The Interface of Lexical Semantics and Conceptual Structure
Deverbal and Denominal Nominalizations

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Abstract

Nominalizations can refer to events, instances of events or participants in an event. The particular reference is determined by the lexical semantics of the base and the suffix, and by the conceptual structure of the base. The comparison between deverbal and denominal nominalization in *-ata* in Italian reveals that the conceptual structure plays a crucial role in determining the reference of a nominalization. Italian nominalizations of *-ata* are productively derived from verbal and nominal bases. Derivations from verbal bases refer to a single event denoted by the base. Derivations from a nominal base *N* denote events or results corresponding to a limited number of patterns, such as *a hit by N, a characteristic action of N, a period of N, a quantity that is contained in N*, etc. The paper argues that the function of the suffix operates on the lexical meaning of the base, but the composition of the lexical meaning of the base with the lexical meaning of the suffix is restricted by the conceptual properties of the base.

1   Introduction*

Italian nominalizations with *-ata* can be derived from verbal or nominal bases. They form single individuated events that are expressed by their bases, as illustrated in (1). The nominalization *telefonata* is derived from the denominal *telefonare*, documented in 1918 for the first time (see Sabatini & Coletti 1997). Derivations in *-ata* from a nominal base N denote single events or results according to certain patterns or "templates". They can denote single events of *a hit by N*, as in (2); events that are *characteristic for N*, as in (3); *a period of N*, as (4), a result in form of *a capacity that is contained in N*, as in (5); to name only four out of a longer list of productive patterns for *-ata* (see section 3.2 for a more comprehensive list):

(1)	*telefonata* (< *telefonare* "to call by telephone")	"telephone-call" (1918)
(2)	*ombrellata* (< *ombrello* "umbrella" (1841))	"event of hitting with an umbrella"
(3)	*bambinata* (< *bambino* "child" (18th cent.))	"event typical for a child"
(4)	*giornata* (< *giorno* "day" (13th cent.))	"time of a day"
(5)	*forcata* (< *forca* "fork" (15th cent.))	"forkful"

A single derivation in *-ata* can be assigned different meanings. For example, *fermata* can denote the event of stopping, the place of stopping or the time period of a stop, as in (6); and *barcata* may either refer to the load that can be carried by a boat or to a large quantity in general, as in (7). Even if these differences in meaning can be derived by general principles of meaning variation or meaning change, such as metonymy, figurative use, construals or coercion, the two meanings of *forcata* in (8) cannot be derived from each other. Rather, they must follow from two independent patterns, namely the ones illustrated in (2) and (5): (i) *a hit by N* and (ii) *a capacity that is contained in N*. Besides lexicalized forms, the suffix *-ata* very

productively forms new nominalizations from verbal as well as from nominal bases, as illustrated in (9) and (10):

(6) *fermata* (< *fermare* "to stop")   (i)   "the event of stopping"
    (17th cent.)   (ii) "the location where a stop is usually done"
                                          (iii) "the time period of a stop"

(7) *barcata* (< *barca* "boat")   (i)   "boatload"
    (18th cent.)   ("quantity that can be carried by a boat")
                                          (ii) "large quantity"

(8) *forcata* (< *forca* "fork")   (i)   "stroke with a fork"
    (15th cent.)   (ii) "forkful"
                                                (quantity that can be carried by a fork")

(9) deverbal acceptable new forms   *aggirata* < *aggirare* "to revolve"
                                          analizzata < *analizzare* "to analyze"

(10) denominal acceptable new forms   *abitata*< *abito* "habit, custom"
                                          amantata< *amante* "lover"

While nominalizations from verbal bases generally denote an instance of an event described by the meaning of the base, derivations in *-ata* from nominal bases have much greater variety of denotations. They can follow one of the above mentioned patterns, but they are also free to denote another kind of pragmatically salient type of event. However, it seems that they always denote an instance of an event. I, therefore, assume that there is a common function or common *lexical meaning* of the suffix *-ata*, which can be described as *forming a single event*. Besides this core meaning, the *conceptual structure* of the base restricts the particular meaning of the derived nominalization.

The meaning of a non-lexicalized form not only depends on the lexical meaning of the suffix, but also on the pragmatic and contextual circumstances. While the pragmatic and contextual information is to be described for each utterance separately, this paper investigates the contribution of the suffix to the meaning of the derivation and its interaction with the conceptual information of the base. In particular, I address to following questions with respect to the suffix *-ata*:

• Is there a core lexical meaning of the suffix *-ata* for all different patterns?
• How can we describe the differences between the derivations from nominal bases?
• Which conceptual properties of the base determine the particular meaning of the derived nominalization?

The paper is organized as follows: In section 2, I discuss the historical origin of the suffix *-ata* in Italian, which is of Latin origin and can also be found in other Romance languages. In section 3, I present more descriptive data on the derivations in Italian and the different groups of derivations as well as the discussion of the form of the suffix. In section 4, I describe the conceptual information of the base in terms of selectional restrictions, and in section 5, I present a compositional process in which the representations of the bases are combined with different patterns of the suffix. Sorted variables in the representation for the different patterns must match with the selectional restrictions of the base. Section 6 gives a short summary.

