Paucal Quantifiers and Diminutive Morphology in the Light of Numeralization: The Case of Polish *garść* ‘handful’ and *garstka* ‘handful.dim’

Abstract
While the attachment of diminutive morphology to concrete nouns, gradable adjectives and adverbs, as well as interjections has already received a well-merited share of attention in Polish, diminutivization of vague quantifiers remains empirically understudied. The present paper takes a first step towards filling in this gap by reporting on a corpus-based investigation of the numeralized partitive *garść* ‘handful’ and its diminutive variant *garstka* ‘handful.dim’. The results of a collocational analysis of both forms corroborate the hypothesis that diminutivization further enhances scalar implications inherent in the base ‘small size’ item, as reflected in the diminutive form’s significantly higher frequency of quantifier attestations. Apart from exhibiting a substantially greater proportion of quantifier uses, the latter element displays an overwhelming predilection for animate N2-collocates, which suggests that diminutivization may not only intensify a paucal quantifier’s expressivity but also lead to conspicuous changes in its distributional profile.

Keywords
vague paucal quantifiers, numeralization (grammaticalization), diminutivization, corpus-based study, Polish

Streszczenie
O ile zastosowanie morfologii deminutywnej w odniesieniu do rzeczowników konkret-nych, przymiotników i przysłówków stopniowalnych, jak również interiekcji doczekało się już sporo uwagi ze strony polskich językoznawców, o tyle zdrabnianie form liczebników nieokreślonych pozostaje zjawiskiem słabo przebadanym empirycznie. Nadrzędnym celem niniejszego artykułu jest więc podjęcie pierwszego kroku do zmiany tego stanu rzeczy poprzez opis studium korpusowego liczebnika *garść* oraz jego formy deminutywnej
garstka. Wyniki analizy łączliwości obu elementów potwierdzają hipotezę, zgodnie z którą
deminutywizacja wzmacnia implikacje skalarnie znumeralizowanej jednostki odnoszącej
się pierwszotne do niewielkiej porcji substancji bądź zbioru elementów, co odzwierciedla
znacznie wyższa frekwencja poświadczeń liczbnikowych wspomnianego deminutywu.
Forma garstka przejawia ponadto istotnie silniejszą preferencję kolokacyjną względem rze-
czowników żywotnych, co wskazuje, że deminutywizacja może nie tylko zintensyfikować
ekspresywność kwantyfikatora wyrażającego małą liczbę lub ilość, ale także doprowadzić
do istotnych zmian w jego dystrybucji.

Słowa kluczowe
liczebniki nieokreślone kodujące małą liczbę/ilość, numeralizacja (gramatykalizacja),
deminutywizacja, studium korpusowe, język polski

1. Introduction

As is the case with Slavonic languages in general, diminutivization in Pol-
ish, typically realized by suffixes, exhibits “remarkable productivity” (Szyma-
nek 2010: 202). Following Szymanek (2010: 203), the two most common di-
mimutive suffixes are -ek/-ka/-ko, e.g. dom ‘house’ > domek ‘house.DIM’, rama
‘frame’ > ramka ‘frame.DIM’, jeziorno ‘lake’ > jeziorko ‘lake.DIM’; and -ik/-yk, e.g.
tom ‘tome’ > tomik ‘tome.DIM’, kamień ‘stone’ > kamyk ‘stone.DIM’. It is ad-
ditionally possible to attach more than one diminutivizer to the same base,
which results in the occurrence of multiple diminutives, e.g. domek ‘house. 
DIM’ > domeczek ‘house.DIM.DIM’, kamyk ‘stone.DIM’ > kamyczek ‘stone.DIM. 
DIM’ (cf. Manova and Winternitz 2011).2

Diminutive morphology can further serve as a vehicle for a variety of
semantic-pragmatic nuances (cf., among others, Stankiewicz 1954; Wierzbicka
1984; Tabakowska 2001: 134–140). Even though prototypically “express[ing] 
the small size of a physical entity” (Taylor 1995: 144), in particular when the base
is a concrete inanimate noun, diminutive morphemes may, through figurative 
extensions of this basic sense, also imply an animate’s young age, e.g. chłopiec
‘boy’ > chłopczyk ‘boy.DIM’, suggest insignificance or low quality, e.g. prezes
‘chairman’ > prezesa ‘chairman.DIM’ or problem ‘problem’ > problemik ‘prob-
lem.DIM’, and convey affection, e.g. Irena ‘Irene’ > Irenka ‘Irene.DIM’ (employed

1 I wish to thank two anonymous reviewers for their helpful comments. The abbreviations
employed in this paper should be read as follows: 1 – first person; 2 – second person; 3 – third
person; ACC – accusative; DAT – dative; DIM – diminutive; FEM – feminine; GEN – genitive;
IMPER – imperative; IMPERS – impersonal; INF – infinitive; INSTR – instrumental; LOC – locative;
MASC – masculine; NEUT – neuter; PRES – present tense; PST – past tense; REF – reflexive.

2 As can be inferred from the examples provided, the distribution of Polish diminutivizers is
guided by certain phonological criteria, which, for reasons of text fluidity, will not be discussed
here. For an overview of the relevant issues, see, among others, Szymanek (2010: 203–210) and
Manova & Winternitz (2011).
with reference to an adult). For the most part, however, these senses are notoriously difficult to tease apart in a diminutive (cf. Stankiewicz 1954: 458), as “one function (actual or potential) may shade into another” (Szymanek 2010: 202).

