DEFINITE NUMERALS IN PUREPECHA

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▪ ABSTRACT: In Purepecha (language isolate spoken in the state of Michoacán, central western Mexico), numeral expressions can bear a final marker *-perani*. This suffix has been described as a collective and as a distributive marker. In this paper I show that numeral phrases with *-perani* have the semantics of a definite noun phrase, in the sense that they can only be used when the cardinality expressed by the numeral matches exactly the total cardinality of the set denoted by the noun in the context of use. Furthermore, numeral phrases with *-perani* can have anaphoric uses and cannot introduce new referents in discourse. The existence of an explicit marker of definiteness in numerals contrasts with its complete absence in simple noun phrases: Purepecha is well known as a language without definite articles. Lastly, the syntactic distribution of numerals with *-perani* does not exactly match the distribution of numerals with definite articles in European languages. Numerals with *-perani* may co-occur with demonstratives and may not appear as the restriction of a partitive construction. I also show that simple numerals (that is, without *-perani*) can have indefinite or partitive interpretations, and do not receive definite readings.

▪ KEYWORDS: Numerals. Definiteness. Maximality. Purepecha. Semantics.

Introduction

Purepecha[1] (ISO 639: tsz) does not have a definite article or a marker of simple definiteness (LYONS, 1999). In order to refer to an entity that has previously been introduced in discourse, this language resorts to bare noun phrases (i.e., noun phrases without a determiner) (VILLAVICENCIO, 1996). Bare noun phrases may also be used to refer to an entity which has not been explicitly mentioned before, but which can be identified in the utterance context by being the only one that satisfies the descriptive content of the noun. These two properties, known in the literature as *familiarity* and

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Purepecha has no genetic affiliation with any other languages. In 2015, INEGI (National Institute for Statistics, Geography, and Computing) registered 141,177 speakers of purépecha who are three years of age or older (LENGUAS…, 2015). As we know, bare numbers are not sufficient criteria to establish the degree of endangerment faced by a language. All indigenous languages in Mexico are in a disadvantageous situation with respect to Spanish, despite recent State policies aimed to protect them.

uniqueness/maximality, respectively, are considered the main characteristics of simple definite noun phrases.[1]

Western European languages usually express simple definiteness by means of definite articles. Other languages mark definiteness by clitics, affixes or changes in constituent order (DRYER, 2013). Lastly, there are also languages that do not encode definiteness explicitly, but which express it in determinerless noun phrases –this is the case in Hindi, Russian (DAYAL, 2012) and Purepecha. In this paper I argue that, while definite noun phrases in Purepecha do not bear an overt marker, noun phrases with numerals do: the suffix *-perani* in the numeral word explicitly marks the corresponding noun phrase as definite.[2,3]

Definiteness markers are usually adjacent to the noun, and for this reason we may conclude –perhaps prematurely– that Purepecha does not have any. However, definite numerals in Purepecha suggest that, at least in some languages, definiteness markers surface only in projections higher than the noun itself. This would support the idea that definiteness is subject to crosslinguistic variation, not only with respect to its semantic make-up (ARKOH; MATTHEWSON, 2012; BARLEW, 2014; SCHWARZ, 2013), but also with respect to the functional projection in which it is expressed. Another interesting feature of definite numerals is that, while the historic and compositional source of definiteness markers is usually found in demonstratives –at least in the case of definite articles (DE MULDER; CARLIER, 2011; DRYER, 2013), this is clearly not the case for Purepecha definite numerals. The suffix *-perani* therefore, opens up

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[1] Demonstrative descriptions, pronouns and possessive descriptions are also considered "definite" in the sense that the entities they refer to are highly specific and identifiable. I agree with Wolter (2006) in that these types of definite noun phrase may be associated with the uniqueness/maximality property described above. However, they also contribute an additional "semantic ingredient" (like deixis, or relational-possessive character), that crucially distinguishes them from what we call *simple* definite descriptions (LYONS, 1999). Another difference between simple definite descriptions and other types of definite noun phrases is that, in some languages, the former may lack an overt marker, while there are no known languages where demonstrative or possessive meanings are expressed by bare nouns with no marking.

[2] Although for brevity I refer to it as a suffix, it is more appropriate to call it a "suffixal complex" because, evidently, *-perani* is not a simple morpheme. The ending *-ni* is highly productive in Purepecha, and it is not possible to know for certain when we are dealing with diverse functions of a single suffix and when we are presented with homophonous morphemes. There is, for instance, an "infinitive" *-ni*, which attaches to verbal stems, and another *-ni* that, attached to noun phrases, marks objective case. These two *-ni* are very likely just homophones. Numerals with distributive markers also end in *-ni*: *t'á-echa-ni* 'in fours', *tsimá-nta-ni*, 'in twos' In these endings one can recognize the plural marker *-echa*, which allows us to segment *-ni* as a separate morpheme (VÁZQUEZ ROJAS, 2013). In the marker that we are describing here, it is possible to segment the suffix *-pera*, which is possibly the same one that can be found in verb stems expressing reciprocal meaning. This is merely a hypothesis that requires further confirmation. It is hard to assign a gloss to the element *-ni* of distributive and definite numerals, among other reasons, because these numeral markers never occur without *-ni*. For this reason, I opt to treat the whole sequence *-perani* as a single, indivisible marker.

[3] The form of the whole suffixal complex is subject to dialectal variation. In the variety of Carapan (Gorge of Eleven Towns), the form is the one I adopted in this paper. In Puacuaro (Lake variety), its form is *-perarani*: this way, what in Carapan surfaces as *t'aperani*, in Puácuaro it is realized as *t'aperarani*, 'the four'. Monzón (1997, p. 59), describing the Highlands variety of Angahuan, talks about a suffix *-paani*, with a form and distribution similar to *-perani*, and which might be its cognate. There is also allomorphic variation among numeral stems: *-perani* is realized as *-rani* when attached to the stem *tsima-* 'two', and as *-perani* in the rest of the number words. I have not been able to confirm if this is due to a semantic requirement imposed by *-pe* or if it is a simple allomorphy arbitrarily conditioned by the stem. Lastly, the numeral *ma* 'one' is incompatible with the suffix: **marani*, **maperani*. This fact is interesting, but its explanation is outside the scope of this paper.

more possibilities regarding the categories associated to definiteness, and calls into question the assumption of looking for them exclusively in the vicinity of the noun.