2   The diachronic development

2.1   The suffix *-ata* in Romance languages

The suffix *-ata* in Italian is a common suffix in Romance languages, such as in Italian, Occitan, Spanish, French, Catalan, etc., as illustrated in (11). Parallel derivations in these languages can undergo similar meaning shifts, as illustrated in the shift from the event-

reading ("entering") to the result-reading ("entry") of it. *entrata* (13th cent.) and its equivalents in other Romance languages, as in (12):

(11)   it.   *andata* "going, journey"   *chiamata* "call"
       occ.   *arribada* "arrival"   *casada* "hunt"
       spa.   *buscada* "search"   *llamada* "call"
       fr.   *echappée* "escape"   *traversée* "the crossing, traverse"[1]

(12)   it.   *entrata*
       fr.   *entrée*   } "entering" > "entry"
       spa.   *entrada*

We find different patterns in nominalized forms from nominal bases: in (13a), the derivation refers to an amount that can be transported by the base, in (13b) the derivation refers to the time period of a day, while in (13c) the nominalization describes an event of a knife/sword-stabbing:

(13)   a.   fr. *bouchée*, it. *boccata*, spa. *bocada*   "mouthful"
       b.   fr. *journée*, it. *giornata*, spa *jornada*   "day long"
       c.   it. *coltellata*, spa. *cuchillada*, occ. *coltelada*,   "stab with a knife"
             cat. *espadada*   "stab with a sword"

2.2   The Latin source of the suffix

It is uncontroversial that the common Romance suffix goes back to a Latin form. Yet it is controversial how its form and its function developed. There are two main positions: Meyer-Lübke (1890) assumes that *-ata* has developed from the perfect participle by change of the semantic function. On the contrary, Collin (1918) argues that the suffix *-ata* has taken over the functional load from the Latin suffix *-tus*, while changing the form *-tus* into the form *-ata* by some intermediate steps.

2.2.1   Meyer-Lübke: the participial source of -ata

The formal identity of the suffix *-ata* with the feminine singular and the neuter plural of the perfect participle strongly suggest a close relation, even an identity. Therefore, Meyer-Lübke (1890), among others, suggested that the nominalizing suffix *-ata* was derived from the participle by syntactic ellipsis and some change of the semantic function of this form. Simplified, he argues that the adjectival use of participle *collecta* in *collecta pecunia* ("collected money") in (14) developed into a nominal use when the syntagma lacked its head noun, which had only little semantic content.[2] In a second semantic shift, the function of the perfect participle was changed step by step. Generally, the perfect participle denotes a perfective or resultative state in the passive: *collecta* "that what was collected". First the form lost the passive aspect and then the perfective one, forming verbal nouns of the type "collecting", as in (15):[3]

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[1] In French, the original suffix *-ata* changed to *-ée*, as illustrated in (i):
(i)   lat. *armata* > *armede* > *armee* > nfr. *armée* cf. it. *armata*, spa. *armada*
It was only in the 15th and 16th century that loan words from Italian and Occitan with the suffix *-ade* entered French again. Some native forms were replaced by the loan forms as in *crevade* (instead of an already established *crevee*), *ambassade* (*ambassee*), *boutade* (*boutee*), etc. (Collin 1918, 13f.).

[2] Other head nouns with little or no semantic content are lat. *res* or *causa* ("thing", "cause"). Compare also it. *cosa* "thing" (p.c. Ilse Zimmermann).

[3] Meyer-Lübke (cited in Collin 1914, 456): "Ital. *veduta* bedeutet also zuerst 'das Gesehene', dann durch Zeitverschiebung: 'das, was jederzeit gesehen wird', und man erhält anstatt des Begriffes der vollendeten Handlung den Begriff des Präsens. Zuletzt, in dem 'der eigentlich passivische, objektive Sinn' verloren geht und durch einen subjektiven, aktivischen ersetzt wird, bedeutet es nicht nur 'die Ansicht', d.h. was gesehen wird, sondern auch das Gesicht, d.h. zunächst die Art, wie man sieht, und schließlich die Thätigkeit des Sehens."

(14) Ellipsis of the head noun

lat. *collecta pecunia* > *collecta* Ø > *collecta*

"the collected money" > "the collected (one)" > "the collected"

(15) Loss of passive and perfective marking

lat. *collecta* "the collected" > "collecting"

2.2.2 Collin: the transformation of -tus into -ata

Collin (1918) criticizes the participle approach as too complicated in the shift of meaning described above. He argues that the suffix *-ata* fills exactly the functional load of the old Latin suffix *-tus*. Thus, he concludes that *-ata* replaces *-tus* in its function by some intermediate steps of formal changes that are well motivated. Originally, Latin had two suffixes to form event nominals from verbal bases: the suffix *-(t)io* formed verbal nouns with feminine gender, and *-tus, -sus* which formed verbal nouns that were masculine in the 4th declension. In earlier times there was a semantic difference between the two forms: while derivations of *-(t)io* primarily denoted events, those of *-tus* tended to refer to results.[4] However, in later times both derivations were used in the same way, thus producing parallel forms, as illustrated in (16). Collin assumes three steps of changing the form of *-tus* to *-ata* while keeping the semantic function. In the first step, the gender of the *-tus* forms was reanalyzed as neuter. Most nouns of the 4th declension used to be masculine (thus ending in *-tus*), with a small minority being neuter (ending in *-tum*). However, the similarity of the neuter forms of the 4th declension with the neuter form of the 2nd declension (cf. *abortum*) motivated a reanalysis of the original masculine forms towards neuter form. This reanalysis is also supported by the same form in the accusative singular for masculine and neuter. An additional motivation was the neutral singular of the perfect participle and the supinum:

(16) *abortio - abortus/abortum*   "miscarriage"

  accessio - accessus/accessum   "approaching, approach"

  cantio - cantus/cantum   "singing, song"

(17) Shift of the gender and declension class

  abortio [fem.] - *abortus* [masc., 4th decl.] / *abortum* [neutr., 4th decl. ⇒ 2nd decl.]

A second step is constituted by the common usage of the neuter plural instead of the singular, but with a collective or singular meaning. In a third step it is assumed that the neuter plural (with its singular meaning) is reanalyzed as a feminine singular of the first declension yielding the suffix *-ata* as feminine singular for forming event nominals, like the older forms of *-tio* and *-tus, -sus*. (Collin 1914, 1918).[5]

(18) Shift of grammatical number and reanalysis as feminine singular

  lat. *promissum* > *promissa* > fr. *la promesse*   "promise"

  lat. *debitum* > *debita* > fr. *la dette*, span. *la deuda*   "debts"

  lat. *responsum* > *responsa* > fr. *la réponse*   "response"

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[4] Derivations of *-(t)io* outnumbered those by *-tus* by 5 to 1 in classical texts. This was partly because *-(t)io* was the first choice for forming loan-translations from Greek in academic writing. Ruh (1956, 83) notes that the Greek words *eulogia, epistrophê, empneusis, sympatheia* were translated into Latin *benedictio, conversio, inspiratio, compassio*. Cicero complained about the large number of new forms in Latin, even though he himself contributed a large list of new loan-translation (cf. Lindquist 1936, 40). Collin (1918) notes that *-tus* was quite common in vulgar speech, as it can be seen from inscriptions.