Although, as can be intuited from the above-listed examples, it is nominal diminutives that display by far the highest frequency in language use, diminutivization in Polish may in fact also affect adjectives and adverbs, e.g. _mały_ ‘small’ > _malutki_ ‘small.DIM’, _szybko_ ‘quickly’ > _szybciutko_ ‘quickly.DIM’, and even interjections, e.g. _ojej_ ‘oh’ > _ojeku_ ‘oh.DIM’ (cf. Lockyer 2015). In the latter cases, diminutive morphology attached to gradable items belonging to the adjectival domain performs the function of intensification: both _malutki_ ‘small.DIM’ and _szybciutko_ ‘quickly.DIM’ indicate a high degree of, respectively, smallness and velocity, while applied to interjections, as in _ojeku_ ‘oh. DIM’, diminutivization accentuates the speaker’s strong emotional engagement. In a similar vein, if the pertinent adjective or adverb is not gradable, the diminutive morpheme only fulfils purely emotive functions, as in _cały_ ‘whole’ > _calutki_ ‘whole.DIM’ (Kallas 1999: 507). Again, multiple diminutives can be derived here as well, e.g. _malutki_ ‘small.DIM’ > _maluteńki_ ‘small.DIM.DIM’, _calutki_ ‘whole.DIM’ > _caluteńki_ ‘whole.DIM.DIM’ (Szymanek 2010: 215).

Despite the abundance of research devoted to Polish expressive morphology, diminutivization of vague quantifiers, e.g. _troszkę_ ‘a bit’ > _troszkę_ ‘a bit.DIM’ > _troszczkę_ ‘a bit.DIM.DIM’ or _mało_ ‘little/few’ > _malutko_ ‘little/few. DIM’ > _maluteńko_ ‘little/few.DIM.DIM’, remains an empirically understudied phenomenon. Drawing on both synchronic and diachronic data, the present paper, therefore, takes a first step towards filling in this gap by reporting on a corpus-based investigation of the numeralized partitive _garść_ ‘handful’ and its diminutive form _garstka_ ‘handful.DIM’, both of which are common in language practice, and which originally refer to the hand positioned in such a way that it is possible for one to grasp and hold stuff (cf. Dubisz 2008a: 977). More specifically, the overarching objective is to scrutinize the role of diminutivizers in the numeralization of ‘small size’ partitives, as mirrored in proportionate frequencies of the items’ quantifier attestations.

The text is organized in the following way. Section 2 sheds light on the numeralization of partitive nouns, including the assumed impact of applying diminutive morphology to paucal quantifiers. Section 3 specifies the research hypothesis and methodology. Section 4 presents an analysis of synchronic data, and section 5 offers a discussion of additional diachronic material. Finally, section 6 provides an overview of the main observations reached in the empirical examination as well as outlines prospects for future research on the topic.

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3 Considerably less frequent in standard Polish are verbal diminutives, e.g. _plakać_ ‘to cry’ > _plakusić_ ‘to cry.DIM’. As Szymank (2010: 202) suggests, diminutivization of verbs may, nonetheless, exhibit a higher level of productivity in Polish dialects.
2. Numeralization of partitives

When employed in the binominal N1 N2.gen-construction, *garść* ‘handful’ and *garstka* ‘handful.dim’ function predominantly as either partitives or indefinite quantifiers. Partitives, also known as measure nouns and classifiers, are nominal elements which individuate the reference of the concomitant NPs (cf. Grochowski 1992: 70), i.e. impose “a quantitative limit on the extension of the predicates they apply to” (Willim 2006: 45) by “bounding or unitizing the entities expressed by the second constituent” (Verveckken 2015: 48).

Semantically, partitives may be divided into two broad categories, namely (i) quality partitives, such as *kind* and *type*, and (ii) quantity partitives (Quirk et al. 1985: 249). Following Lehrer (1986: 111), the latter group can be further subdivided into (a) unit counters, e.g. *kolejna sztuka bydła* ‘another head of cattle’, (b) fractional partitives, e.g. *dwie trzecie powierzchni* ‘two thirds of the area’, (c) number set partitives, e.g. *wiele tuzinów jajek* ‘many dozens of eggs’, (d) collective partitives, e.g. *pięć zestawów narzędzi* ‘five sets of tools’, (e) measure partitives, e.g. *trzy kilogramy mąki* ‘three kilograms of flour’, and (f) arrangement partitives, e.g. *każdy stos książek* ‘each stack of books’. The above-listed examples moreover suggest that among the most important distributional characteristics of partitive nouns is their compatibility with quantifiers, including numerals, the distributive quantifier *każdy* ‘each’, and vague quantifiers such as *parę* ‘a few’, as illustrated below with corpus examples involving *garść* ‘handful’ (1–3) and *garstka* ‘handful.dim’ (4):

(1) Zgarnia dwie grube garście banknotów. (NKJP)
   banknote.pl.masc.gen
   'He/She scoops two decent handfuls of banknotes.'

(2) Wystarczy po rozpaleniu ognia dosypywać do niego systematycznie po parę garści piachu lub ziemi. (NKJP)
   earth.sg.fem.gen
   'Once the fire is kindled, it should be systematically strewn with a few handfuls of sand or earth at a time.'

