entities necessarily related to a city (commemorative function, e.g., *Via Monte Bianco*), or may describe some distinctive entity, part or characteristic feature of a place and its history (appellative function, e.g., *Ponte dei Sospiri*). In the latter case, urbanonyms capture various types of relations between urban places and the entities after which they are named via their partially descriptive content. We hope that the results of this study can act as a platform for future studies exploring urbanonyms across languages and the cultures they represent.

Disclosure statement

No potential conflict of interest was reported by the authors.

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