[5] Appel (1883, 42; cited in Collin 1918, 47): "Eodem modo, quo illa collectiva, alia neutra, cum pluraliter saepe usurparentur, in femina ideo conversa sunt, quod, quae proprie ex multis partibus constabant, *in unam notionem coaluerunt.* Ad hoc genus pertinent: *dicta, promissa, responsa.*"

2.3   The origin of denominal forms of -*ata*

The suffix -*ata* is productively used for forming event nominals from verbal bases from the very beginning of the Romance languages. It forms event nouns that denote one instance of the verbal action: "la fonction primitive de suffixe en roman a dû être d'exprimer l'action verbale d'une façon absolue: de former des *nomina actionis*" (Collin 1918, 125).

This pattern is very productive, and it can be formed from a great variety of verbal bases.[6] Thus the verb *camminare* allows a nominalized form *camminata*, which then can be combined with a light verb meaning more or less what the base verb means. The form *entrata* from the verb *entrare* "to enter" has an event meaning, but also shows a more resultative reading ("entry"), as illustrated in (20):

(19)   *camminata*   "walk"
       fare una camminata   "to go for a walk"
(20)   *entrata* (13th cent.)   "entry, entrance"
       ha fatto un'entrata trionfale   "He entered with triumph"
       l'entrata dell'albergo   "the entrance to the hotel"

Besides this very productive pattern, an additional derivational pattern came into existence: the suffix -*ata* started to form nominalizations from nominal bases. This derivation developed by reanalysis of forms that either might have been derived from a denominal verb or directly from the nominal base of that verb, as in (21) and (23). In the next step, it was possible to derive directly from a nominal base, as in (22) or (24), where the same pattern is used: *a hit with N* and *the amount of Y transported by N*.[7]

(21)   it. *martellata* (14th cent.) "hammerblow"
              < *martellare* "to hammer" (< *martello* "hammer" (14th cent.))
              < *martello* "hammer"
(22)   it. *ombrellata* (19th cent.) < *ombrello* "umbrella"
              *ombrellare
(23)   it. *beccata* (14th cent.) (i) "peck", (ii) "beakfull"
              < *beccare* "to peck" (<*becco* "beak" (14th cent.)) or
              < *becco* "beak"

(24)   it. *boccata* (14th cent.) "mouthful"
              < *bocca* "mouth"
              *boccare

Additional patterns for the suffix -*ata* developed: *a space of time*, as in (25), *an iteration of an architectonic detail*, as in (26), *a meal based on the referent* of the nominal base, as in (27), and *an action typical* for that group of persons described by the nominal base, as in (28):

(25)   it. *giornata* (13th cent.) "daytime" < *giorno* "day"
(26)   it. *arcata* (14th cent.) "arcade"   < *arco* "arc"
(27)   it. *cipollata* (15th cent.) "meal prepared from onions" < *cipolla* "onion"
(28)   it. *ragazzata* (16th cent.) "childish action" < *ragazzo* "child"

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[6] Certain verbs do not allow nominalizations of -*ata*. See Mayo et al. (1995, 912).

[7] This development can also be stated for other Romance languages, such as French in (i) and (ii) (Collin 1918):
       (i)   fr. *montée* "ascending slope" < (i) ofr. *monter* or < (ii) ofr. *mont*
       (ii)   ofr. *buce* (ca 1120) > *buchiee* > nfr. *bouchée* "mouthful, bite"
                ofr. *puing* (ca 1180) > *poignee* > nfr. *poignée* "fist-ful"

The deverbal derivation with *-ata* shows a quite coherent function: it forms nominalized derivations that denote "one instance of the event described by the verbal base". However, the denominal use of *-ata* exhibits a large variety of functions, as illustrated in (21)-(28) (see also section 3.2). It is not obvious that there is one basic function. The discussion in the literature, rather assumes that the denominal nominalization suffix *-ata* shows the same variety of functions as the derivation of denominal verbs. Collin (1918, 134) summarizes: "Pour moi, je crois plutôt que la grande variété de sens de netre suffixe s'explique par le rôle varié joué par le radical dans les verbes dénominatifs qui ont donné naissance à la formation analogique." In connection with denominative verbs, Collin (1918, 135) quotes Behaghel (1900, 1): "Sie [= denominative verbs] dienen im allgemeinen zur Bezeichnung der Handlung, des Vorgangs, der bei Erwähnung des vom Hauptwort bezeichneten Begriffs am leichtesten ins Bewusstsein eintritt." and Bladin (1911, 57): "Every action can be designated by a verb derived from the very noun, the idea of which most easily enters the mind of the person wanting to state the fact."

It is interesting to note, that Clark & Clark (1979, 787, (23)) formulate very similar conditions for forming denominal verbs (their "INNOVATIVES"):

(29) The INNOVATIVE DENOMINAL VERB CONVENTION
   In using an innovative denominal verb sincerely, the speaker means to denote
(a) the kind of situation
(b) that he has good reason to believe
(c) that on this occasion the listener can readily compute
(d) uniquely
(e) on the basis of their mutual knowledge
(f) in such a way that the parent noun denotes one role in the situation, and the remaining surface arguments of the denominal verb denote other roles in the situation.

3 Derivations of *-ata* in Italian

3.1 Productivity

The Italian suffix *-ata* forms substantives in the feminine (sg.: *-a*, pl.: *-e*) which denote a single or individualized event (*nomen vicis*) or certain types of resultatives. The derivations are easily set into the plural. The suffix is very productive both from verbal as well as nominal bases. There are lexicalized forms and spontaneous forms, which are either acceptable or not.[8] It seems that the main reason that *ata*-derivations from verbal bases are not acceptable due to lexical blocking.