Definiteness markers in numerals are by no means exclusive of Purepecha. Morales Lara (2006, p. 29) reports having found them, at least, in three Mesoamerican languages: in Pocomam (SMITH-STARK, 1983 apud MORALES LARA, 2006) and in two Zapotec languages: Isthmus Zapotec (PICKETT; BLACK; MARCIAL CERQUEDA, 2001) and Zoogocho Zapotec (LONG; CRUZ, 2000).[4] For what one can see in the very brief data cited by Morales Lara, the suffix *-a:l* that marks definiteness in Pocomam numerals is formally distinct from what seems to be the definite determiner in that language. In Isthmus Zapotec, definite numerals are expressed by a derived form similar to that of ordinal numerals (which are expressed by a modification in the final vowel of the numeral stem). Thus, definite numerals are not an idiosyncratic phenomenon in Purepecha, but the subject has been scarcely explored in other languages as well.

This paper is organized as follows: To begin with, I present the previous analyses of numerals ending in *-perani* and the proposals in the literature on how definiteness is expressed in numerals in Purepecha. Following, a methodological section lays out the criteria upon which definite noun phrases are identified. The next section applies these criteria to numerals with and without *-perani*; it is in this section that I come forward with the conclusion that only the numerals with *-perani* receive definite interpretations. The subsequent section argues that *-perani* is not a collectivity marker. In the final section, some distributional differences between numeral phrases with *-perani* and English numeral phrases with a definite article are exposed.

Previous analyses: numerals with *-perani* and definite numerals in Purepecha

Numeral phrases with *-perani* have been briefly mentioned in different texts and grammars but, to date, no one has provided an exhaustive study of their distribution and meaning. Nava (1996, p. 403), without proposing an explicit analysis, translates numerals with *-perani* as expressions involving collectivity, as can be seen in his examples reproduced in (1):[5]:

(1) "*tsimáarhani*, ambos, juntos los dos, *tsimárerani* 'entre/a los dos', [...] *tanípererarani* 'entre/a los tres'".
"*tsimáarhani*, both, the two together, *tsimárerani* 'between/to the two of them', [...] *tanípererarani* 'between/to the three of them'".
(NAVA, 1996, p. 403).

[4] Both references cited by Morales Lara (2006, p. 29)

[5] Abbreviations used: 1 first person; 1/2 first or second person, 3 third person; ACC accusative; ADT temporal additive of a state, ASER assertive; COMP complementizer; DEF definite; DEM demonstrative; DIST distributive; STA stative; EXCL exclusive; FOC focus; HAB habitual; IND indicative; INDEF indefinite; INSTR instrumental; OBJ objective case; PAS past; PERF perfect; PFVE perfective; PL plural; POSTP postposition; PRES present; PROG progressive; REC reciprocal; REFL reflexive; SUB subordinate mood; SUJ subject.

Foster (1969, p. 158) identifies the suffix {pera} as a classifier, to which she assigns the value 'in sets of'. She offers the examples shown in (2) (I present the original transcription):

(2) *ci-ma=**pera**-ni* 'in two's', *ci-ma=**pera**-ra-ni* 'to be in two's'.
(FOSTER, 1969, p. 159).

Even though Foster does not call it a "distributive suffix", the gloss she proposes suggests this interpretation.[6] Both Nava's translation in (1) and Foster's in (2) relate to collectivities or groups of individuals; however, they have different implications: in Nava's translation "together" or "between the N", one can infer that there is a condition that the individuals that constitute the group act jointly in a single event, while from Foster's translation one can infer that the groups named by the numeral with *-pera* are part of a multiplicity of groups with the same cardinality.

Monzón (1997, p.59), describes the Sierra variety of Angahuan. She mentions shortly a suffix *-paani*, which is apparently the correlate of *-perani*. She identifies this suffix with the function of "indicating that the number of participants is higher than one", and reports having found this suffix already in documents of the XVI century. She offers the example reproduced in (3), in which the translation proposed also refers to a group of three individuals acting together as participants of a single event:

(3) ***tanípaani**-mpu=sï* *juánku-t'i* *wakasï-ni*
all.three-INSTR=FOC bring-PERF.PRES.3 COW-ACC
'Between the three they brought the cow.'
(MONZÓN, 1997, p. 59).

de Wolf (1991: 93-94) does not offer an explicit gloss of the morpheme, but in his translations it appears consistently as the equivalent of a numeral with a definite article in Spanish, as one can see in example (4):

(4) *ka juchá siempri niárasï **taníperani***
'Finally the three of us arrived.'
(DE WOLF, 1991, p. 93-94).

Regarding the expression of definiteness in numeral phrases, Nava (1997, p. 17 *apud* VILLAVICENCIO, 2006, p. 76), claims that when a noun combines with a numeral, the nominal plural suffix is optional, but, when it occurs, it contributes a definite meaning to the whole phrase. Chamoreau (2004, p. 7) agrees with this analysis, and asserts that "in quantifying animate entities, the plural marker might be omitted".

[6] The gloss that Foster (1969, p.159) proposes for *-pera* is identical to the one she proposes to the numeral suffix *-nta*, which, as I have argued in Vázquez Rojas (2013), is a true distributive suffix.

She shows the examples in (5) and (6) (I provide an English translation of the original free translation into Spanish, as well as English equivalent for the lexical items. The functional morphemes are glossed and transcribed as in the original; however, it is my choice in these examples as well as the next one to emphasize through the use of bold lettering):

(5) **tsimani** waɽiti-**itʃa** waɽa-ʃa-ti-kʃĩ
two women-PL dance-PROG-ASER.3-3PL
'The two women dance.'

(6) **tsimani** waɽiti waɽa-ʃa-ti- kʃĩ
two women dance-PROG-ASER.3-3PL
'Two women dance.'

(CHAMOREAU, 2004. p. 7)

Chamoreau (2004, p.8) explains that "[…] the absence of [the plural] marker in (6) [(20) in the original] points to the speaker's will to insist on the indefiniteness of the term, while the presence of the marker in (5) [(19) in the original] indicates clearly that the women are definite to the speakers." The same situation is presented when the numeral occurs in its pronominal form, without a noun: "The head of a definite noun phrase (7) [(21) in the original] and indefinite (8) [(23) in the original] might be omitted. In the first case, the plural marker will be present [...], in the second case, it will be absent."

(7) **tsimani-icha** waɽa-ʃa-ti-kʃĩ
two-PL dance-PROG-ASER.3-3PL
'The two of them dance.'

(8) **tsimani** waɽa-ʃa-ti-kʃĩ
two dance-PROG-ASER.3-3PL
'Two of them dance.'

