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Of fish, boats, and people Expressions of aquamotion in Uralic

1. Introduction: Aquamotion in language

1.1. Aquamotion in linguistic typology

This paper has been inspired by recent studies on the typology of the expressions of aquamotion (swimming, sailing, floating, etc.), especially by the Moscow-based project whose results, drawing on a sample of fifty languages, have appeared on the website <<https://linghub.ru/aquamotion>> and in Majsak & Raxilina (eds.) (2007); for an English-language survey, see also Lander et al. (2012). The edited volume from 2007 included three language-specific chapters dealing with Uralic languages: Finnish (Mustajoki & Protasova 2007), Selkup, Komi, and Udmurt (Vostrikova 2007), and Nganasan (Gusev 2007). Further studies on aquamotion specifically in Uralic are Normanskaja & Krasikova (2009) for Samoyedic languages with the focus on Selkup, Lel'xova (2012) and Solovar (2016) for Khanty as well as Koškareva et al. (2017) covering the Uralic varieties in the Yamal-Nenets autonomous district, i.e., dialects of Tundra and Forest Nenets, Selkup, Khanty, and Komi (Ižma dialect).¹ Our aim is not to present a comprehensive or systematic description of aquamotion verbs in Uralic but rather to comment on the typologies presented so far and to present some additional viewpoints. Our data come mainly from Finnic, Hungarian, and Ob-Ugric.

1. Related questions have been dealt with by Riipinen (2019: verbs of 'gliding' in Finnish).

Aquamotion (movement in a liquid medium)² as a subtype of motion contrasts with “terramotion” (movement on a solid surface) and “aeromotion” (movement in air) (Divjak & Lemmens 2007: 152–153). The expressions for these three domains may overlap or metaphorically bleed into each other (for instance, an airplane can “dive”), and some languages have even more fine-grained divisions of semantic domains. For Uralic, a relevant domain might be “nivimotion”, i.e., moving in the snow; note that snow can be conceptualized as either solid ground or a liquid medium.³

As a nicely delimitable area of lexical typology, comparison between the aquamation systems in different languages raises interesting questions about systematicity, diversity, and universals in the patterns of lexicalization. As so often in linguistic typology, a critical view of previous generalizations based on a wider or deeper look into the data may reveal errors or weaknesses both in the understanding and interpretation of the data and in the conclusions based on such generalizations. This is what we will attempt in this paper.

1.2. Systems and parameters

Majsak & Raxilina (2007) describe the expressions of aquamation with a system which Divjak & Lemmens (2007), in the same volume, have elaborated further. Theoretically, these systems are based on Talmy’s (2000) cognitive-linguistic framework, operating with the parameters Ground (in aquamation, this is the liquid medium), Figure (the being or object which moves), Path, and Manner. Of these, Manner is the least predictable and the most diverse. Different manners of aquamation can be distinguished both lexically and morphosyntactically (cf. Finnish *kala ui mere-ssä* [sea-INE] ‘the fish is swimming in the sea’ vs. *laiva ui mere-llä* [sea-ADE] ‘the ship is sailing/floating [“swimming”] on the sea’).

The starting point in the typology of Majsak & Raxilina is a tripartite division into active swimming of animate beings in water, passive “floating” or “drifting” of typically inanimate beings (a piece of wood in a river, a carrot in the soup), and, as an intermediate zone, the “sailing” of ships or boats, or people in such vessels. The analysis leads to a system of four basic semantic domains: SWIMMING, SAILING, DRIFTING, and FLOATING (see also Lander et al. 2012: 70–72). Divjak & Lemmens (2007: 153) add to this a division into three

2. According to Lander et al. (2012: 68), the term was originally coined by Philippe Bourdin.

3. This is also reflected in how the thickness of the snow is described: cf. German *Der Schnee liegt bereits meterhoch* lit. ‘the snow is already lying a meter high’ vs. Finnish *kahden metrin syvyinen lumi*, Russian *снег глубиной в два метра* ‘snow with a depth of two meters’.

basic types of motion: “translational” (moving from one location to another), “self-contained” (the average or basic location is maintained, for instance: oscillation, vibration, rotation), and “stationary” (lack of motion). Their system (op.cit. 157) comprises seven subtypes of aquamotion.