(30) Deverbal nominalizations of *-ata* (=V-nominalizations)

i.   lexicalized forms
     abbassata "reduction" (1913) < *abbassare* "to lower"
     allargata "widening" (18th cent.) < *allargare* "to widen"

ii. acceptable new forms
     aggirata < *aggirare* "to revolve"
     analizzata < *analizzare* "to analyse"

iii. non-acceptable forms
     *abbandonata < *abbandonare* "to abandon"

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[8] Examples from Vieri Samek-Ludovici (1997), who extracted a list from the Lessico di frequenca dell italiano parlato (De Mauro, Mancini, Vedovelli, Voghera 1993). The judgements are his own (and not uncontroversial).

but: *abbandonamento* "abandoning"
*abilitata < abilitare "to qualify, to pass"
but: *abilitá* "ability", *abilitazione* "qualification"

There are several suffixes that can derive nominalizations from verbal bases, as illustrated in (31).

(31) Possible nominalizations from verbal bases (Scalise 1986, 174)

	a	*ata*	*enza*	*zione*	*ura*	*aggio*	*mento*
revoca(re)	+	—	—	—	—	—	—
mangia(re)	—	+	—	—	—	—	—
preferi(re)	—	—	+	—	—	—	—
amministra(re)	—	—	—	+	—	—	—
arde(re)/arso	—	—	—	—	+	—	—
boicotta(re)	—	—	—	—	—	+	—
suggeri(re)	—	—	—	—	—	—	+

There are selectional restrictions on the derivations from verbal bases: static verbs, modal verbs, aspectual verbs, and certain types of "psychological" verbs cannot form *ata*-nominalizations (Mayo et al. 1995, 912).

(32) **avuta* "act of having"   **dovuta* "act of needing"
     *cominciata "act of starting"   **sentita* "act of perceiving"
     *rallegrata "act of cheering up" but: *pensata* "act of thinking"

The restriction for deriving nominalizations from nominal bases seems to be different. The pattern for denominal nominalizations are more restricted than for deverbal nominalizations. So it seems that blocking is less active here than lexical restrictions (see section 5):

(33) Denominal nominalization of *-ata* (=N-nominalizations)

i.   lexicalized forms   *bracciata*   i. "armful",
                                              ii. "armstroke" (14th cent.)
                                                  < *braccio* "arm"
                                barcata   i. "boatload", "large quantity" (18th cent.)
                                                  < *barca* "boat"
ii. acceptable new forms   *abitata*   < *abito* "habit, custom, tendency"
                                amantata   < *amante* "lover"
iii. non-acceptable forms   **accademiata* < *academia* "academy"
                                *aeroportata < *aeroporta* "airport"

3.2 The functions of *-ata* in Italian

As already noted, derivations in *-ata* exhibit different types of meaning. Deverbal nominalizations generally denote an individualized event, as in (34). This pattern is quite productive, and the derivation may shift its meaning to a more resultative meaning as in *fermata*. Denominal derivations can take different patterns, as listed in (35)-(41) (cf. Meyer-Lübke 1890, Collin 1918, Scalise 1986, Schwarze 1988, Samek-Lodovici 1997, Ippolito 1999 among others). Some irregular derivations are discussed in section 3.3.

(34) V-*ata*: *single event of V*

tandata, data, guardata , chiamata, entrata, cambiata, fermata, intesa, caduta, giocata, dormita, girata, aggiunta, levata, attaccata, controllata, firmata, lavata, durata, difesa, battuta, curata, corsa, fregata, derivata, coperta, figliata, bloccata, avviata, fumata, arrabbiata, camminata, adoperata, bevuta , chiarita, aggiornata, faticata, approfondita, condotta, cancellata, ...

(35) N-*ata*: event of hitting with N or *hitting with N*
librata, giornalata, linguata, frontata, lettata, bancata, codiciata, bigliettata, corpata, fotata, cavallata, fogliata, cassettata, gambata, corniciata, lenzuolata, cassata, aereata, fiancata, cassettata, discata, bibliotecata, cartellata, finestrata, camiciata, anellata, bicchierata, fedata, ballata, ditata, bottigliata, cartolinata, autata, ...

(36) N-*ata*: event or action typically performed by N or *act as N*
ragazzata, bambinata, Clintonata, Fellinata, gattata, animalata, agentata, caprata, adultata, amicata, amministratorata, arabata, artistata, autorata, bestiata

(37) N-*ata*: *quantity that can be carried by/in N*
aulata, armadiata, barcata, boccata, bracciata, borsata, bustata, camerata, camionata, cartellata

(38) N-*ata*: *period of time of N*:
giornata, annata, aprilata, dicembrata, gennaiata

(39) N-*ata*: *meal prepared on the base of N*: *fungata, carciofata, cipollata*

(40) N-*ata*: object constructed by the *repetition of N*: *arcata, colonnata, facciata*
(41) N-*ata*: *weather verb*: *acquata, albata*

Scalise (1986, 209) presents the categorization (42) of the different patterns. He summarizes his observations: "Quando -*ata* si aggiunge a nomi presenta una grande varietà di parafrasi (6i-vi), ma quando si aggiunge a verbi ha solamente una parafrasi (6viii), che è diversa da quelle date per i nomi."

(42) Scalise (1986, 209)

(i)	*piede*	→	*pedata*	"colpo di N"
(ii)	*cucchiaio*	→	*cucchiaiata*	"quantità contenuta in N"
(iii)	*cretino*	→	*cretinata*	"atto da N"
(iv)	*cancello*	→	*cancellata*	"insieme di N"
(v)	*anno*	→	*annata*	"successione di N"
(vi)	*arancio*	→	*aranciata*	"prodotto di N"
(vii)	*guardare*	→	*guardata*	"singolo atto di N"

3.3   The form of the suffix

It is controversial if we have only one suffix for verbal and nominal bases, or if there are two suffixes, -*a* for the verbal bases, and -*ata* for nominal bases. The latter position is taken by Scalise. If we assume that there is only one suffix, it is not so clear what its form looks like: -*ata, -ta* or only -*a*. I first present the analysis for the derivations from the verb and then I discuss the approaches to derivations from nominal bases.