Such items normally participate in so-called pseudo-partitive constructions, which differ from true partitive ones in that it is only the latter that allow definite N2s. In other words, N1s employed in the former type of structures are non-referential (cf. Alexiadou et al. 2007: 396).
However, partitives, whose semantics incorporates a “conception of [their] typical size” (Langacker 1991: 88), themselves display a cross-linguistic propensity to develop into vague quantifiers (cf., among others, Schabowska 1967; Brems 2011; Verveckken 2015), which can be broadly grouped into multal and paucal ones, depending on whether they point to, respectively, a subjectively construed high or low quantity/degree of what the associated nominal stands for (Huddleston and Pullum 2002: 365–366). The very process in which nouns gradually turn into quantifiers is known in the Polish literature as numeralization (cf. Schabowska 1962) and may itself be considered an instance of grammaticalization (cf. Brems 2007, 2011; Traugott 2008; Verveckken 2015), whereby contentive items and constructions, in specific linguistic environments, take on more schematic, grammatical meanings (Hopper and Traugott 2003: 1). Having undergone such a semantic generalization, partitives extend their collocational range by allowing hitherto incompatible N2-collocates, i.e. ones which violate their original combinatorial restrictions. By way of illustration, the partitive *garść* ‘handful’ and its diminutive form *garstka* ‘handful.DIM’ standardly co-occur with concrete inanimate nouns denoting stuff which can be held in one hand (Dubisz 2008a: 977), yet in their quantifier uses, they may combine with animate as well as abstract nominals (cf. Herda 2020: 50):

5 Note that the vague quantifier *para* ‘a few; lit.: pair.ACC’ in (3) has likewise emerged in the process of numeralization of the partitive noun *para* ‘pair’ (cf. English *couple* in, e.g., *wait a couple of minutes* ‘to wait a few minutes’).

6 Both multal and paucal quantifiers are obviously also represented by etymologically adjectival items, e.g. *dużo* ‘a lot’ (< *duży* ‘large’) and *mało* ‘little; few’ (< *mały* ‘small’), of which the latter can also undergo diminutivization, e.g. *malutko* ‘very little; very few’, yet this paper focuses only on nominal quantifiers.
She was visited by her few stubborn friends and a few enthusiasts of her poetry.

According to a legend, he fell in combat together with a few soldiers.

And now a few organizational details.

These are just a few questions to which I cannot find any answers.

It is necessary, however, to meet a whole lot of conditions.

'A great lot of nuts were sitting at the table then.'
Another way of intensifying multal quantifiers is through application of plural morphology, as in English *lots of patience* or *heaps of friends*, even though in Polish, pluralization does not achieve the same effect here as it does in English (cf. Herda 2019b). Likewise, Polish paucal quantifiers, in contrast to their English counterparts (cf., e.g., *a little bit of time*), generally do not allow adjectival modifiers (Herda 2019a: 23), although *garść* ‘handful’ is exceptional in this respect in that even in its quantifier uses, it may co-occur with adjectives encoding smallness (cf. (12) vs. (13)). Still, paucal quantifiers may instead be diminutivized synthetically, as in (11), a finding which constitutes a point of departure for the present study.

(11) Może jeszcze odrobinkę martini? (NKJP)
maybe yet crumb.DIM.FEM.ACC martini.SG.NEUT.GEN
'Perhaps some more martini?'

(12) *Może jeszcze małą odrobinę martini?
maybe yet small.FEM.ACC crumb.FEM.ACC martini.SG.NEUT.GEN
'Perhaps some more martini?'

Również język publikacji jest dostępny dla każdego, unikałem bowiem […] określeń, które niejednokrotnie zrozumiałe są dla niewielkiej garstki ludzi […]. (NKJP)
also language nom publication.FEM.GEN be.3.PRES available.FEM.MASC.NOM for everyone SG.GEN avoid.1.PST.FEM.MASC because term.PL.NEUT.GEN which.PL.NEUT.GEN typically handful.FEM.GEN people.PL.MASC.GEN
'The language of the publication is also reader-friendly, as I have avoided terms which are typically comprehensible for a mere few people only.'

As Brems (2007: 318) further observes, some paucal quantifiers may become specialized, whether fully or partially, in the function of negative polarity items, i.e. elements which do not themselves convey negation, but which are confined to non-assertive contexts (Israel 2004: 701–702), a relevant example from Polish being *krzta* ‘lit.: crumb’ (cf. Dubisz 2008b: 335):

(14) Nie ma w tobie krzty wyrozumiałości. (NKJP)
not have.3.PRES in you.IOC crumb.FEM.GEN understanding.FEM.GEN
'You don’t have a shred of understanding.'

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7 In both English and Polish, however, plural morphology, albeit to a highly limited extent, can be attached to mass nominals so as to intensify the quantity of what they refer to, e.g. English *waters* (cf. Acquaviva 2008: 109) and Polish *piaski* ‘sands’ (cf. Willim 2007: 184).
He talked about her with laughter, without a trace of irritation.

However, neither garść ‘handful’ nor garstka ‘handful.dim’ typically appear in negative polarity settings, possibly due to their not being interpreted as denoting minimal quantities (cf. Bolinger 1972: 121).

Having reached an advanced stage, numeralization may lead to syntactic changes in subject-verb concord. In Polish, when the binominal phrase with a syntactically reanalyzed partitive occurs in the subject position, the N1-element is in the accusative rather than nominative, while the verb takes the third person singular neuter form, a syntactic pattern typical of Polish quantifiers (cf., among others, Szober 1928; Obrębska-Jabłońska 1948; Przepiórkowski 2004; Saloni and Świdziński 2012 (1998): 206–207), in particular, higher (≥5) numerals (cf. (16) as well as (33)).

This phenomenon can be best illuminated with the paucal quantifier trochę ‘a bit’ (cf. (17)), which constitutes a fossilized accusative form of the now non-existent feminine noun trocha ‘small quantity’ (cf. Schabowska 1970), traceable to Proto-Slavonic *troska ‘bit/chip/scrap’ (Boryś 2005: 642).