To the four basic domains and the three basic types of motion, further parameters can be added, such as DIRECTION (e.g., “dive/sink into the water” vs. “rise/emerge from water”) or POSITION in relation to water (under or above the surface). Further relevant domains could be EFFORT (distinguishing active ‘swimming’ from passive ‘floating’ or ‘drifting’, ‘diving’ from ‘sinking’, or ‘rowing’ from ‘sailing’) and CONTROL (distinguishing ‘sailing’ as the activity of sailors from ‘travelling on a ship as a passenger’⁴). Even finer divisions are possible. Finnish has three basic verbs for ‘rowing’: *souta-* ‘row’, *huopaa-* ‘row backwards (the blade of the oar moving bowwards underwater)’, and *melo-* ‘paddle’. Komi distinguishes *kjvt-* ‘swim/float/row downstream’ and *kat-* ‘swim/row upstream’, North Selkup distinguishes, on the one hand, *kūri-* ‘float downstream’, on the other hand, ‘move in a boat’ downstream (*pentji-*) and upstream (*titji-*; Koškareva et al. 2017: 88). Ob-Ugric has specialized preverbs expressing this dimension (e.g., Lozva Mansi *ällä* ‘upstream’ vs. *loŋko* ‘downstream’), or movement from the water to the shore and vice versa (e.g., North Mansi *pāy* ‘from water to shore; away from the fire’ vs. *nāluw* ‘towards the river; from shore to water; towards the fire’).⁵

However, it is important to note that all dimensions and logical options are not consistently applied. For instance, Finnish (like many other European languages) has not lexicalized specific aquamotion verbs for the antonyms of ‘plunge/dive’ and ‘sink’ but uses general motion verbs for ‘rising from the water’. Alternatively, the parameter DIRECTION does not necessarily apply underwater: Finnish *sukeltaa* ‘dive’ can be used for horizontal swimming underwater and also for surfacing from underwater (*sukelsi pintaan* ‘dove/rose to the surface’).

We can also ask whether verbs for the motion of water itself should be included in the lists of aquamotion verbs (as in Divjak & Lemmens 2007: 157; Majsak & Raxilina 2007: 51–53). Conceptually, this lexical conflation can be regarded as a metaphorical extension (see Section 2.4 below). The polysemy ‘swim/flow’, although present in many languages of Europe and Asia,

4. As with the verb *sail* in English, the subject of Swedish *segla* ‘sail’ can also denote a passenger who does not work on a ship or participate in navigation (cf. Koptjevskaja-Tamm & Divjak 2010: 318). In Finnish, *purjehtia* ‘sail’ implies some kind of agency.

5. Note that such preverbs can be combined both with aquamotion and with general motion verbs; the latter express in such combinations movement on water. For more on semantics of these preverbs and generally on orientation systems related to water and fire, see Bíró et al. (2022) and references therein.

seems to be missing from Finnish,⁶ Estonian, and Hungarian as well as Khanty and Mansi; also, if Vostrikova's (2007) account is to be trusted, from Selkup, Komi,⁷ and Udmurt.

Furthermore, 'wading' is a type of aquamotion straddling the borders of nivi- and terramotion. In many Uralic languages, you can 'wade' in a fluid medium but also in snow, at least in Western Uralic languages also in sand, mud, or vegetation. In Hungarian, the verb *gázol* (also transitive) can be used for wading (in water, vegetation, etc.) but also for violent trampling or crushing (for instance, hitting a person with a car), also figuratively (*valakinek a becsületébe gázol* 'insult ("trample into") somebody's honor'; see, e.g., MNyÉSz s.v. *gázol*), whereas in Komi, 'wade' can be lexically conflated with 'swim': the reflex of the ancient 'swim', *uj-*, can denote both.

Languages differ in the complexity of their aquamotion systems, and this is one of the central issues in the abovementioned studies by Majsak & Raxilina (2007) and Lander et al. (2012). Based on the abovementioned system of four basic domains (SWIMMING, SAILING, DRIFTING, FLOATING), they suggest a typology of three grades of "richness". Poor aquamotion systems do not distinguish these four domains (or do it only peripherally); for instance, many Northeast Caucasian languages only use general motion verbs for aquamotion, with the exception of the domain of SWIMMING (Lander et al. 2012: 76–77). Middle systems distinguish between SWIMMING, SAILING, and DRIFTING/FLOATING, but have no further contrasts, whereas rich systems have not only distinct expressions for the basic domains but also additional lexical contrasts which "manifest linguistic diversity rather than any universal or near universal principles of categorization" (Lander et al. 2012: 79).

1.3. The cultural settings of aquamotion

Lander et al. (2012: 77) conclude from their data that if a language has only one dedicated aquamotion verb, it will be used to denote 'swimming', and connect this observation to the general "anthropocentricity" of language. However, it is not at all certain that the Uralic 'swim' verbs have primarily referred to the swimming of humans.