3.3.1 Analysis of V-nominalizations[9]

V-nominalizations are formed by suffixing a feminine *-a* suffix to the past participle of the verb, yielding a feminine nominal form, as illustrated in (43):[10]

(43) Derivation of V-nominalizations

1. Base (+ theme vowel)	V	*ferm-a*
2. Past participle	[[V] +PP]$_{\text{pastpart}}$	*fermat-*
3. Deverbal nominalization	[[[V] +PP]$_{\text{pastpart}}$+a]$_N$	*fermata*

The analysis is supported by the fact that V-nominalizations of this type follow the form of the participles in the different conjugation classes of Italian, as illustrated in (44), and also the irregular forms, as illustrated in (45) (for more discussion see Samek-Lodovici 1997, Ippolito 1999):

(44) Past participle and nominalization in "*-ata*"

conj.	verbal base	past participle	nominalization
-are	*sal-a-re* "to salt"	*sal-at-o*	*sal-at-a*
-ere	*batt-e-re* "to beat"	*batt-ut-o*	*batt-ut-a*
-ire	*dorm-i-re* "to sleep"	*dorm-it-o*	*dorm-it-a*

(45) Irregular past participle and nominalization in "*-ata*"

verbal base	past participle	nominalization
compar-i-re "to appear"	*compar-s-o*	*compar-s-a*
corr-e-re "to run"	*cor-s-o*	*cor-s-a*
prend-e-re "to take"	*pre-s-o*	*pre-s-a*

I am not totally convinced by this argument since the irregular forms go back to the Latin forms, and they might probably be determined by phonological rules that apply to verbal as well as nominal forms.

3.3.2 Analysis of N-nominalizations

There are two options for the analysis of N-nominalizations in *-ata*: the first option is taken by Scalise (1986), who assumes that the V-nominalizations are formed by a suffix *-a,* while the N-nominalization are formed by a different suffix *-ata*. However, this analysis would separate the nominalizations into two subtypes with two different derivational processes.[11] Therefore, Samek-Lodovici (1997), Ippolito (1999), among others, have suggested that N-nominalizations are derived by the same suffix *-a* as the V-nominalization. They assume an additional derivation from the nominal base to a (virtual) verbal base, according to the following schema (46) and the examples (21)-(24), repeated in (47): for the derivation of *martellata,* we assume a nominal base *martell(-o)* ("hammer"), which is then transformed into a verbal base *martell$_V$*. This is also documented by the verb *martellare* "to hammer". Then the perfect participle is formed: *martellat,* the N-nominalization is formed, and finally the feminine agreement marker *-a* is attached to it. The same derivation holds for *beccata*. We assume the same steps for the derivation *bocc-ata,* even though the intermediate verbal forms are not documented nor do they seem to be accepted forms of Italian.

(46) Derivation of N-nominalizations

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[9] This section is based on Samek-Lodovici (1997, 3-4).

[10] Alternatively, the suffix *-a* could be simply analyzed as the inflexion or agreement feature for [+fem], rather than as derivational suffix (p.c. Christoph Schwarze). This would mean that the derivation from the participle to the nominalization is not represented by an overt suffix.

[11] Samek-Lodovici (1997, 22): "Italian a-nominalizations constitute one of the strongest challenge to Aronoff's (1979) Unitary Base Hypothesis, because they productively allow for both verbal and nominal bases. This work argues that contrary to appearance, every morphological step within the derivation of a-nominalization satisfies Aronoff's Unitary Base Hypothesis."

1. Base	N
2. Derivation to V (+ theme vowel)	$[N]_V$
3. Past participle	$[[N]_V + PP]_{pastpart}$
4. Deverbal nominalization	$[[[N]_V + PP]_{pastpart} + a]_N$

(47)

1. N	*martell$_N$-* "hammer"	*becc$_N$-* "beak"	*bocc$_N$-* "mouth"
2. V	*martell$_V$- (martellare)*	*becc$_V$- (beccare)*	*bocc$_V$- (*boccare)*
3. Vpp	*martell-at- (martellato)*	*becc-at- (beccato)*	*bocc-at (*boccato)*
4. Nom	*martell-at-a$_N$*	*becc-at-a$_N$*	*bocc-at-a $_N$*
	"hammerblow"	(i) "peck"	"mouthful"
		(ii) "beakfull"	

To sum up, there are different analyses of the nominalizations in *-ata*. I do not take a position here, rather I follow Mayo et al. (1995, 913):

> "We can either assume, between the base noun and the derived noun, an intermediate derived verb and its participle – even if this verb is not lexicalized, as in (87) – or we can assume that the derivation is more direct, as in (88), and that the corresponding verb, if already lexicalized, is derived independently. Then we would have, as examples:
>
> (87) [telefono]$_N$ -> [telefonare]$_V$ -> [telefonato]$_P$ -> [telefonata]$_N$
>
> [occhio]$_N$ -> [$^?$occhiare]$_V$ -> [$^?$occhiato]$_P$ -> [occhiata]$_N$
>
> (88) [telefono]$_N$ -> [telefonata]$_N$
>
> [telefono]$_N$ -> [telefonare]$_V$
>
> [occhio]$_N$ -> [occhiata]$_N$
>
> It is not necessary here to decide between the alternatives (they are indeed two parallel paths to the same goal in the case of *telefonata*). For the sake of simplicity we shall assume the more direct derivations shown in (88), using a single derivational operator that leads directly from a noun to an event."

Still, we have to account for the contribution of the suffix *-ata* to the meaning of the derivation. I investigate this contribution at the level of argument structure and different lexical representations.

4   Conceptual patterns and selectional restrictions

Nominalizations of *-ata* are quite productive: formed from verbal bases, they denote an instance of an event described by the verb. Formed from a nominal base, they show a great variety of meanings. This variety is comparable to the meaning variations of denominal verbs. However, lexicalized forms follow a closed set of patterns, as illustrated in section 3.2. This closed set of patterns also influences the production and the interpretation of spontaneous new forms, as it will be shown below.