(CHAMOREAU, 2004, p. 8).

In sum, although there is no specialized study about the semantics of numerals with *-perani* or about the co-occurrence of simple numerals with nominal plural markers, in previous descriptions of Purepecha, numerals with *-perani* are considered collectives (NAVA, 1996) or distributives (FOSTER, 1969). They are also translated by other authors as definite numerals (DE WOLF, 1991), but without showing the empirical grounds on which they sustain such an equivalence. Furthermore, the expression of definiteness in adnominal or pronominal numerals is attributed to the presence of the plural marker *-icha* (NAVA, 1996; CHAMOREAU, 2004). No description has explicitly associated the marker *-perani* with the definite interpretation of the numeral

phrase based on its contexts of use. In this paper, I show the semantic arguments that allow us to attribute *-perani* the meaning of definiteness. One consequence of this argument is that "simple" numeral phrases –i.e numeral phrases without *-perani*– only allow indefinite interpretations, and in this respect our results contradict the previous descriptions. What is crucial is that, without *-perani*, numeral phrases cannot refer to the maximal sum of individuals at a given context of use.

Definite noun phrases: criteria for their identification

Simple definite noun phrases (LYONS, 1999) contrast with indefinite noun phrases as well as with other types of noun phrases that are considered definite but which contribute additional semantic contents (like deixis or possession). These contrasts have led to discuss and define the basic semantic characteristic that constitutes simple definiteness. Although there is no agreement in this regard, two main options have been considered. The first one of them is that simple definite noun phrases refer to entities that are known to speaker and addressee. This characteristic –known as *familiarity*– explains why definite noun phrases are not naturally used to introduce new entities in discourse, but, on the contrary, tend to refer to individuals which have already been mentioned. Familiarity is, thus, the property that underlies the anaphoric uses of definite noun phrases (CHRISTOPHERSEN, 1939; HEIM, 1982; KAMP, 1981). If a noun phrase refers to an entity that is already known, it is expected that it will not occur in existential contexts, whose purpose is to assert the existence of an entity and introduce it for the first time. This is why the definite description in (9b) is ungrammatical:

(9) a. There was **a gorgeous desk** at the San Angel market.
b. *There was **the gorgeous desk** at the San Angel market.

Other authors argue that the defining characteristic of definite noun phrases is that their reference is *maximal* (SHARVY, 1980) or *inclusive* (HAWKINS, 1978). That means that a definite noun phrase refers to the total sum of entities that satisfy the descriptive content of the noun. Therefore, the sentence predicate applies to this total sum, which it takes as an argument.[7] When the definite noun phrase is singular, the individual to which it refers must be unique in the context of use (hence the "singular" version of inclusiveness or maximality is known as *uniqueness*). This explains why the singular definite noun phrase in (10) is inadequate:

(10) Context: At the entrance of a furniture store, where many desks are visible from the display, a vendor tries to persuade a potential customer:
Come on in, **the desk** is for sale.

[7] The semantic characterization presented here can be extended to predicative noun phrases too, but I will not consider them here.

The only interpretation for the vendor's utterance in (10) is that he picked an odd way to convey that the totality of desks in his store are on sale, since, with no further contextual specifications, the addressee is unable to locate an object that uniquely satisfies the description *desk* –being there many of them. Now, let us suppose that, exactly in the same context, the vendor uses sentence (11), instead of (10):

(11) Come on in, **the desks** are for sale.

The immediate interpretation that the addressee assigns to an utterance of (11) would be that the totality of the desks in the store are on sale, and he would be right to be upset if, upon entering the store, the vendor revealed that by *the desks* he meant to refer only to two desks in the corner.

As can be seen in example (11) *the desks* refers to the totality of desks in the context (in this particular case, the ones in the store), even though they are not previously known to the hearer. This shows a clear case in which definite reference is not necessarily familiar, but it is, however, maximal or inclusive.

We will assume that these two properties, familiarity and maximality, account for simple definiteness. We do not claim that this choice settles a long theoretical debate, but rather we believe that both properties together convey clear empirical criteria to identify whether a noun phrase is definite, according to its appropriateness (or lack thereof) in particular contexts. This way, when we argue that a certain noun phrase in a language is definite, we base our claim on what speakers judge about its occurrence in the contexts in which simple definite phrases are expected.

Let me now point out a simple remark about recollection of semantic evidence. A noun phrase will not be considered definite (or indefinite) based solely on the fact that its corresponding translation into another language happens to bear a definiteness (or indefiniteness) marker. Rather, we abide by the standard practice in semantic fieldwork of not supporting our analysis on mere translations, but on truth-value judgments as well as acceptability judgments for expressions in proposed contexts (MATTHEWSON, 2004). The idea of definiteness that we have adopted –by which it amounts familiarity and maximality of reference– predicts that definite noun phrases will occur in certain contexts and will be rejected from other contexts (like existential sentences, or those in which the speaker intends to refer only to a partial sum of entities). In order to show that a noun phrase is definite, it must pass both kinds of tests: it must be accepted where it is predicted to be accepted (positive evidence) and it must be rejected from the contexts in which it is predicted to be rejected (negative evidence).[8]

[8] I use "acceptable / unacceptable" as a cover term for various cases in which speakers reject a certain expression or sequence of expressions in particular contexts. In some of these cases, a sentence is rejected for being false. In other cases, the reason is less clear: a sentence might be rejected because some content associated with some of its expressions is not adequate or is not satisfied in the proposed situation. The unacceptability of a sentence in these cases might be due to presupposition failure or to the triggering of unwanted inferences. They can be considered cases of infelicity, but I chose to stick to the deliberately vague adjective "unacceptable". I will use the symbol '#' to signal

Familiarity: distribution in existential contexts

Given that a definite noun phrase already presupposes the existence of a referent that is known to the speaker as well as the hearer, it will not occur as the theme of an existential construction, as we explained above. Our claim that numeral phrases with *-perani* are definite predicts that they will be judged unacceptable in case they occur as arguments of existential predicates. The following examples show that this prediction is indeed correct:[9]

(12) Context: The beginning of a story, in which the characters are being introduced for the first time:
**Jarhástiksï má xanháru taníperani kúchi sapíraticha.*
jarha-s-ti=ksï ma xanharu **tani-perani** kuchi sapirati-echa
be-PFVE-3.IND=3PL INDEF road three-DEF pig small-PL
Lit.: *'One upon a time, there were the three little pigs.'