6. Contrary to what Majsak & Raxilina (2007: 55) claim, according to the intuition of the native-speaker author, the use of the Finnish verbs *ui-* 'swim' and *ajelehti-* 'drift' to denote the flowing of masses of water is only possible as a fairly unconventional metaphorical usage. The meaning 'flow' is neither mentioned in the *uida* and *ajelehtia* entries of the standard-language dictionaries NS and KS nor attested in the open-access Modern Finnish corpora of *Kielipankki*.

7. According to Vostrikova (2007: 426), the Komi verb *kjlt-* ~ *kjvt-* 'sail, float, or swim downstream' can also be used for the flowing of water in a river.

Although many Uralic-speaking peoples have traditionally lived on the shores of lakes, rivers, or seas and practiced fishing, there are accounts of swimming being avoided or tabooed. According to Lel'xova (2012: 33), old Khanty men could not swim and considered water dangerous, as it was a sacred space: *jeməŋ jɨŋk* 'sacred water'. Similarly, the Nganasans regarded swimming (by human beings) as a taboo or 'sin' (Gusev 2007: 439). Even in Finnic cultures, recreational "swimming" may have involved just bathing and splashing in shallow water, and it may have had a specific expression as in Karelian: *kezoil käyd, a uija ed voi* 'you go bathing but you cannot swim' (KKS, Salmi, s.v. *uija*).⁸ At the end of the 19th century, when activists in Finland began to promote swimming both as a life-saving skill and as a sports activity, it was estimated that only 10% of the population could swim (Mustonen 2006: 13).

For the Uralic peoples, bathing in a tub or a pool is a modern innovation; traditional "bathing" for hygienic purposes often took place in a sauna or (in Northern Russia) even in an oven, and had very little to do with aquamotion proper. In Finnic, swimming for recreation and bathing for hygiene are often kept lexically distinct, and this is reflected in Finland Swedish as well.⁹ Interestingly, the distinction between recreational swimming and bathing for hygiene is also maintained in Komi; Vostrikova (2007: 422) states that the verb *kupajtčís-* is – unlike its original in Russian – only used for 'swimming', never for 'washing oneself'.

As concerns the verbs for rowing and sailing, it seems plausible to assume that the richness of this subsystem correlates with the central role of these activities in the subsistence of the speech community. For example, according to Normanskaja & Krasikova (2009: 58), the system of verbs for transportation by boat is poorer in North Selkup than in the South Selkup dialects, reflecting the difference between subsistence based on reindeer breeding in the North and fishing in the South. In general, the connections between culture, subsistence, or environment and the language-specific systems of aquamotion call for further research.

8. The word *kezoil*, in adverbial or object cases (*kezoida* [PART.SG] *kylvimmö* 'we bathed *kezoil*', KKS, Suojärvi, s.v. *kesoi*) or as the base for a derived verb (*kezoičče-*), is obviously a derivative from *kesä/kezä* 'summer'.

9. The use of Swedish *simma* 'swim' instead of *bada* for recreational swimming (also *simdräkt* 'swimsuit', *simbyxor* 'swimming pants' instead of *baddräkt*, *badbyxor*) is a famous Finlandism (see also *Finlandssvensk ordbok* s.v. *simma*).

2. Aquamotion in the lexicon of the Uralic languages

2.1. The origins of Uralic aquamotion verbs

For Proto-Uralic, at least two basic verbs for aquamotion can be reconstructed: **uxi-/*uji-* ‘swim; float; drift?’ and **suxi-* ‘row’. Both are represented in (almost) all main branches of the language family (**suxi-* is absent in Mordvin and Hungarian), and their coherent semantics indicate that their aquamotion meanings are primary and ancient. This ancient distinction between ‘swimming’ and ‘transportation in a boat’ is often present in today’s Uralic languages as well, in clear contrast to the Russian ‘swim/sail’ polysemy.

The reflexes of the verb **uji-* usually refer to the swimming of animate beings, although not necessarily humans (recall that swimming by humans may have been tabooed), but also often to the passive floating or drifting of inanimate objects, as in Mari *üj βüd ümbalne iješ* ‘oil floats on water’ (MED s.v. ияш). In Komi, this verb (*uj-*) is used for the swimming of fish or waterfowl, i.e., without visible movements of legs or arms, and also for wading, whereas the ‘swim’ verb used for human beings is *vartci-*, a reflexive or de-transitivized derivative of *vart-* ‘beat’ (Vostrikova 2007: 419–422). In some Uralic languages, the verb stem **uj(i)-* is extended with a suffix (Estonian *uj-u-*, Livonian *või-g-*, Hungarian *ú-sz-ik*, Khanty *o-ś-*), which can be interpreted as a “reflexive” element or, rather, as a stem extension.¹⁰ Causative derivatives (Finnish *ui-tta-* ‘make (somebody or something) swim, immerse, or float, transport by floating’, Hungarian *úsz-tat*), frequentative, and other *Aktionsart* derivatives of the verb stem also abound throughout Uralic.