The question is which factors may restrict or determine the pattern applied. In the following I concentrate on four patterns, the *hit with N, act as N, capacity of N to transport*, and *meal made of N*. A simplified observation is that conceptual properties of the nominal base determine which of the potential pattern can be applied and which not. The conceptual properties, i.e. properties under which we perceive certain objects, are represented as semantic features of the lexical entries. We can now give a schematic representation of the different patterns, as in (48). E.g., the hit-pattern denotes an event that consists of the structure: *hit(e,x,y,N)*, where the base *N* is in the Instrument slot of that predicate (or event). The object we can hit with must be solid and not to large (otherwise we were not able to hit with it), therefore the base must have the semantic features [+solid] and [+small]. Similar observations lead to the characterization given in (48):

(48) The Structures of the patterns to form nominalizations with *-ata*

Pattern	predicate structure	semantic role of N	semantic features of N	referential argument
hit with N	hit(e, x, y, with N)	Instrument	+solid, +manageable	e (event)
act as N	act(e, x, as N)	Agens	+ human	e (event)
capacity of N	transport(e, x, y, with N)	Instrument (capacity)	-human, +capacity[12]	theme (amount that is carried)
meal made with/of N	prepare(e, x, y, with/of N)	Instrument / Base	+eatable	y: result of the event

It seems that we can assign to each pattern a characteristic set of semantic features. If this is correct, we should be able to predict from the semantic features of the base the potential pattern of an *ata*-nominalization. This is born out in (49), where I give the semantic features for *libro, ragazzo, bocca, fungo, becco* and *barca*, predicting the pattern of the nominalization. The prediction is confirmed by the lexicalized forms of these bases (see above section 3.2).

(49) Conceptual properties of nominal bases for lexicalized forms in *-ata*

base	human	eatable	capacity	solid	manage-able	Type of *-ata*
libro	-	-	-	+	+	hit
ragazzo	+	-	-	-	-	act
bocca	-	-	+	-	+	capacity
fungo	-	+	-	-	+	meal
becco	-	-	+	+	+	cap., hit
barca	-	-	+	+	-	capacity

In the next step I propose to make predictions for potential patterns for spontaneous forms (i.e. non-lexicalized forms). The base *sedia* "chair" has the semantic features +solid +small (or relative small or manageable). Therefore, one would expect that the form *sediata* denotes a "hit with a chair", as in (50):

(50) Conceptual properties of nominal bases for spontaneous forms in *-ata*

base	human	eatable	capacity	solid	manage-able	Type of *-ata*
sedia	-	-	-	+	+	hit

The result of an internet search has provided the following text (51), which confirms the predictions. This text is very informal and close to spontaneous speech.

(51) Road Dogg e Steve Blackman si affrontano per il titolo hardcore, azione molto violenta come sempre. **DDT di Dogg ma Blackman reagisce con una sediata in testa che gli vale il pin vincente**. X-Pac che commentava l'incontro con Jim Ross e Jerry Lawler, dice che lui e Road Dogg hanno discusso su chi sia il miglior wrestler singolo tra loro 2, e che dopo stasera, sfiderà Blackman a Smackdown per il titolo hardcore.

"(...) Dogg reacted to Blackman with a "sediata" on the head that was worth the victory-PIN...."

(Source: http://www.geocities.com/Colosseum/Track/5544/riw2407.html WWF Raw Is Review - By Erik Ganzerli, Edizione del 24.07.2000)

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[12] Cf. Collin (1918, 189): "[...] le primitif est *un instrument d'une certaine capacité.*"

It is interesting to note that there is an irregular *-ata* form from the verb *sedere*, namly, *seduta* "sitting, meeting":

(52)　*seduta* "sitting, meeting" from *sedere* "to be seated, to be sitting"

5　Lexical representations

I assume that the suffix *-ata* has the following functions:

(i)　　it changes the categorial properties of the base to [N, fem.]

(ii)　 it shifts the referential argument to the event argument (or some resultative one)

(iii)　 it characterizes the event as a single event or an instance of an event[13]

(iv)　 it requires additional restrictions which are determined by the conceptual structure of the base[14]

The common function of the suffix *-ata* is to refer to a single event of the type of the base. This is best seen in the case of a verbal base, generally described in (53). An event *e* is called individualized (or "instance of P") if *e* does not overlap with another event *e'* that is a P. This property will be represented by a predicate INDIV that is predicated of the event variable *e*. So we can have two instances of entering or two instances of (making a) telephone call, but they do not overlap. They are rather distinguishable, and therefore we can count them.

(53)　V-*ata*: "single event of V" or "individualized event of V"

In order to determine the lexical contribution of the suffix *-ata* to the derivation, we compare the lexical semantic representation of the verbal base with that one of the nominalized form. The intransitive verb *entrare* is assigned the lexical semantics in (54a): it describes events of the type that someone enters. The nominalized form *entrata* is assigned the semantics in (54b): it refers to individualized events of entering (I have suppressed other information such as the PP or the place that is entered). Under the assumption that the suffix *-ata* is applied to the verbal base by functional application, we yield the lexical semantics in (54c): the suffix takes a predicate and yields a nominalized form. (55) demonstrates the derivation for a transitive verb. The lexical representation of *-ata* has to take care of the transitive predicate.[15]

(54)　a.　*entrare*　$\lambda x \, \lambda e \, [\text{enter}(e, x)]$

　　　 b.　*entrata*　$\lambda e \, [\text{enter}(e, x) \, \& \, \text{INDIV}(e)]$

　　　 c.　*-ata*　　$\lambda P \, \lambda e \, [P(e, x) \, \& \, \text{INDIV}(e)]$

(55)　a.　*lavare*　$\lambda y \, \lambda x \, \lambda e[\text{wash}(e, x, y)]$

---

[13] Cf. already Collin (1918, 153) and quotations therein (e.g. Meyer-Lübke 1890)

[14] Schwarze (2001, 15ff.) argues that *ata*-nominalizations are rather underspecified in their meaning. They need additional information from the conceptual system: "Dove trova il parlante la risoluzione delle variabili create dall'operatore *-ata*? Le informazioni necessarie a questo scopo non fanno parte del lessico definito come componente della grammatica mentale, bensì del sistema concettuale."