There is no specialized existential construction in Purepecha. As it happens in many other languages, existence predications are made with verbs that can also be used to predicate locations. The verb *jarhani* may occur as a predicate of the sort "there is an x in y" as well as a locative predication like "an x is in y". In (12), we tried to minimize this potential ambiguity, by specifying the context of use as one in which the intended referent is being introduced for the first time. In an existential context like (12), the numeral phrases with *-perani* are not acceptable, while simple numeral phrases are:

(13) *Jarhástiksï má xanháru tanímu kúchi sapíraticha.*
jarha-s-ti=ksï ma xanharu **tanimu** kuchi sapirati-echa
be-PFVE-3.IND=3PL INDEF road three pig small-PL
'Once upon a time, there were three little pigs.'

Familiarity: anaphoric reference

The familiarity of reference that characterizes definite descriptions allows them to be used in anaphoric references, that is, they can recover entities that have been

those sentences that are unacceptable in the proposed context, while '*' is reserved for sequences that are syntactically ill-formed.

[9] The examples in this text are presented in four lines: the first one is a surface representation based on a practical orthography. The second line is a phonological representation with morphological segmentation. The third line is a morpheme-by-morpheme gloss and the fourth one offers a free translation (or a literal translation, if the example is ungrammatical). The following symbols merit explanation: /rh/ is a retroflex flap [ɽ]; /nh/ is a velar nasal [ŋ]; /ï/, is the high central vowel [ɨ]; /j/ represents an aspiration [h]; and /x/ corresponds to the voiceless alveolar fricative [ʃ].

explicitly mentioned in the preceding stretch of discourse. If numeral phrases with *-perani* are definite, as we claim, then they must be able to make anaphoric reference. Example (14), obtained as the direct translation of a short tale, confirms this prediction:

(14) a. *Jarhástiksï má xanháru tanímu kúchi sapíraticha.*
jarha-s-ti=ksï ma xanharu tanimu kuchi sapirati-echa
be-PFVE-3.IND=3PL INDEF road three pig small-PL
'Once upon a time, there were three little pigs.'

b. *Taníperanksï kútsapíraticha chkári jingóni ánchikwarsïrempti.*
tani-perani=ksï kutsi sapirati-echa chkari jinkoni anchikwari-sïrem-p-ti
three-DEF=3PL pig small-PL wood INSTR work-HAB.PAS-PAS-3IND
'The three pigs were carpenters (worked with wood).'

Simple numeral phrases (without *-perani*), crucially, cannot make anaphoric reference –whether or not they bear a plural marker in the noun– and this discards them as possible definite expressions:[10]

(15) a. *Jarhástiksï má xanháru tanímu kútsapíraticha.*
jarha-s-ti=ksï ma xanharu tanimu kuchi sapirati-echa
be-PFVE-3.IND=3PL INDEF road three pig small-PL
'Once upon a time, there were three little pigs.'

b. *#Tanímuksï kútsapiraticha chkari jingónksï ánchikwarsïrempti*.
tanimu=ksï kutsi sapirati-echa chkari jingoni=ksï anchikwari-sïrem-p-ti
three=3PL.SUJ pig small-PL wood INSTR=3PL.SUJ work-HAB-PAS-3IND
Lit: 'Three little pigs / Three of the little pigs were carpenters.'

In (15b), the simple numeral phrase *tanimu kuchi sapiratiecha* (stripping away the subject agreement clitic, which is not relevant in this discussion) cannot refer back to the total sum of three pigs that was introduced in the existential sentence in (15a). Rather, it can be interpreted in one of the two following ways: (a) as a simple indefinite, in which case it introduces new referents in the discourse (three little pigs), which are different from the ones mentioned before, or (b) as a partitive indefinite, referring to three pigs out of a previously mentioned set in which, crucially, there are more than just three pigs. Both interpretations are inadequate in the context of (15) and therefore, the simple numeral phrase in (15b) results in an infelicitous utterance.

[10] Schwarz (2013, p.539) claims that some languages "divide up the labor" of definiteness in two different markers -which in his data are always articles- in such a way that one of them specializes in anaphoric reference (familiarity), whereas the other one in maximal reference (uniqueness/inclusiveness). He calls the first type "strong definite article" and the second type "weak definite article". In such a case, anaphoric capacity is a sine qua non condition for strong definite articles, but not for weak definite articles.

A definite phrase with an anaphoric interpretation is not always traced back to an antecedent that has exactly the same descriptive content. When this happens, we talk about the anaphoric relation being rather "associative" than direct. In associative anaphora, an entity that has been previously introduced in discourse implies the existence of other entities (e.g., parts of the individual just mentioned, the producer of an object, etc.). The use of a definite noun phrase is, thus, predicted to be adequate in these contexts, but not that of a demonstrative (HIMMELMANN, 1996, p. 210; HAWKINS, 1978, p. 149). Therefore, when there is doubt as to whether a given expression is a marker of simple definiteness or if it is a demonstrative, the possibility of making associative anaphora is considered an indicator of simple definiteness. Although there is no doubt that numerals with *-perani* are not demonstratives, it is worth noting that they are perfectly capable of occurring in contexts of associative anaphora:[11]

(16) *Intsîkuarestitsïni ma bisikléta, peruksï tsimárani wirhípitarakuecha p'orhóntusti.*
Intsikuare-s-ø-ti=tsïni ma bisikleta, peru=ksï
give-PFVE-PRES-3IND=1.OBJ INDEF bicycle but=3PL.SUJ

tsima-rani **wirhipitarakwa-echa** p'orhontus-ø-ti
two-DEF tire-PL pierce-PFVE-PRES-3IND
'They gave me a bicycle, but the two tires are flat'

(17) *Xanháru jimbó xekurhintaska ma waxántskua, peruksï nu sesi jarhasti t'aperani jukántukuecha.*
Xanharu jimpo xe-kurhi-nt'a-s-ø-ka ma waxantskwa,
road POSTP see-REFL-ADT-PFVE-PRES-1/2.IND INDEF chair

peru=ksï no sesi jarha-s-ø-ti **t'a-perani** **jukantukwa-echa**.
but=3PL.SUJ no well be-PFVE-PRES.3.IND four.IND leg-PL
'I found this chair on the street, but the four legs are broken.'