Although the corpus data indicate that neither garść ‘handful’ nor garstka ‘handful.dim’ normally appears in such syntactic frames, it is in fact possible to detect (rare) uses in which the forms occur in quantifier syntax, as demonstrated by the following examples attested on the Internet:

8 What can be regarded as reflective of an analogous change in English are situations where subject-verb agreement is determined by the number value of N1 rather than N2 (cf. Langacker 1991: 89; Quirk et al. 1985: 264), as illustrated by the following authentic examples involving the English numeralized partitive noun handful (cf. Herda 2020: 53):

(i) There are a handful of people who know the truth and it must eat away at them.

(ii) At each stage a handful of players dominate, not just in primary agriculture but in food manufacturing and retailing.
What should be underlined in this context is that the strong tendency for the elements at issue to retain their nominal syntactic properties seems to pose a hindrance to their adverbialization, which has been found to constitute the next step in the grammaticalization of numeralized partitives (cf. Doetjes 1997: 101; Traugott 2008: 235). In other words, as opposed to indefinite quantifiers such as *odrobinę* ‘a bit; lit.: crumb. ACC’ or *trochę* ‘a bit’, neither *garść* ‘handful’ nor *garstka* ‘handful.DIM’ has developed productive adverbial modifier uses:

Another factor which may be suspected to block the syntactic expansion of vague quantifiers outside the nominal domain is their incompatibility with non-count NPs (Doetjes 1997: 175). For instance, despite exhibiting a very high frequency of quantifier attestations in naturally-occurring data, English *handful* and Swedish *handfull* ‘handful’ do not typically quantify over mass nominals, a fact which can be correlated with the quantifiers’ lack of adverbialization (Herda 2020: 56). Presented in the following sections of the text is an empirical study which will enable the ascertainment of whether the compatibility restriction applies to the Polish elements as well.

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9 Since the third person present tense forms of Polish verbs, including *być* ‘to be’, are not marked for gender, the only reflex of the syntactic quantifier status of *garstka* ‘handful.DIM’ in (19) is its accusative form coupled with the occurrence in a phrase which functions as the subject of the sentence.
3. Research hypothesis and methodology

As stated before, nominal quantifiers may be intensified by syntactic or morphological means. In the former case, numeralized nouns are modified by emphatic adjectives such as Polish cały ‘whole’ or English little, whereas in the latter, multal quantifiers are boosted by plural morphology, and paucal ones undergo diminutivization. In English, where pluralization may achieve such an amplifying effect, the plural forms of multal quantifiers tend to display a markedly higher degree of numeralization, operationalized as the frequency of occurrence in the quantifier function, than is the case with the singular ones (cf. Brems 2011; Herda 2019b).

In consonance with the foregoing, the research hypothesis adopted here is that the application of diminutive morphology to partitive nouns which have developed into paucal quantifiers should yield an analogous effect to that produced by pluralization in the case of multal ones, i.e. it should further enhance the former’s expressivity by explicitly introducing the semantic component of small size. Accordingly, the diminutive form garstka ‘handful.dim’ is expected to display a significantly higher percentage of quantifier occurrences, vis-à-vis basic partitive ones, than does the base item garść ‘handful’.

To verify the above assumption, random samples of 250 adnominal attestations of garść ‘handful’ and garstka ‘handful.dim’ (N = 500) were extracted from the 300 million-token National Corpus of Polish (NKJP) by means of the Poliqarp search engine. In both cases, each attestation was then assigned to one of the following categories of uses: (i) partitive, (ii) quantifier,11 or (iii) ambiguous, the last group comprising instances allowing the partitive as well as the quantifier reading. To shed further light on the distributional profiles of both of the scrutinized forms, the N2-collocates in each class were additionally divided into (a) concrete inanimate count, (b) concrete inanimate non-count, (c) concrete animate count, (d) concrete animate non-count, (e) abstract count, and (f) abstract non-count. This synchronic investigation was complemented with a diachronic study based on historical dictionaries, namely The Old Polish

10 As already mentioned, it is sometimes possible in Polish to diminutivize an already diminutive form, and this is also the case with garstka ‘handful.dim’, which can be diminutivized into garsteczka ‘handful.dim.dim’. Yet, since the command [base=“garsteczka”] [pos=subst & cas=gen] carried out on the NKJP yields a mere ten hits, the latter element is not included in the present analysis on account of its conspicuously low frequency.

11 To identify the partitive and quantifier uses, I relied on co-textual clues, e.g. the presence of verbs such as rzucić ‘throw’, sypać ‘strew’, or brać ‘take’ on the one hand and of intensifying adjectives on the other, as well as on the substitution test proposed by Brems (2011: 129): if garść ‘handful’/garstka ‘handful.dim’ can be felicitously replaced with a different paucal quantifier or a quantifying phrase such as mala ilość/liczba ‘small amount/number’ in a given environment, the pertinent attestation was categorized as quantificational.
Dictionary and The Dictionary of 16th-Century Polish, and corpora, i.e. the 13.5 million-token Baroque Corpus (KorBa) and the tiny, one million-token Corpus of 19th-Century Polish (KP19): in the former case, the relevant definitions along with accompanying attestations were examined, while in the latter, the data underwent processing steps analogous to those specified above for the NKJP.

