Sakha Quantificational Particles in Comparative Perspective
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This paper investigates the semantic and syntactic properties of some of the quantificational particles in Sakha. This language possesses a large inventory of particles whose interpretation depends on many factors such as pragmatic context, the kind of linguistic element the particle attaches to, and the polarity and modality of the sentence they appear within. We focus on two groups: those particles which combine with an interrogative pronoun like *ким* 'who,' *туох* 'what' to form indefinite noun phrases, a group which includes *эмэ, эрэ, баҕарар,* and *да~даҕаны* (see also Haspelmath 1997 [2]), and particles which form questions, i.e. *дуу* and *дуо.*

In addition to the large number of distinct particles in Sakha (each of which displays nuances worthy of in-depth analysis), another important aspect is the multifunctionality observed in some of these particles (i.e. *эрэ, да~даҕаны, дуу*). MULTIFUNCTIONALITY refers to the phenomenon where one particle performs more than one syntactic role in a given language (e.g. forming indefinites, marking focus, coordination). Multifunctionality presents a difficult question: when a given word performs numerous different roles, do we characterize these patterns as accidental homophony or as reflective of shared meaning across the roles performed by each particle [8], [5]? While it is difficult to answer a question like this if one restricts oneself to a single language, when we compare the array of uses of multifunctional particles found in distinct languages and find overlap (in part or in total), it is suggestive of anything but accident. At the same time, it is important to balance such cross-linguistic inquiries within the specificity necessary to understand the semantic system of a particular language. The main functions and semantic properties of these Sakha particles are described based on elicitations with native speakers of Vilyuy Sakha, and Sakha's particle system is situated within the growing typological and theoretical literature on the cross-linguistic properties of quantifier particles; in particular, we briefly compare the Sakha particles to Japanese *-mo* and *-ka,* two well studied quantifier particles [3], [4], [5] ,[8], [9].

We begin by exploring the various functions of these Sakha particles. First, consider the distribution of the four Sakha particles which combine with a host interrogative pronoun to form indefinite noun phrases: *эрэ, эмэ, баҕарар,* and *да~даҕаны. Эрэ* forms existentials noun phrases (1).[1] *Эмэ* forms indefinites which translate to English *any, some* in the antecedent of a conditional clause (2a), in *yes-no* questions (2b), and in sentences with a modal like *сөп* 'can' (2c). The meaning of *эмэ*-based indefinites is a non-specific existential. Next, *баҕарар* indefinites have a free-choice interpretation similar to English *any* in the scope of a possibility modal (3). Finally, the particle *да* and its longer form *даҕаны* create indefinites licensed in the scope of negation (4a) and in comparatives (4b).

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1   Glossing: 1,2,3= first, second, third person, ACC= accusative case, AOR=aorist (non-past tense), CMPR=comparative case, COND=conditional mood, CVB=converb, NEG=negation, NOM=nominative, POSS=possessive, PST=past tense, PROSP=prospective, PTCL=particle, Q=question/disjunction particle, SG=singular.

(1)   *Мин   бэҕэhээ   **ними   эрэ**   көрдүм.*

              I   yesterday   who-ACC PTCL   see-PST-1SG

              'I saw somebody yesterday.'

(2) a.   *Дьулус **тугу**   **эмэ** истэринэ,   түүн   утуйбат.*

            Djulus what-ACC PTCL drink-COND-3SG night   sleep-NEG.AOR

            'If Djulus drinks anything, he doesn't sleep at night.'

     b.   ***Ханнык эмэ** сылаас утах баар дуо?*

            which   PTCL warm   drink exist Q

            'Are there any warm drinks available?'

     c.   *Мин сарсын   **тугу**   **эмэ** аабыхпын   сөп.*

            I   tomorrow   what-ACC PTCL read-PROSP-1SG can

            'I can read something (or other) tomorrow.'

(3)   *Мин **тугу**   **баҕарар**   аабыхпын   сөп.*

              I   what-ACC   PTCL   read-PROSP-1SG   can

              'I can read anything whatsoever.'

(4) a.   *Мин бэҕэhээ   **тугу**   **да/даҕаны** аахпатым.*

            I   yesterday   what-ACC   PTCL   read-NEG-PST-1SG

            'I didn't read anything yesterday.'[2]

     b.   *Мин бэҕэhээ **кимнээҕэр да/даҕаны** түргэнник сүүрдүм.*

            I   yesterday who-CMPR   PTCL   quickly   run-PST-1SG

            'I ran faster than anyone yesterday.'

    Next, consider the question particles *дуо* and *дуу*. *Дуо* appears sentence-finally in polar questions (5, 2b), while *дуу* appears at the end of two clauses in alternative *or* questions (6).

(5)   *Студэннарыҥ бэҕэhээ   кэлэ   сылдьыбыттара **дуо?***

            student-POSS-2SG yesterday   come-CVB come-PST-3PL   Q

            'Did your students come over yesterday?'