Summing up, in this section I presented three empirical pieces of evidence that allow us to confirm that numeral phrases with *-perani* refer to entities which are familiar

[11] The examples of associative anaphora presented here correspond to relations between a part ('two tires', 'four legs') and a whole, which is the entity previously introduced ('bicycle', 'chair'). Part-whole associative anaphors are considered among the ones that would pick as a marker the "weak" definite article, shall the language present a distinction between two definiteness markers (see fn.6). Associative anaphora based on a producer-product relationship (of the kind *I read a novel. The author is Greek)* would be expressed by the "strong" article (SCHWARZ, 2013, p. 543). Nothing hinders simple numerals and other indefinite noun phrases from occurring in such contexts, and for this reason associative anaphora is not a useful diagnostic to distinguish definite from indefinite reference. As I mentioned, it is only used to discern between simple definite descriptions and demonstrative descriptions (HIMMELMANN, 1996), and, in the relevant cases, between "weak" and "strong" definite articles (SCHWARZ, 2013). In Purepecha, none of these latter oppositions is at play in the analysis of *-perani*, but I provide the example in order to show that numerals with this suffix have the expected behavior of a regular, simple definite noun phrase.

to the speaker as well as the hearer: (i) they cannot occur in existential constructions in which an entity is mentioned for the first time to the hearer; (ii) they can establish direct anaphoric relations; (iii) they can establish associative anaphoric relations. Next, I will show that, besides fulfilling the semantic requirement of familiarity, numeral phrases with *-perani* also make maximal reference, another unequivocal indicator of simple definiteness.

Maximality

A definite noun phrase can refer to entities that have not been mentioned previously, but which are present in the situation that surrounds the speech act (HAWKINS, 1978). In such cases, a necessary condition for the use of a definite noun phrase is that the entity referred to corresponds to the total or *maximal* sum of entities that satisfy the description denoted by the noun (see example 18). This condition must be fulfilled also when the reference is anaphoric (familiar), and for this reason some scholars propose that it is *maximality*, and not *familiarity*, which accounts for the proper meaning of definite descriptions (KADMON, 1990). The following example, adapted from Gillon (2015, p. 187) shows this condition clearly:

(18) I saw a caribou and six bears. I killed the bears, #but one of them escaped.

In the second sentence in the sequence in (18), the noun phrase *the bears* refers to the total sum of six bears that were mentioned in the preceding sentence. The interpretation is, thus, anaphoric. But one can see that the reference is also maximal, because continuing the sentence *I killed the bears* with *but one of them escaped* is infelicitous, since it had already been stated that the totality of six bears had been killed.

In English, we know in advance that *the bears* is a definite noun phrase, and example (18) confirms that its reference is, as expected, maximal. But, what happens when we must describe the semantics of an expression about which we do not know whether it makes definite reference or not? The reasoning is: if it is capable of making *non-maximal* reference (i.e., if it can be used in a context in which its reference does not comprise all the entities that fulfill the property described by the noun), then it will not be definite. Maximality is a *sine qua non* condition for simple definiteness.

The following examples show that numerals with *-perani* make maximal reference and that they are not acceptable in contexts in which the referent is not maximal. The evidence in this respect is, thus, negative: the speaker judges as unacceptable the phrases with *-perani* in which the cardinality of the (purported) antecedent is higher than the one expressed by the numeral stem. In (19a), a set of three little pigs is introduced in discourse for the first time. In (19b), this same set is recovered in its totality by the numeral *taniperani*. In (19c) the numeral *tsimarani* is intended to refer to a subset of the three little pigs introduced in (19a), but this is judged unacceptable. The reason is that *tsimarani kuchi sapiratiecha* 'the two little pigs' directs its reference to a total

sum of two pigs, while the cardinality of the intended antecedent is larger than two (it contains three elements). There is, thus, no *maximal* sum of two elements in the context.

(19) a. *Jarhástiksï má xanháru tanímu kúchi sapíraticha.*
jarha-s-ø-ti=ksï ma xanharu tanimu kuchi sapirati-echa
be-PFVE-PRES-3.IND=3PL INDEF road three pig small-PL
'Once upon a time, there were three little pigs.'

b. *Taníperanksï kútsapíraticha chkári jingóni ánchikwarsïrempti.*
tani-perani=ksï kuchi sapirati-echa chkari jinkoni anchikwari-sïrem-p-ti
three-DEF=3PL pig small-PL wood INSTR work-HAB.PAS-PAS-3IND
'The three little pigs were carpenters.'

c. *#Tsimáranksï kútsapíraticha chkári jingóni ánchikwarsïrempti.*
tsima-rani=ksï kuchi sapirati-echa chkari jinkoni anchikwari-sïrem-p-ti
two-DEF=3PL pig small-PL wood INSTR work-HAB.PAS-PAS-3IND
Intended reading: 'Two (of the) pigs were carpenters.'

The following example shows a similar case; however, in this particular situation, the individuals have not been verbally introduced in discourse: they are in the sight of the speaker, who had been presented with the visual situation in Figure 1:

Figure 1 – Situation A

Source: Bruening (2012).

(20) *Yúperanksï nanáksapicha waxákatixati*
yu-perani=ksï nanaka sapi-echa waxaka-ti-xa-ti
five-DEF=3PL.SUJ girl small-PL sit-STA-PROG-3IND
'The five girls are sitting.'
FALSE in Situation A

(21) *#T'áperanksï nanáksapicha waxákatixati*
t'a-perani=ksï nanaka sapi-echa waxaka-ti-xa-ti
four-DEF=3PL.SUJ girl small-PL sit-STA-DUR-3IND
'The four girls are sitting.'
Consultant's comment: "No, because you are not counting one of them" (Proposes (22) instead).

(22) *Jarhásti yúmu nanáksapicha, ka t'ámuksï waxákatixati*
jarha-s-ti=ksï yumu nanaka sapi-echa[12]
be-PFVE-3IND=3PL.SUJ five girl small-PL

ka t'amu=ksï waxaka-ti-xa-ti
CONJ four=3PL.SUJ sit-STA-DUR-3IND
'There are five girls and four of them are sitting.'
Consultant's comment: "That's how you would say it".

Sentence (20) with *yuperani*, is judged to be false, because it targets the maximal sum of girls (i.e. the five girls in the picture), and it is not the case that they are all sitting. However, the four girls who are sitting cannot be referred to by using the numeral 'four' with *-perani*, as intended in (21) According to the speaker's comment, this would be like not taking into account one of the girls, which is consistent with the requisite that the numeral with *-perani* refers to the totality of entities that are girls in that situation. One acceptable –and truthful– way of describing the situation depicted in Figure 1 is by means of sentence (22), in which both numerals are indefinite: the first one (*yumu* 'five') occurs in an existential context, asserting the existence of five girls. The second one, *t'amu* 'four', makes reference to a subset of the previously introduced set of five girls, thus making partial anaphoric reference. None of these functions are characteristic of definite phrases, and for this reason we know that *yumu* and *t'amu* are indefinite numerals.