4. Garści ‘handful’ and garstka ‘handful.dim’ in the NKJP

Table 1 displays the empirical distribution of partitive, quantifier, and ambiguous uses of the base item garści ‘handful’ and the diminutive form garstka ‘handful.dim’ in the data extracted from the National Corpus of Polish.

| Type of use | N1 | Total |
|-------------|----|-------|
|             | Garśc | Garstka |
|             | # (%) | # (%) | # (%) |
| Partitive   | 149  | 21    | 170  |
|             | (59.60%) | (8.40%) | (34%) |
| Quantifier  | 86   | 221   | 307  |
|             | (34.40%) | (88.40%) | (61.40%) |
| Ambiguous   | 15   | 8     | 23   |
|             | (6%)  | (3.20%) | (4.60%) |
| Total       | 250  | 250   | 500  |
|             | (100%) | (100%) | (100%) |

Source: Own work.

In accordance with the research hypothesis, the diminutive form garstka ‘handful.dim’ has been found to display a conspicuously higher percentage of quantifier attestations in the corpus data than is the case with the base element garści ‘handful’, the former being used quantificationally more than twice as often as the latter, which demonstrates that diminutivization reinforces the inherently scalar semantics of a paucal quantifier. The chi-square test shows that the observed differences are highly statistically significant: $\chi^2 (2, N = 500) = 157.87, p < .001$. In what follows, the synchronic distributional profiles of garści ‘handful’ and garstka ‘handful.dim’ are discussed in more detail and illustrated with authentic examples, and then some additional diachronic data are scrutinized.

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12 Since the corpora on the basis of which the two dictionaries were compiled, i.e. The Corpus of Old Polish Texts and The Corpus of 16th-Century Polish, do not (yet) allow advanced searches, only the pertinent lexicographic sources were consulted.
4.1. *Garść* ‘handful’

Presented in Table 2 are the proportions of concrete (count and non-count) and abstract (count and non-count) N2-collocates of *garść* ‘handful’ in its partitive, quantifier, and ambiguous attestations.

| N2-type            | Type of use | Total # (%) |
|--------------------|-------------|-------------|
|                    | Partitive   | Quantifier  | Ambiguous |
| Concrete count     | 63 (25.20%) | 15 (6%)     | 6 (2.40%) | 84 (33.60%) |
| Concrete non-count | 78 (31.20%) | 4 (1.60%)   | 9 (3.60%) | 91 (36.40%) |
| Animate count      | 1 (0.40%)   | 16 (6.40%)  | 0 (0%)    | 17 (6.80%)  |
| Animate non-count  | 0 (0%)      | 0 (0%)      | 0 (0%)    | 0 (0%)      |
| Abstract count     | 3 (1.20%)   | 48 (19.20%) | 0 (0%)    | 51 (20.40%) |
| Abstract non-count | 4 (1.60%)   | 3 (1.20%)   | 0 (0%)    | 7 (2.80%)   |
| Total              | 149 (59.60%)| 86 (34.40%) | 15 (6%)   | 250 (100%)  |

Source: Own work.

In its partitive uses, which prevail in the data, *garść* ‘handful’ reveals a slight preference for non-count nominals. Among its most common collocates representative of this category are nouns denoting natural substances, such as *ziemia* ‘earth’ and *piasek* ‘sand’ (cf. (3)) as well as nouns standing for foodstuffs. In the latter case, the analyzed item typically serves as an imprecise measure unit in culinary recipes, as in (22):

(22) Po zagotowaniu posyp wszystko garściami manny i dobrze zaparz. (NKJP)
‘Once the liquid has come to a boil, add a handful of semolina and stir well.’

*Garść* ‘handful’ has additionally been shown to be capable of functioning partitively in relation to animate as well as abstract nouns, even though the number
of such occurrences detected in the data is rather negligible, the precise value being 8, which amounts to a mere 3.20% of all 250 tokens of *garść* N2.gen:

(23) Nie zwątpiła tylko [...] ta przyczajona do czasu garść sprzysiężonych i egzulów [...]. (NKJP)

'Only that hitherto lurking group of conspirators and exiles remained hopeful.'

(24) Kolejna garść refleksji na further.sg.fem.nom handful.sg.fem.nom reflection.pl.fem.gen on temat i całkowicie od tematu odbiegających. (NKJP)

'A further set of on-topic and off-topic reflections.'

(25) Trzeba wziąć parę garści need.impers take.inf pair.sg.fem.acc handful.pl.fem.gen magii i zamienić ją w reality.sg.fem.acc

'One has to take a few handfuls of magic and turn it into reality.'

13 In fact, example (25) constitutes a translated excerpt from an interview originally conducted in English, which is why the non-standard use of *garść* 'handful' seems to reflect a foreign influence.

Even though most of the animate N2-collocates of *garść* 'handful', in its partitive (cf. (23)) as well as quantifier (cf. (3)) uses, refer to humans, the item at issue may in fact also combine with animate nouns with animal referents. In the investigated data, there is one quantifier attestation of this kind:

(26) […] gdy uchylił drzwi obite siatką, garść much net.sg.fem.instr handful.sg.fem.nom fly.pl.fem.gen wciśnęła się i poszybowała [...]. (NKJP)

'When he slightly opened the net-covered door, a few flies slipped out and flew away.'

As a quantifier, however, *garść* 'handful' shows a collocational preference for abstract nominals. For the most part, it quantifies over epistemic nouns, its most frequent collocates here being *informacje* 'pieces of information' (cf. (27)) and *wspomnienia* 'memories' (cf. (28)):
(27) Podałem w nim garść informacji o planowanej budowie kaskady […]. (NKJP)

‘In it, I presented a few pieces of information about the plans to build a cascade.’

(28) Dlatego pragniemy poświęcić temu odkryciu garść wspomnień. (NKJP)

‘We therefore wish to evoke a few memories related to this discovery.’