[15] In order to keep the representation as simple as possible, I have suppressed information about the nominal linking of arguments. The representation of the arguments that can be realized as genitive would be like (54') and (55'). However, in the remainder I will suppress them since they are not crucial to the argument here.

(54') a.*entrare*　　$\lambda x \, \lambda e \, [\text{enter}(e, x)]$　　　　　(55') a.*lavare*　　$\lambda y \, \lambda x \, \lambda e \, [\text{wash}(e, x, y)]$

(54') b. *entrata*　　$(\lambda x) \, \lambda e \, [\text{enter}(e, x) \, \& \, \text{INDIV}(e)]$　(55') b. *lavata*　　$(\lambda y) \, \lambda e \, [\text{wash}(e, x, y) \, \& \, \text{INDIV}(e)]$

(54') c.*-ata*　　　$\lambda P \, (\lambda x) \, \lambda e \, [P(e, x) \, \& \, \text{INDIV}(e)]$　(55') c.*-ata*　　$\lambda P \, (\lambda y) \, \lambda e \, [P(e, x, y) \, \& \, \text{INDIV}(e)]$

A general form for the suffix is (i), where the predicate takes n arguments (besides the event argument) Additionally, I assume that only the highest argument can be instantiated by a genitive.

　　(i)　　*-ata*　$\lambda P \, (\lambda x_n) \, \lambda e \, [P(e, x_1, ...x_n) \, \& \, \text{INDIV}(e)]$

b. *lavata* λe [wash(e, x, y) & INDIV(e)]

c. *-ata* $\lambda P \lambda e$ [P(e, x, y) & INDIV(e)]

Before I give the representation for the denominal nominalization, I first discuss the derivation via a verbal form, as for *martello* > *martellare* > *martellata* (cf. (21) above). The nominal base is a simple predicate that takes one (referential) argument. The transitive verb *martellare* is represented in (56b) as the event e in which x does (to) y and in which a hammer is involved (here as general relation R). Thus the verbalizing derivation must be described on the lines in (56c): it takes a noun *N* and creates a transitive verb where the noun restricts the event by some relation *R*.[16]

(56) a. *martello* λx [hammer(x)]

b. *martellare* $\lambda y \lambda x \lambda e[DO(e, x, y) \& \exists z$ [hammer(z) & R(e, z)]]

c. [ ]$_N \rightarrow$ [N]$_V$ $\lambda N \lambda y \lambda x \lambda e[DO(e, x, y) \& \exists z$ [N(z) & R(e, z)]]

In a second step we can derive the *ata*-form by applying its semantics (cf. (55c) = (57b)) to the verbal base, yielding the semantics for the nominalization in (57c). Here the predicate *P* comprises the more complex expression DO(e, x, y) & $\exists z$ [hammer(z) & R(e, z)]. Alternatively, we can also derive the nominalized form directly from the nominal base, as in (58). The semantic representation of *-ata$_l$* is composed from the semantics of the verbalization (56c) and the semantics of deverbal *-ata* (57b):

(57) a. *martellare* $\lambda y \lambda x \lambda e[DO(e, x, y) \& \exists z$ [hammer(z) & R(e, z)]]

b. *-ata* $\lambda P \lambda e$ [P(e, x, y) & INDIV(e)]

c. *martellata* $\lambda e[DO(e, x, y) \& \exists z$ [hammer(z) & R(e, z)] & INDIV(e)]

(58) a. *martello* λx [hammer(x)]

b. *-ata$_l$* $\lambda N \lambda e$ [Do(e, x, y) & $\exists z$ [N(z) & R(e, z)] & INDIV(e)]

c. *martellata* λe [Do(e, x, y) & $\exists z$ [hammer(z) & R(e, z)] & INDIV(e)]

Note that the compositional semantics does not care if we account for the derivation in one or in two steps. The result is in both cases the same (or the other way around: we have determined the semantics of the derivational processes such that there is no semantic difference between these two ways of derivation.). So we can derive *ombrellata* from nominal *ombrello* either by one derivation, as in (59) or by an intermediate step (and a virtual verb), as in (60). At this point, semantics cannot decide for one way or other.

(59) a. *ombrello* λx [umbrella(x)]

  -ata$_l$ $\lambda N \lambda e$ [Do(e, x, y) & $\exists z$ [N(z) & R(e, z)] & INDIV(e)]

c. *ombrellata* λe [Do(e, x, y) & $\exists z$ [umbrella(z) & R(e, z)] & INDIV(e)]

(60) a. *ombrello* λx [umbrella(x)]

  + [ ]$_N \rightarrow$ [N]$_V$ $\lambda N \lambda y \lambda x \lambda e[DO(e, x, y) \& \exists z$ [N(z) & R(e, z)]]

b. **ombrellare* $\lambda y \lambda x \lambda e[DO(e, x, y) \& \exists z$ [umbrella(z) & R(e, z)]]

  -ata $\lambda P \lambda e$ [P(e, x, y) & INDIV(e)]

c. *ombrellata* λe [Do(e, x, y) & $\exists z$ [umbrella(z) & R(e, z)] & INDIV(e)]

However, the problem with this analysis is that it is too general. *Martellata* means a hit with a hammer or a hammer blow, rather then an event related to a hammer, and *ombrellata* refers to a hit with an umbrella, rather than to an event with an umbrella. An event in which an umbrella is involved is typically one in which one uses the umbrella against rain, but not to hit someone. So the semantic representation must be more specified, as in (61a) and (61b),

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[16] Ilse Zimmermann (p.c.) suggested this semantics to me.

instead of (57c) and(60c). Here we have specified the predicate *Do* by the more specific *Hit*, and the relation *R* by *Instr*.