Another way of testing if a noun phrase must make maximal reference is submitting it to the consistency test (LÖBNER, 1985). When a noun phrase can refer to different subsets of a set in a single context, it is a suitable argument for contradictory predicates, because in each occurrence it will refer to a different entity or sum of entities. This can be seen in an indefinite noun phrase in English, like *three little pigs are lazy and three little pigs are hard-working.* Given that each of the coordinated sentences may refer to a different (sub)set of pigs, the coordination is not a contradiction. Now: for each set there is only one maximal (sub)set, (i.e., only

[12] Simple numerals in Purepecha can be segmented into a root, which occurs in all derived forms (definite, distributive and locative-distributive) and an ending *mu*. As it will become clear in the next section, numerals ending in *-mu* have an indefinite interpretation. In a previous work I glossed this morpheme as a sum-operator, but for the purposes and scope of the present paper, this gloss is not relevant. What must be kept in mind is that numerals ending in *-mu* cannot receive definite readings.

one subset can correspond to the totality of entities in a particular context of use). Therefore, a definite noun phrase cannot refer in each of its occurrences to different subsets or entities, and, as a consequence, definite noun phrases with contradictory predicates yield a contradiction. The coordination *#The three little pigs are lazy and the three little pigs are hard-working* is a contradiction because, unlike *three little pigs*, the definite numeral phrase *the three little pigs* cannot refer to different sets in each occurrence. Numeral phrases with *-perani* pass this test: sentence (23a) is a contradiction, while (23b), with a simple numeral, is not:

(23) a. *#Tsimáranksï takúkukataecha jimbánisti ka tsimaranksï takúkukataecha takúsïsti*
tsima-rani=ksï takukukata-echa jimpani-s-ti ka
two-DEF=3PL.SUJ notebook-PL new-PFVE-3IND CONJ

tsima-rani=ksï takukukata-echa takusï-s-ti
two-DEF=3PL.SUJ notebook-PL old-PFVE-3IND
#'The two notebooks are new and the two notebooks are old' (CONTRADICTION)

b. *Tsimánksï takúkukataecha jimbánisti ka tsimaranksï takúkukataecha takúsïsti*
tsima-ni=ksï takukukata-echa jimpani-s-ti ka
two-*ni*=3PL.SUJ notebook-PL new-PFVE-3IND CONJ

tsima-ni=ksï takukukata-echa takusï-s-ti
two-*ni*=3PL.SUJ notebook-PL old-PFVE-3IND
'Two notebooks are new and two notebooks are old.'

Summing up, I have shown that numeral phrases with *-perani* fulfill the empirical characteristics expected of definite noun phrases: (a) they can make anaphoric reference; (b) they are not acceptable in existential contexts; (c) they can refer to the maximal sum of entities described by the noun; (d) they yield a contradiction if they appear as argument of contradictory predicates. The entities that these phrases refer to may have been introduced previously in discourse or be physically present in the speech situation. The pattern of semantic judgments they trigger corresponds exactly to the one that characterizes definite noun phrases (GILLON, 2015; ARKOH; MATTHEWSON, 2012; HAWKINS, 1978) among others.

“Simple” numerals are always indefinite

When the numeral word does not have the ending *-perani*, but instead occurs in its simple form, the noun phrase in which it appears has only an indefinite interpretation[13], in the sense that, either it introduces new entities in the discourse, or it refers back to elements of a previously known set, but without covering the totality of it.

A simple numeral phrase in Purepecha can appear in an existential context, introducing a new set or sum of entities in the discourse, as in (24):

(24) *Jarhástiksï má xanháru tanímu kúchi sapíraticha.*
jarha-s-ti=ksï ma xanharu tanimu kuchi sapirati-echa
be-PFVE-3.IND=3PL INDEF road three pig small-PL
‘Once upon a time, there were three little pigs.’

It can also make reference to parts or sub-sets of sets that have been previously introduced; that is, they can have *partitive* interpretations. Thus, sentence (24) admits a continuation like the one in (25):

(25) *Tsimánksï kútsapíraticha chkári jingóni ánchikwarsïrempti*
tsimani=ksï kuchi sapirati-echa chkari jinkoni anchikwari-sïrem-p-ti
two=3PL pig small-PL wood INSTR work-HAB.PAS-PAS-3IND
‘Two (of the) little pigs were carpenters.’

If reference to a subset or a part of a previously known set is not available, then simple numeral phrases unequivocally introduce new referents. In (26a), a set of three pigs is presented. In (26b), given that the cardinality of the numeral matches the totality of the previously mentioned set, the partitive interpretation is not possible. The numeral phrase *tanimu kuchii sapiraticha*, ‘three little pigs’, cannot recover the totality of the previously mentioned referent, because, crucially, this kind of numeral cannot have direct anaphoric interpretations. The only option is that it refers to a new set of little pigs, and this explains the infelicity of (26b) as a continuation for (26a):

(26) a. *Jarhástiksï má xanháru tanímu kúchi sapíraticha.*
jarha-s-ø-ti=ksï ma xanharu tanimu kuchi sapirati-echa
be-PFVE-PRES-3.IND=3PL INDEF road three pig small-PL
‘Once upon a time, there were three little pigs’

[13] The numerals I call “simple” are not morphologically simple, since they can be segmented into a root, which expresses cardinality, and an ending *-mu* in numerals ‘three’ to’six’ (the rest are compound), or *-ni* in numerals ‘two’ and ‘ten’. The numeral *ma* ‘one’ is morphologically simple and is not compatible with the definite derivation, as we said before.

b. *#Tanímuksï kútsapiraticha chkari jingónksï ánchikwarsïremti*.
tanimu=ksï kuchii sapirati-icha chkari jinkoni=ksï
three=3PL.SUJ pig small-PL wood INSTR=3PL.SUJ

anchikwari-sïrem-ti
work-HAB.PAS-3IND
Lit. Trans. #'Three little pigs / three of the little pigs were carpenters'.

In sum, simple numeral phrases in Purepecha may introduce new entities in discourse (or sets of new entities) with the cardinality described by the numeral stem; or they can have a partitive interpretation, in which case they refer to a sub-set of a previously known set of entities. Unlike English, in Purepecha there is no explicit partitive construction of the form *three of the N*.