4.2. Garstka ‘handful.DIM’

Shown in Table 3 are the percentages of concrete (count and non-count) and abstract (count and non-count) N2-collocates of garstka ‘handful.DIM’ in its partitive, quantifier, and ambiguous uses.

| N2-type             | Type of use                  | Total # (%) |
|---------------------|------------------------------|-------------|
|                     | Partitive # (%)              | Quantifier # (%) | Ambiguous # (%) | Total # (%) |
| Concrete count      | 1 (0.40%)                    | 5 (2%)       | 0 (0%)          | 6 (2.40%)   |
| Concrete non-count  | 10 (4%)                      | 10 (4%)      | 8 (3.20%)       | 28 (11.20%) |
| Animate count       | 9 (3.60%)                    | 192 (76.80%) | 0 (0%)          | 201 (80.40%)|
| Animate non-count   | 1 (0.4%)                     | 4 (1.60%)    | 0 (0%)          | 5 (2%)      |
| Abstract count      | 0 (0%)                       | 9 (3.60%)    | 0 (0%)          | 9 (3.60%)   |
| Abstract non-count  | 0 (0%)                       | 1 (0.4%)     | 0 (0%)          | 1 (0.4%)    |
| Total               | 21 (8.40%)                   | 221 (88.40%) | 8 (3.20%)       | 250 (100%)  |

Source: Own work.

Despite the scarcity of its partitive attestations, garstka ‘handful.DIM’, like garść ‘handful’, may be used partitively even in relation to animate nouns, as in (29), where the diminutive form is modified by descriptive adjectives which actually apply to the N2-referents:
What the above example likewise suggests, and as is also the case with garść ‘handful’, a vast majority of the animate collocates of garstka ‘handful.DIM’, in both partitive and quantifier uses, refer to humans. In the data under analysis, there is only one attestation where garstka ‘handful.DIM’ quantifies over an animate noun with animal referents:

It is just its overwhelming propensity to quantify over animates that is the most striking characteristic of the diminutive form in question. Aside from the general animate nouns ludzie ‘people’ and osoby ‘persons’, garstka ‘handful.DIM’ habitually collocates with the N2s zapaleńcy ‘devotees’ (cf. (31)) and kibice ‘sports fans’ (cf. (32)):
The other recurrent animate N2-collocates of the vague quantifier garstka ‘handful.dim’ include specjaliści ‘experts’ and sympatycy ‘enthusiasts’, which implies that the diminutive may be employed with the aim of setting up a vivid contrast between the high level of some individuals’ skill or passion on the one hand and a scarcity thereof on the other. Additionally, in contrast to garść ‘handful’, garstka ‘handful.dim’ has been observed to quantify over non-count animate nominals (cf. jazda ‘cavalry’ in (33)), yet, given the overall paucity of nouns of this kind in Polish, the number of such attestations is unsurprisingly very low (4/250, i.e. 1.60%):

(33) Za tymi umocnieniami stanoły 7 tys. łuczników, kilka tysięcy piechurów i garstka jazdy. (NKJP)

‘Standing behind those fortifications were seven thousand archers, a few thousand infantrymen, and a few cavalrymen.’

4.3. Synchronic data: discussion of empirical findings

As stated above, garść ‘handful’ and garstka ‘handful.dim’ exhibit substantial divergences with respect to the percentages of their partitive, quantifier, and ambiguous attestations. In consonance with the research hypothesis, the diminutive has been found to display a markedly greater proportion of quantifier uses than the base item, a finding which can be elucidated in terms of an intensifying effect of morphological diminutivizers on paucal quantifiers.

On closer inspection, it turns out that the two elements likewise considerably differ in their general frequency of co-occurrence with count and non-count nominals: $\chi^2 (1, N = 500) = 42.16, p < .001$. Even though most of the N2-collocates of both forms belong to the count category, 216 out of the 250 collocates of garstka ‘handful.dim’ (i.e. 86.40%) are count nouns, while the value stands at 152 in the case of garść ‘handful’, making up for 60.80% of all of its collocates, and hence the latter is generally more likely than the former to co-occur with mass NPs. However, when it is only their quantifier uses that are taken into account, the difference between the two items in their collocatability with count and mass nouns is not statistically significant: $\chi^2 (1, N = 307) = 0.17, p = .68$. More precisely, both mainly quantify over count nominals, the exact values standing at 206 (i.e. 93.21% of the 221 quantifier attestations) for garść ‘handful’ and 79 (i.e. 82.29% of the 86 quantifier uses) for garstka ‘handful.dim’, which may explain the apparent unavailability of their adverbial uses.
Another considerable discrepancy between garść ‘handful’ and garstka ‘handful.dim’ manifests itself in their overall collocability with concrete inanimate, concrete animate, and abstract N2s: $\chi^2 (2, N = 500) = 289.19$, $p < .001$. While the former displays a clear preference for concrete inanimate N2-collocates (175/250, i.e. 70%), the latter reveals an even more marked propensity to combine with concrete animate nouns (206/250, i.e. 82.40%). Notably, when analyzed solely with regard to their quantifier attestations, the elements under scrutiny still display significant disparities in their frequency of co-occurrence with the three types of collocates: $\chi^2 (2, N = 307) = 150.62$, $p < .001$. Whereas garść ‘handful’ most frequently quantifies over abstract collocates (51/86, i.e. 59.30%), the paucal quantifier garstka ‘handful.dim’ shows an overwhelming predilection for concrete animate nouns (196/221, i.e. 88.69%).