The verb **suxi-* ‘row’ is attested in this meaning throughout Uralic (see, e.g., SSA s.v. *soutaa*); also, derivatives such as Nganasan *tōpsa* ‘oar’ indicate that the meaning ‘row’ is ancient. Koivulehto (1988: 285) has explained this word as an ancient borrowing from Indo-European **suH-é-* ‘set into motion’. This etymology is problematic in many ways. It rests on the idea of similarity between two hypothetical consonants, Proto-Uralic **x* (see, e.g., Aikio 2022: 7) and the IE “laryngeal” **H*, both of unclear or debated phonetic value. The semantic shift (and why, in general, a verb of this kind would have been borrowed) also calls for further explanations.

More recent aquamotion verbs have, in principle, three possible sources. Firstly, aquamotion verbs especially for ‘sailing, transportation by boat’ can be formed by derivation. Typical examples are verbs connected

10. Whether this is explained by a general tendency to prevent content words from excessive shortening (the relation between semantic complexity or information content and word length; see, e.g., Piantadosi et al. 2011) or just by better inflectability and adaptation to the model of other motion verbs calls for further research.

with travelling by boats, derived from relevant nouns, such as the ‘sail’ verbs from the noun ‘sail’ (Finnish *purjehti-* ~ Estonian *purjeta-* ‘sail’ from the pan-Finnic **purjeh-*; Hungarian *vitórlázik* ‘sail’ from *vitórla*). Similarly, many Samoyedic languages have verbs for ‘travel by boat’ derived from reflexes of Proto-Samoyedic **əntəj-* ‘boat’ (Janhunen 1977: 14; Gusev 2007: 443–444; Normanskaja & Krasikova 2009: 54, fn. 8). Finnish *melo-* ‘paddle’ and *sauvo-* ‘punt’ are derived from *mela* ‘paddle’ and *sauva* ‘pole’.

A special case of derivation or adaptation is the use of expressive (sound-symbolic, ideophonic) verbs for aquamotion. The Finnic verbs with a stem **(t)su(k)kel-* or **su(p)pel-*, such as Estonian *suple-* ‘splash, swim, or dive for recreation’, Finnish *sukelta-* ‘dive’ and its Karelo-Vepsian (*čukelda-* ‘dive’), and South Estonian (*tsuklõ-* ‘bathe, swim for recreation’) cognates, are classified as expressive or phonesthetically motivated in etymological dictionaries (EES, SSA; note the initial affricate in Karelian, Veps, and South Estonian). It seems thus that verbs phonesthetically associated with ‘splashing’ or ‘splattering’ of water can lose their original expressive character and acquire a more neutral meaning of aquamotion: ‘diving’ or ‘swimming’ (note also the cognate of Estonian *suple-* recorded from the extinct Salaca Livonian as *schuiblub* ‘(s/he) swims’, EES s.v. *suplema*). In principle, Proto-Samoyedic **mulV-* ‘wash oneself, bathe, swim’ (as reconstructed by Normanskaja & Krasikova 2009: 54) might also have an originally phonesthetic (expressive) motivation (cf., e.g., Finnish dial. *mulahtaa* ‘(fall with a) splash’, Estonian *mull* ‘bubble’).

Thirdly, aquamotion verbs can be borrowed. The borrowing of Finnish *seilaa-* ‘sail’ from Swedish *segla* (dial. *sejla*)¹¹ can be seen as a natural reflection of contacts with the seafaring culture of the Swedophone coastal area. Considering the fact that swimming for recreation or sports may have been an (early) modern innovation, it is understandable that many Uralic minority languages of Russia borrow Russian verbs for recreational swimming (Karelian *kupaičče-*; Komi *kupajčji-*; Vostrikova 2007: 422; Koškareva et al. 2017: 90). Also, reflexes of Russian *plavat’* can occur, denoting swimming as a skill or sports activity or floating/drifted of inanimate objects at least in Komi: *plavajt-* (Vostrikova 2007: 422–423). In the Komi dialect spoken in the villages of Šuryškary and Ovgort in the Yamal-Nenets autonomous district, the old system is lost and only *plavajt-* and *plivit-* (reflecting the aspectual variants of the ‘swim’ verb in Russian) are used (Koškareva et al. 2017: 90).