(6)   *Чэй иhэриҥ   **дуу**   пирожнай   сиириҥ   **дуу?***

            tea   drink-AOR-2SG Q   cookie   eat-AOR-2SG   Q

            'Would you like to drink tea or eat cookies?'

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2   The alternation between *да* and *даҕаны* is interesting: when these particles appear in interrogative-based indefinites like (4), speakers report no preference for one form or the other. With the numeral *биир* 'one,' the reduced form is preferred (e.g. *Мин биир да кинигэни аахпатым.* 'I didn't read even one book'). *Баҕарар* (< *баҕар-* 'to want') in rapid speech is often reduced to *баҕар* (e.g. *ким баҕар ааҕыан сөп* 'anyone can read.') There is also another version of *эмэ* with a final /t/ *эмит* which exists in free variation in the speech of my consultants, e.g. *биирдэ эмит* 'rarely', *ким эмит* 'anyone' (standard Sakha *биирдэ эмэ, ким эмэ*).

The particles *эрэ* and *да~даҕаны* are multifunctional. For *эрэ* and *да~даҕаны*, we observe that these particles can also function as focus markers. *Эрэ* signifies exclusive *only* focus (7a), while *да~даҕаны* signifies counter-expectational scalar additive focus (7b):

(7)   a.   *Дьулус*   *килиэп*   **эрэ**   *сиэбитэ.*
           Djulus   bread   PTCL   eat-PST-3SG
           'Djulus ate only BREAD.'

       b.   *Дьулус*   *килиэп*   **да/даҕаны**   *сиэбитэ.*
           Djulus   bread   PTCL   eat-PST-3SG
           'Djulus even ate BREAD.'

Focus refers to the linguistic conveyance of contrastive information and involves reasoning about contextual alternatives of the sentence in which focus is marked. All types of focus require that the ordinary value (i.e. the meaning of the proposition without focus) is true [1], [6], [8]: both sentences in (7) require that *Дьулус килиэп сиэбитэ* 'Djulus ate bread' is true. Different types of focus particles impose different sorts of requirements for the relationship of the ordinary value to the contextual alternatives. If said in the context of a dinner where several types of food are served (e.g. bread, fish, berries), exclusive *only* focus (with *эрэ* in 7a) imposes the requirement that bread is the only thing among the options which Djulus ate (i.e. he did not eat fish and he did not eat berries). Scalar additive focus (*да~даҕаны* in 7b), as the terminology indicates, has two components: an additive requirement that the ordinary value is not unique among the alternatives (i.e. Djulus ate bread and something else), and a scalarity requirement that the ordinary value is less expected than the other alternatives (i.e. Djulus eating bread is contextually unlikely).

     Another function, observed in *да~даҕаны* and *дуу* is when the particle appears to the right of each alternative in declarative coordination structures. *Да...да* expresses 'both...and' conjunction (8a), while *дуу...дуу* expresses 'either...or' disjunction (8b):

(8)   a.   *Дьулус*   *кофэ*   **да**   *чэй*   **да**   *испитэ.*
           Djulus   coffee   PTCL   tea   PTCL   drink-PST-3SG
           'Djulus drank both coffee and tea.'

       b.   *Дьулус*   *кофэ*   **дуу**   *чэй*   **дуу**   *испитэ.*
           Djulus   coffee   Q   tea   Q   drink-PST-3SG
           'Djulus drank either coffee or tea.'

The difference between *дуу...дуу* declaratives (8b) and interrogatives (6) appears to be related to what type of linguistic element each particle is attaching to: when *дуу* attaches to a noun, it marks declarative disjunction (8b). When it attaches to a clause,

it marks an *or* question (6). Interestingly, this same syntactic pattern is observed in Japanese *-ka*: compare (9a) to (8b), where the particles appear to the right of nouns, and (9b) to (6), where the particles apper to the right of the predicate.

(9)　a.　*Hanako-**ka**　Jiro-**ka**-ga　hashitta.*　　　　　　　　　(Japanese)

　　　　Hanako-Q　　Jiro-Q-NOM　run-PST

　　　　'Either Hanako or Jiro run.'　　　　　　　　　　　　　　　[10, 3]

　　b.　*Hanako-ga　hashitta-**ka**　Jiro-ga　　hashitta-**ka**　oshiete.*

　　　　Hanako-NOM　run.PST-Q　　Jiro-nom　　tell.PST-PTCL　tell

　　　　'Tell me: was it Hanako or Jiro who ran?'　　　　　　　　[10, 3]

　　　　Much of the literature on cross-linguistic patterns in multifunctional particles proceeds by using the Japanese particles *-ka* and *-mo* as a baseline [4], [5], [6], [7], [8], [9], [10]. This is because the Japanese system is well-studied, and because these particles displaywide meanings across narrow grammatical contexts. This work has identified that multifunctional particles that appear in interrogative and declarative disjunction, like Sakha *дуу,* are common. Similarly, particles that participate in negative indefinites, *even* focus, and *both...and* coordination, like Sakha *да~даҕаны* are widespread. Table 1 presents the functions of these Japanese particles beside the Sakha particles examined in this paper.