In the newly created, web-based Great Dictionary of Polish (WSJP), the diminutive form garstka ‘handful.dim’ is simply defined as an expressive variant of garść ‘handful’ (cf. https://www.wsjp.pl/index.php?id_hasla=35893&ind=0&w_sukaj=garstka). The above-discussed observable distributional differences between the two elements, going beyond mere frequency of their quantifier attestations, nevertheless suggest that there is more at stake here than just expressivity, thus pointing to an additional effect of diminutivization. As noted by Nagórko (1997: 162), Polish possesses a fairly large group of what can be labelled as lexicalized, or fossilized, diminutives, such as żelazko ‘iron, i.e. a device used for ironing; lit.: iron.dim’ (from żelazo ‘iron, i.e. a kind of material’), cukierek ‘candy; lit.: sugar.dim’ (from cukier ‘sugar’), or wódka ‘vodka; lit.: water.dim’ (from woda ‘water’). According to Szymanek (2010: 257), “there is probably no live morphological relationship at all between members of such pairs.” Obviously, garstka ‘handful.dim’ does not (yet) diverge semantically from garść ‘handful’ to an extent comparable to what is the case with the aforementioned pairs of examples. In view of their combinatorial discrepancies, however, the possibility cannot be ruled out that the former is undergoing emancipation from its derivational source. To throw further light on this issue, the following sections offer a discussion of additional diachronic data.

5. Garść ‘handful’ and garstka ‘handful.dim’: a diachronic perspective

5.1. Before the 17th century

In The Old Polish Dictionary (Urbańczyk 1956–1959: 387), garść ‘handful’ is attested in the full lexical (‘body part’) and partitive (‘portion of something held in one hand’) meaning, while the scarce attestations of garstka ‘handful.dim’
suggest that the diminutive’s original meaning was a quantifier one (‘small quantity’). Nevertheless, in all of their uses recorded in the lexicographic work at issue, both elements co-occur solely with concrete inanimate nouns. In The Dictionary of 16th-Century Polish (Mayenowa 1973: 218–220), by contrast, garść ‘handful’ and garstka ‘handful.dim’ are shown to have developed, respectively, additional quantifier and partitive uses, a fact which may be accounted for in terms of analogy fueled by the morphological link between the two items. Moreover, the base form can be observed to have extended its collocability to include animate collocates; the diminutive, on the other hand, had not yet undergone such an extension.

5.2. Baroque period

In the Baroque Corpus, garść ‘handful’ (together with the spelling variant garzc) displays a degree of numeralization comparable to the current one (cf. 37.76% in the KorBa vs. 34.40% in the NKJP). However, it does not yet combine with abstract nominals, and most of its quantifier uses instead involve animate collocates (28/37, i.e. 75.68%) (cf. table 4).

Table 4. Garść/garzć N2.gen in the KorBa

| N2-type              | Type of use | Total # (%) |
|----------------------|-------------|-------------|
|                      | Partitive # (%) | Quantifier # (%) | Ambiguous # (%) | # (%) |
| Concrete count       | 5 (5.10%)   | 1 (1.02%)   | 2 (2.04%)      | 8 (8.16%) |
| Concrete non-count   | 48 (48.98%) | 8 (8.16%)   | 3 (3.06%)      | 59 (60.20%) |
| Animate count        | 2 (2.04%)   | 19 (19.39%) | 0 (0%)        | 21 (21.43%) |
| Animate non-count    | 1 (0%)      | 9 (9.18%)   | 0 (0%)        | 10 (10.20%) |
| Abstract count       | 0 (0%)      | 0 (0%)      | 0 (0%)        | 0 (0%) |
| Abstract non-count   | 0 (0%)      | 0 (0%)      | 0 (0%)        | 0 (0%) |
| Total                | 56 (57.14%) | 37 (37.76%) | 5 (5.10%)     | 98 (100%) |

Source: Own work.

Neither does the high frequency of quantifier uses of garstka ‘handful.dim’ (along with the spelling variants garsztka and garztka) in the KorBa diverge
much from its current level of numeralization (cf. 91.30% in the KorBa vs. 88.40% in the NKJP). Moreover, analogously to the base item, the diminutive form predominantly quantifies over animate, chiefly count, nouns (cf. table 5).

Table 5. Garstka N2.gen in the KorBa

| N2-type            | Type of use | Total # (%) |
|--------------------|-------------|-------------|
|                    | Partitive  # (%) | Quantifier # (%) | Ambiguous # (%) |
| Concrete count     | 1 (4.35%) | 0 (0%) | 0 (0%) | 1 (4.35%) |
| Concrete non-count | 1 (4.35%) | 0 (0%) | 0 (0%) | 1 (4.35%) |
| Animate count      | 18 (78.26%) | 0 (0%) | 0 (0%) | 18 (78.26%) |
| Animate non-count  | 1 (4.35%) | 0 (0%) | 0 (0%) | 1 (4.35%) |
| Abstract count     | 0 (0%)   | 0 (0%)   | 0 (0%) | 0 (0%)   |
| Abstract non-count | 0 (0%)   | 0 (0%)   | 0 (0%) | 0 (0%)   |
| Total # (%)        | 1 (4.35%) | 21 (91.30%) | 1 (4.35%) | 23 (100%) |

Source: Own work.

5.3. 19th century

In the Corpus of 19th-Century Polish, garść ‘handful’ does not change its degree of numeralization dramatically, with its partitive uses substantially outnum-

bering the quantifier ones (11/16, i.e. 68.75% vs. 5/16, i.e. 31.25%) (cf. table 6).