Plural marking in the noun that accompanies a simple numeral is obligatory for some nouns (like animates and other count-nouns) and optional in others (mostly inanimate, non-count or number-neutral). Contrary to what has been described before (NAVA, 1996; CHAMOREAU, 2004), in our data, the presence of a plural marker in the noun combined with a numeral does not result in definite reference. It is likely that obligatory plural inflection in the noun is also subject to dialectal variation. Meanwhile, I will not address this point. It will suffice to say that indefinite interpretations (both novel and partitive) in a simple numeral phrase are available independently of the presence of a plural marker in the noun. Crucially, simple numeral phrases cannot make maximal reference, that is, they do not comply with one of the main conditions of definiteness and therefore, they cannot be interpreted as definite at all.

The collective interpretation

Nava (1996, p. 403) describes numerals with *-perani* as collectives. In my analysis, I have been able to confirm that, even though these numerals might have collective readings, these are not obligatory, therefore I conclude that collectivity is not a necessary ingredient of their core semantics. If a numeral necessarily has a collective interpretation, the noun phrase in which it occurs must provide a multiple participant for what must be interpreted as a single event. For instance, predicates like 'pile up' or 'gather' are collective predicates, since they require a multiple participant which acts as a unit in a single event. In *The demonstrators gathered at the main square*, a single event is described with a multiple subject (the demonstrators), each one of whose parts (i.e., each individual demonstrator) act together with each other as a single participant of a gathering event. In Purepecha, numerals with *-perani* can certainly occur in this type of context:

(27) *T'áperanksï takúkukataecha kuchajperatixatiksï*

t'a-perani=ksï takukukata-echa kucha-p'era-ti-xa-ti=ksï
four-DEF-3PL.SUJ notebook-PL pile.up-REC-STA-PROG-3-IND=3PL.SUJ
'The four books are stacked on top of each other'

(28) *Jimájkuechaksï waxákasti taníperanksï nanáksapiratiecha*
jima-k'u-echa=ksï waxáka-s-ti **tani-perani**=ksï nanaka sapirati-echa
there-EXCL-PL=3PL.SUJ sit-PFVE-3IND three-DEF=3PL.SUJ girl small-PL
'The four girls sat together there.'

(29) *Tsimáranksï warhíticha tarhátaxati kájaechani.*
tsima-rani=ksï warhiti-echa tarhata-xa-ø-ti kaja-echa-ni
two-DEF=3PL.SUJ woman-PL carry-PROGR-PRES-3IND box-PL-OBJ
'The two women (together) are carrrying the boxes'

Although it is true that, as Nava (1996) points out, numeral phrases with *-perani* can receive collective readings –exemplified in (27)-(29) –, this interpretation is not obligatory. In examples (30) and (31), numeral phrases with *-perani* occur with strictly distributive predicates –hence, in such cases a collective reading is impossible:

(30) *Tsimáranksï yurhítskiriecha engaksï úntaka kwínchikwa piástiksï t'áchanisï khatákata charanda.*
tsima-rani=ksï yurhitskiri-echa enka=ksï unta-ka kwinchikwa
two-DEF=3PL.SUJ young.woman-PL COMP=3PL.SUJ make-SUB party

pia-s-ti=ksï t'a-echani=isï khatakata charanta
buy-PFVE-3.IND=3PL.SUJ four-DIST=so box charanda
'The two young ladies who organized the party bought four boxes of liquour each.'

(31) *Taníperanksï tsïkiátaechaksï khwetsápisti tsimándan kilu.*
taní-perani=ksï tsïkiata-echa=ksï kw'etsapi-s-ti tsima-ntani kilu
three-DEF=3PL.SUJ basket-PL=3PL.SUJ weigh-PFVE-3IND two-DIST kilo
'The three baskets weigh two kilos each'.

It is apparent from these examples that neither the set of girls who organized the party in (30), nor the set of boxes in (31) are participants of a single event, because the numeral marked with the distributive suffix requires that each individual of the set denoted by the subject be considered separately in different events. This way, (30) involves two events of 'buying two boxes of liquour', and (31) involves two events of 'weighing two kilos'. If the meaning of *-perani* was to contribute collectivity, these readings would not be at all possible. In sum, collective readings with *-perani* are possible, but not necessary, and therefore, we can discard collectivity as the basic meaning of the suffix.

Definite numerals in Purepecha and definite numerals in languages with articles

So far, the distribution and interpretation of numeral phrases with *-perani* resembles what in English would consist of a numeral phrase with a definite article, either as a description ('the three N') or as a pronoun ('the three of them'). We must keep in mind that Purepecha does not have a definite article, and simple definiteness in this language is expressed in bare noun phrases, as has been already shown by Villavicencio (1996). For the lack of a definite article, definiteness in numeral phrases is marked with the suffix *-perani*. In Spanish –and other languages– the definite article cannot co-occur with the numeral 'one' (**El un cochinito* 'The one little pig'). Likewise, in Purepecha the *-perani* ending cannot attach to numeral *ma* 'one' (**maperani, *marani*). The functions that would be fulfilled by a definite numeral 'one' are realized by the bare noun instead:

(32) *Context*: There is a small glass and a large glass on the table.
a. *Chuchundi kheri jánharisti*.
chuchunti k'eri janhari-s-ti
glass big dirty-PFVE-3.IND
'The large glass is dirty.'

b. **maperani / *márani chuchundi kheri jánharisti*.
ma-perani / ma-rani chuchunti k'eri janhari-s-ti
one-DEF / one-DEF glass big dirty-PFVE-3.IND

One important difference between definite numeral phrases in English and numeral phrases with *-perani* in Purepecha is that, while in English the presence of a definite article precludes the occurrence of a demonstrative in the same noun phrase (**These the two cups*), in Purepecha, numeral phrases with *-perani* may be introduced by a demonstrative, as in (33). In such cases, both the numeral with *-perani* and the simple numeral are acceptable, without there being a perceptible change in meaning:

(33) *Arhíksï tsimáni / tsimárani chuchúndicha noksï jánharisti*,
arhi=ksï tsimani / tsima-rani chuchundi-echa no=ksï janhari-s-ti
DEM=3PL.SUJ two / two-DEF glass-PL no=3PL.SUJ dirty-PFVO-3IND

ka arhíksï máteru tsimani / tsimárani chuchúndiecha jánharisti.
ka arhi=ksï ma-teru tsimani / tsima-rani chuchundiecha janhari-s-ti
CONJ DEM=3PL.SUJ INDEF-other two /two-DEF glass-PL dirty-PFVO-3IND
'These two glasses are not dirty, and these other two glasses are dirty.'