(61) a. *martellata* λe [**Hit**(e, x, y) & $\exists z$ [hammer(z) & **Instr**(e, z)] & INDIV(e)]
     b. *ombrellata* λe [**Hit**(e, x, y) & $\exists z$ [umbrella(z) & **Instr**(e, z)] & INDIV(e)]

The question that arises is where does this specification comes into the derivational process. If the nominalized form is derived from an underlying (and virtual) verbal base, as it is assumed for *ombrellata*, then the specification must have entered the semantics of the virtual verb. This however would either require *different* verbalization rules or a specification of an unattested (virtual) form. Both options are not very attractive and might lead to unwelcome consequences for the whole system. To be clear, I do not deny that denominal verbs can be derived by a general rule and then instantiated according to specific contexts (see Clark & Clark 1979), but this cannot be the case for unattested forms since they do not stand in any context.[17]

This means the only other option is that the direct derivation is more specified. Here again, it seems that we have two options: either we assume different specified derivation rules or a general rule and then specify the outcome in the context. The latter runs into a similar problem as before: if it is the context that finally decides on the specified meaning of the nominalization, it is hard to explain why we predominantly find certain patterns. On the other hand, different derivation rules would destroy the unity of the phenomenon (at least of the suffix). Therefore, I will present an alternative: I assume a general template that is sensitive to conceptual information of the base *N*. This conceptual information determines a certain specification and creates different particular templates. This means, I assume a general structure that is common to all templates and additional particular specifications that are determined by the conceptual semantics of the base. The relevant conceptual properties of the nominal base are represented as semantic features. The general form of the suffix is (62a) and (62b) in a simplified form where the predicate *P* comprises the underlined information in (62a). So we can give the semantic representation for the template for the *hit*-reading, as in (62c) or simplified in (62d):

(62) a. *-ata* $\lambda N \, \lambda e$ [P(e, x, y) & $\exists z$ [N(z) & R(e, z)]] & INDIV(e)]
     b. *-ata* $\lambda N \, \lambda e$ [P(e, x, y; N)   & INDIV(e)]
     c. *-ata$_{hit}$* $\lambda N \, \lambda e$ [Hit(e, x, y) & $\exists z$ [N(z) & Instr(e, z)] & INDIV(e)]
     d. *-ata$_{hit}$* $\lambda N \, \lambda e$ [Hit(e, x, y, with(N))   & INDIV(e)]

Thus we get several patterns that differ in the way the predicate *P* is spelled out. The decisive factors are the thematic structure, the argument role of the base and the conceptual restriction on that argument (represented by selectional restrictions), as spelled out in (63)-(66) (in the simplified predicates *P* for the longer information):[18]

(63)   (hit) N-*ata*: Event of hitting with N or "hitting with N"
         P = hit(e, x, y, with N)
         -ata: $\lambda N \, \lambda e$ [hit(e, x, y, with N) & INDIV(e)]
         N: +solid + small

     a. *libr*$_{[+solid,+small]}$-*ata*
         λx [book(x)] $\lambda N \, \lambda e$ [hit(e, x, y, with N$_{[+solid,+small]}$) & INDIV(e)]
         $\Rightarrow \lambda e$ [hit(e, x, y, with book) & INDIV(e)]

---

[17] Another argument against a virtual verbal form is that once there is such a form it would allow for other derivations by other suffixes. However, this is not attested.

[18] (65) and (66) pose an additional problem since the referential argument is not the event-argument, but the second argument of the predicate. For the time being, I do not have to offer any account for this.

(64)   (act) N-*ata*: Event typically performed by N or "act as N"
         P = act(e, x, as N)
         -*ata*: λN λe [act(e, x, as N) & INDIV(e)]
         N: +human

    a.   *ragazz*[+human]-*ata*
         λx [child(x)] λN λe [act(e, x, as N[+human])) & INDIV(e)]
         ⇒ λe [act(e, x, as child)) & INDIV(e)]

(65)   (capacity) N-*ata*: Capacity that can be carried by/in N
         P = transp(e, x, y, with N)
         -*ata*: λN λy [transp(e, x, y, with N) & INDIV(e)]
         N:+container

    a.   *bocc*[+container]-*ata*
         λx [mouth(x)] λN λy [transp(e, x, y, in N[+container]) & INDIV(e)]
         ⇒ λy [transp(e, x, y, in mouth) & INDIV(e)]

(66)   (meal) N-*ata*. Meal prepared on the base of N
         P = prep(e, x, y, with N)
         -*ata*: λN λy [prep(e, x, y, with N) & INDIV(e)]
         N:+eatable

    a.   *fung*[+eatable]-*ata*
         λx [mushroom(x)] λN λy [prep(e, x, y, with N[+eatable]) & INDIV(e)]
         ⇒ λy [prep(e, x, y, with mushroom) & INDIV(e)]

6   Summary

Italian nominalizations in -*ata* are formed from verbal as well as from nominal bases. Derivations from verbal bases refer to a single event denoted by the base. Derivations from a nominal base *N* denote events or results corresponding to a limited number of patterns, such as *a hit by N, a characteristic action of N, a period of N, a quantity that is contained in N*, etc. The particular reference is determined by the lexical semantics of the base and the suffix, and by the conceptual structure of the base. The paper has argued that the function of the suffix operates on the lexical meaning of the base, but the composition of the lexical meaning of the base with the lexical meaning of the suffix is restricted by the conceptual properties of the base. In particular, the paper has addressed the following issues:

- The suffix -*ata* very productively forms nominalizations from verbal and from nominal bases.
- The suffix has a common function:
  - categorial function: nouns in the feminine gender
  - describing an individualized event or instance of an event
  - describing events in which the base is pragmatically salient
- The notion of "pragmatically salient" can be spelled out in certain patterns for denominal derivations.
- These patterns are generally found in lexicalized forms. But they are also prominent patterns for spontaneous derivations.
- The choice of such a pattern depends among other factors on the conceptual restrictions of the objects associated with the base.
- The conceptual restrictions of objects are encoded in semantic features associated with the base.
- A more complex conceptual structure, interaction with other items or relation between different items must be investigated.

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