Table 1: Comparison of Sakha and Japanese particles. *dare* means 'who.'

	Sakha		Japanese
i. *yes-no* question	**дуо**	(2b, 5)	**ka**
ii. *or* question	**дуу...дуу**	(6)	**ka...ka**
iii. declarative *or*	**дуу...дуу**	(8b)	**ka...ka**
iv. someone (or other)	ким **эмэ**	(2)	dare-**ka**
v. someone	ким **эрэ**	(1)	
vi. exclusive focus (*only*)	**эрэ**	(7a)	dake
vii. conjunction	**да...да**	(8a)	**mo...mo**
viii. scalar focus (*even*)	**да/даҕаны**	(7b)	**mo**, de**mo**
ix. anyone (negative)	ким **да/даҕаны**	(4a)	dare-**mo**
x. anyone (free choice)	ким **баҕарар**	(3)	dare-de**mo**

As we see in Table 1, Japanese *-ka* and *-mo* have wider distributions than the Sakha particles: *-ka* maps to Sakha *дуо* (i), *дуу* (ii, iii), *эмэ* (iv), and *эрэ* (v). *Дуу* does not form interrogative-based indefinites (i.e. **ким дуу*). Likewise *-mo* has a wider distribution than the Sakha equivalents, mapping to *да~даҕаны* (vii, viii, ix) and *баҕарар* (x). However, we see that Sakha *эрэ* maps to multiple items in Japanese, i.e.

-*ka* in existential quantifiers (v) and *dake* in *only* focus (vi). As noted by many scholars the cross-linguistic patterns of variation observable in quantifier particles are highly reminiscent of morphological syncretism and allomorphy [8, 161] [5, 9]. On this view, what is intriguing about the two systems in Table 1 is that we *do not* observe a pattern of mixing-and-matching: namely, there are no individual particles in Sakha which can be translated to Japanese as -*ka* in one function and -*mo* in another. Rather, the comparative functions appear to display subset relations.

In conclusion, we have described the distribution of two main groups of Sakha particles: those that form indefinites with interrogatives (i.e. *да~даҕаны, эрэ, эмэ, баҕарар*), and those that build questions (i.e. *дуу, дуо*), and we have examined the multifunctionality observed in *да~ даҕаны, эрэ*, and *дуу*. It has also been proposed that, while these particles present unique arrays of functions, they can nevertheless be situated within broad classes that have been identified in the literature. Sakha's quantificational particles, and their numerous interesting syntactic and syntactic properties, can substantially add to our understanding of the types of variation we can observe in the means of expressing complex semantic relations like quantification, focus, and interrogation in the languages of the world.

List of references

[1]   Chierchia, G. Logic in Grammar: Polarity, Free Choice, and Intervention / G. Chierchia. - Oxford: Oxford University Press. - 468 p.

[2]   Haspelmath, M. Indefinite Pronouns / M. Haspelmath. - Oxford: Clarendon Press, 1997. - 364 p.

[3]   König, E. The Meaning of Focus Particles: A Comparative Perspective / E. König. - London: Routledge, 1991. - 218 p.

[4]   Kratzer, A. Indeterminate Pronouns: The View from Japanese / A. Kratzer, J. Shimoyama // Proceedings of the Third Tokyo Conference on Psycholinguistics / ed. Y. Otsu. - 2002. - Tokyo: Hituzi Syobo. - 34 p.

[5]   Mitrović, M. Superparticles: A Microsemantic Theory, Typology, and History of Logical Atoms / M. Mitrović. - Springer, 2021. - 288 p.

[6]   Rooth, M. A theory of focus interpretation / M. Rooth. - Natural Language Semantics. - 1992. - Vol. 1. - No. 1. - pp. 75-117.

[7]   Shimoyama, J. Indeterminate Phrase Quantification in Japanese / J. Shimoyama. - Natural Language Semantics, 2006. - Vol. 14. - pp. 139-173.

[8]   Szabolcsi, A. What do quantifier particles do? / A. Szabolcsi. - Linguistics and Philosophy. - 2015. - Vol. 38. - pp. 159-204.

[9]   Szabolcsi, A. Two types of quantifier particles: Quantifier-phrase internal vs. heads on the clausal spine / A. Szabolcsi. - Glossa. - 2018. - Vol. 3.- No. 1. - pp. 1-32.

[10]   Uegaki, W. A unified semantics of the Japanese Q-particle *ka* in indefinites, questions and disjunctions / W. Uegaki. - Glossa. - Vol. 3. - No. 1. - pp. 1-45.