Another contrast between Purepecha and English definite numerals is that, while the latter may occur in the restriction of an overt partitive construction, the definite numerals of Purepecha cannot do so. Thus, the way to express the equivalent of (34)

in Purepecha is not (35). The idea that the totality of cups consists of four units must be conveyed by a construction like (36) or (37):

(34) **Three of the four glasses** are blue.

(35) *tanimu=ksï t'a-perani chuchundi-echa chupi-s-ti.
three=3PL.SUJ four-DEF glass-PL blue-PFVE-3.IND
Intended reading: 'Three of the four cups are blue.'

(36) *Inde t'áperani wératini, tanímuksï chúpisti, ka ma xunhápisti*
inte t'a-perani wera-ti-ni, tanimu=ksï chupi-s-ti,
DEM four-DEF exit-STA-INF three=3PL.SUJ blue-PFVE-3IND

ka ma xunhapi-s-ti.
CONJ one green-PFVE-3IND
'From these four, three are blue and one is green.'

(37) *Tanímuksï chuchúndicha chúpisti, ka ma xunhápisti*.
tanimu=ksï chuchundi-echa chupi-s-ø-ti, ka ma xunhapi-s-ti
three=3PL.SUJ glass-PL blue-PFVE-PRES-3IND CONJ one green-PFVO-3IND
'Three (of the four) glasses are blue and one is green.'

One last difference between English and Purepecha definite numerals is that English definite numerals in their pronominal form cannot be predicates (**We are the three / *We are the three of them*). In Purepecha, in contrast, De Wolf (1991) provides the following example:[14]

(38) *Juchá taníperaniska: tátempa ka amámpa ka wáhpa*
Juchá taní-perani-s-ka: tátempa ka amámpa ka wáp'a
we three-DEF-PFVE-1/2.IND father CONJ mother CONJ son
'We are three: the father, the mother and the son.'
(DE WOLF, 1991, p. 24).

In our data, the consultants' comments reveal that the predicative function of *taníperani* (lit. 'the three') is restricted, seemingly on semantic grounds. But we have not been able to determine exactly under which conditions numerals with *-perani* may be used as predicates. For the time being, we merely report the fact and we leave its explanation pending:

[14] The translation is de Wolf's, the interlinear gloss is mine.

(39) a. *Juchá iúperaniska*
jucha yu-perani-s-ka
we five-DEF-PFVE-1/2.IND
'We are five'
Consultant's comment: "[It's ok] If we are, for instance, a basquetbol team, but not if we are five siblings"

b. *Juchá yúmuska eráchicha*.
jucha yumu-s-ka erachi-echa
we five-PFVE-1/2.IND brother-PL
'We are five brothers.'

Conclusions

I have shown that numerals with *-perani* occur in the same contexts in which we would expect a definite description: when the totality of entities that satisfy the nominal description in the context amounts the cardinality expressed by the numeral stem, and when such entities are not new in the context or discourse. I also showed that numeral phrases with *-perani* are rejected in the same environments from which definite descriptions are rejected, for instance, when they introduce entities for the first time or when their reference is not maximal.

Purepecha has no definite articles, and although it seems reasonable to conclude that *-perani* conveys the same meaning of definiteness that in English or Spanish is conveyed by a definite article, it is very clear that the Purepecha suffix *-perani* and the articles of Western European languages have different distributions: numeral phrases with articles do not co-occur with demonstratives (**These the three pigs/ *Estos los tres cochinitos*), while definite numerals with *-perani* do; numeral phrases with definite articles may constitiute the restriction of a partitive quantifier (*Two of the three, Dos de los tres*), while numerals with *-perani* cannot occur in such constructions –in fact, Purepecha does not have an overt partitive construction.

The fact that Purepecha, despite lacking a definite article, has an explicit marker of definiteness in numeral phrases is interesting because usually we look for definiteness markers in strict adjacency to the noun. The results of this investigation show that, if we expand our search field beyond the simple noun phrase, there might appear markers for semantic categories that were not initially thought to be expressed in that particular language. The suffix *-perani* is, thus, a definiteness marker licensed only after an overt expression of cardinality higher than 'one'.

Another remarkable point is that, as it is well known, in several languages definiteness markers are related to demonstratives. This relationship is not only diachronic –there is a well-known grammaticalization pattern that leads from demonstratives to definiteness markers (DE MULDER; CARLIER, 2011)– but also synchronic and compositional:

demonstratives and definite articles share part of their semantic core (WOLTER, 2006), and this "semantic ingredient" is what licenses the historical development of one category into the other and, in some languages, the morphosyntactic derivation of demonstratives on the basis of definite articles.[15] In contrast, the definite suffix *-perani*, undoubtedly derives from some other source, since it bears no formal resemblance with demonstratives in Purepecha. The analysis of its etymology and its synchronic relation to other morphemes of similar form remains pending of further investigation.[16] For the time being, it will suffice to conclude that, according to the analysis put forth in this paper, it is worth thinking that definiteness marking in some languages might go beyond the strict domain of determiners.

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- *RESUMEN: En purépecha (lengua aislada hablada en el estado occidental de Michoacán, México), los numerales pueden presentarse con una marca final -perani. Este sufijo se ha descrito como colectivo y como distributivo. En este trabajo mostraré que las frases numerales con -perani tienen el significado de una frase nominal definida, pues sólo pueden aparecer en contextos en donde la cardinalidad del numeral es idéntica a la cardinalidad total del conjunto denotado por el sustantivo en la situación de uso. Además, las frases con -perani pueden tener usos anafóricos y no pueden emplearse para introducir por primera vez entidades en el discurso. La existencia de una marca explícita de definitud en los numerales contrasta con su total ausencia en las frases nominales sin numeral, pues, como se sabe, el purépecha es una lengua sin artículo definido. Hay algunas características en la distribución de los numerales con -perani que los hacen diferentes a los numerales con artículo definido de las lenguas*

[15] This can be seen in the description of San Mateo del Mar Huave in Herrera Castro (2016), and apparently it is also common in Otomian languages (Hernández-Green p.c. October 2016).

[16] I am thinking, especially, about the reciprocal verbal suffix *-pera*, o *-p'era*.

europeas: los numerales con -perani pueden co-aparecer con demostrativos y no pueden funcionar como la coda de una expresión partitiva. Los numerales simples (sin -perani) pueden recibir interpretaciones indefinidas y partitivas, pero no pueden interpretarse como definidos.

- *PALABRAS CLAVE: Numerales. Definitud. Maximalidad. Purépecha. Semántica.*

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