Table 6. Garść N2.gen in the KP19

| N2-type            | Type of use | Total # (%) |
|--------------------|-------------|-------------|
|                    | Partitive  # (%) | Quantifier # (%) | Ambiguous # (%) |
| Concrete count     | 3 (18.75%) | 0 (0%) | 0 (0%) | 3 (18.75%) |
| Concrete non-count | 8 (50%)   | 0 (0%) | 0 (0%) | 8 (50%)   |
What deserves special attention here, however, is the first attestation of garść ‘handful’ quantifying over an abstract NP:

(34) Proszę ojca, w tym notesie jest garść faktów, spostrzeżeń, sytuacji. (KP19)

'Dear father, this notebook contains a description of a few facts, observations, and situations.'

Similarly, garstka ‘handful,dim’ had not undergone any radical changes in comparison to its 17th-century distribution (cf. table 7).

Table 7. Garstka N2.gen in the KP19

| N2-type         | Type of use |          |          |          |          |
|-----------------|-------------|----------|----------|----------|----------|
|                 | Partitive   | Quantifier| Ambiguous|          | Total    |
|                 | # (%)       | # (%)    | # (%)    |          | # (%)    |
| Concrete count  | 0 (0%)      | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)   |
| Concrete non-count | 0 (0%)    | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)   |
| Animate count   | 0 (0%)      | 11 (84.62%) | 0 (0%)  | 11 (84.62%) |          |
| Animate non-count | 0 (0%)    | 2 (15.38%) | 0 (0%)  | 2 (15.38%) |          |
| Abstract count  | 0 (0%)      | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)   |
| Abstract non-count | 0 (0%)    | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)   |

Source: Own work.
Yet, in contrast to garść ‘handful’, the diminutive form had not yet been observed to quantify over abstract nominals. Considering the small size of the KP19, however, the results do not permit any strong conclusions. For instance, the absence of any partitive occurrences of garstka ‘handful.dim’ is attributable to the limited representativeness of the data rather than to a complete lack of this type of tokens in actual language use, especially given the fact that in the much larger National Corpus of Polish, the form in question does exhibit a slight proportion of such occurrences (21/250, i.e. 8.40%).

5.4. Diachronic data: discussion of empirical findings

Three primary conclusions can be drawn from the foregoing diachronic analysis of garść ‘handful’ and garstka ‘handful.dim’. First, both elements have displayed a relatively stable degree of numeralization, operationalized as proportionate frequency of use in the quantifying function, since the Baroque period. Second, even though the earliest quantifier attestations of the diminutive garstka ‘handful.dim’ can be traced back to Old Polish and, at least since the 17th century, the form has invariably exhibited a conspicuously higher percentage of quantifier attestations than has garść ‘handful’, which accords with the assumed hypothesis regarding the role of diminutivization, it is the latter that was the first to extend its collocational scope to animate and then to abstract nouns. Third, despite the fact that up to the 19th century, both garść ‘handful’ and garstka ‘handful.dim’, when functioning as vague quantifiers, typically combined with animate collocates, the former, as demonstrated in section 4 based on data from present-day Polish, has changed its distribution in a rather unexpected fashion.

Thus, the diachronic evidence further substantiates the claim advanced in 4.3, namely that the semantic relation between the two forms under discussion may have weakened by now: over the course of the last century, the diminutive variant seems to have gained a certain level of independence from its derivational source and reinforced its function as one which consists in quantifying over animates, while the base form itself, in its relatively infrequent quantifier uses, currently reveals a propensity to co-occur with abstract collocates. In the long run, two scenarios, therefore, appear plausible: one is that garść ‘handful’ will become specialized as a quantifier of abstract nominals and garstka ‘handful.dim’ will further crystalize its function as a quantifier of animate nouns,
whereas according to the other, the latter element will completely take over the
task of vague quantification in relation to all types of NPs, leaving the former
with its basic partitive meaning.

Finally, as mentioned in section 3, both English *handful* and Swedish *hand-
full* ‘handful’, just like Polish *garść* ‘handful’ and *garska* ‘handful.dim’, show
a tenacious predilection for count, notably animate, collocates in their quanti-
fier occurrences (cf. Herda 2020). Yet, the penchant of *handful*-quantifiers for
count nouns, including animate ones, does not permit any obvious elucidation
grounded in their original semantics, which suggests that their numeralization
may have been prompted by language contact. I will, nonetheless, leave this
problem open for future research.

6. Conclusion

The results of the corpus-based study of *garść* ‘handful’ and *garska* ‘handful.
dim’ indicate that diminutivization further intensifies the scalar meaning of
a paucal quantifier, as evidenced by a substantially higher percentage of the
latter form’s quantifier attestations from the 17th century on. In addition to
having undergone a greater extent of numeralization, *garska* ‘handful.dim’, as
against *garść* ‘handful’, currently shows an overarching preference for animate
(human) N2-collocates, which implies that the application of diminutive mor-
phology to a vague quantifier may not only enhance its expressivity, but also
lead to considerable changes in its distributional profile. Incidentally, it has
been noted that items equivalent to Polish *garść* ‘handful’ in English and Swed-
ish likewise exhibit a propensity to quantify over count, notably animate, col-
locates. Thus, future research on the topic should, first of all, include a greater
number of diminutivized paucal quantifiers, which would enable the determi-
nation of whether or not the phenomena observed in this study are peculiar
to the pair *garść* ‘handful’ and *garska* ‘handful.dim’, and, in addition, involve
a cross-linguistic diachronic study whose aim would be to establish whether
language contact played a role in the emergence of such quantifiers.

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