11. Mustajoki & Protasova (2007: 400) claim, without source reference, that the verb is borrowed from English via Swedish. Considering its wide distribution in Finnish (in fact, Finnic), it is more probable that it reflects a dialectal variant of the Swedish verb (of course, cognate with English *sail*). The same verb has also been borrowed into Estonian from either Finnish or Swedish (EES s.v. *seilama*).

2.2. Documentation and sources: The representation of aquamotion verbs in Uralistic literature

While the meanings and uses of aquamotion verbs in major Uralic languages can be described and investigated with the help of a large number of text corpora and modern dictionaries, for minor Uralic languages (especially varieties now extinct or severely endangered) we must often rely on a more restricted body of classical dictionaries and text collections. These may be based on fieldwork conducted more than a hundred years ago, and the translations given in this material are sometimes misleading or questionable. In what follows, we will show how the representation of aquamotion verbs in classical Ob-Ugric field data may distort the description of the complete aquamotion system.

In classical Uralistic fieldwork before World War I, often at least three or four languages were involved: the object language (the native language of the informant), the native language of the fieldworker, possibly a different metalanguage used in communication, for clarification and accurate information, and the metalanguage of the publication. In both the researchers' field notes and in the final publications, translations and clarifications could be given in one or more metalanguages. However, the details of these processes – involving interpretation, semantic analysis, idealization, generalization, and translation – were not explicitly discussed in literature but rather existed in the research tradition as tacit knowledge.¹²

The Hungarian Bernát Munkácsi and the Finns Artturi Kannisto, Heikki Paasonen, and K. F. Karjalainen, to mention the most outstanding linguists who worked with native Mansi and Khanty informants before World War I, had an excellent knowledge of these languages.¹³ However, as they report in their fieldwork diaries, they also used Russian with their informants, many of whom were bilingual, and the metalanguage used in their publications is German, Hungarian, or Finnish. Even today, their data constitute the best or even the only available sources of some Ob-Ugric varieties – but they must be used with due care, taking into account the influence of metalanguages.

Since even an approximate classification of the Ob-Ugric aquamotion verbs is impossible here, only the most essential characteristics will be introduced. The number of verbs translated as 'swim' (*schwimmen*, *úszik*, *uida*) in the Ob-Ugric languages, considering all the dialectal data, hardly exceeds ten. Of the universal or language-specific conceptual/semantic features, the following are the most relevant in Ob-Ugric: *i.* figure (animate or non-animate), *ii.* manner of motion (activity/passivity), *iii.* directionality (down-/upstream).

12. See also Bakró-Nagy 2012 for the methodology of fieldwork with Southern Mansi.

13. For the history of classical Ob-Ugric field linguistics, see, e.g., Wickman 1988: 807–811; Salminen 2008; Kozmács 2011.

i. Figure: animate or non-animate

The most common aquamotion verb in both Ob-Ugric languages is the etymological reflex of Uralic **uxi-/*uji-* ‘swim’ (1a). The Figure is animate, i.e., animal or, in most cases, human, and this is also the case for at least one other Khanty verb (1b). Usually, the animate figure refers to fish or some waterfowl, but in Khanty, two verbs also have humans as active figures (1a–b), and the Mansi examples (2a–b) also refer to the latter:¹⁴

- (1) Khanty
 - a. Khanty *os-* ~ Mansi *uj-* ‘swim (human, animal)’ (DEWOS 222–3, WWb 13)
 - b. E *ňārəy-* ‘swim (bird, animal, human)’ (KT 633, DEWOS 1078)
- (2) Mansi
 - a. P *polləm šupwujšəm* ‘I swam (through) the Pelym’ (WWb 13)
 - b. LO *witta ujyaləyəm* ‘I swam to and fro in the water’ (WWb 13)

The ‘human’ is striking, considering the traditional avoidance of swimming in Ob-Ugric cultures (see Section 1.3 above); as Kannisto’s informants say, *ujəŋk at χāsəyəm* ‘I cannot swim’ (Sosva Mansi; WWb 13). However, a closer look at examples (3a–b) reveals that it is not typical swimming that is being discussed, but other kinds of aquamotion by a human being, i.e., treading water or wading:

- (3) Mansi
 - a. N *wot-* ‘swim (with hands or legs)’: *amke ujeyəm, am kätəyəmtəl əläł voteyəm* ‘when I swim, I swim forward with my hands’ (MK 743)
 - b. N *portyint-* ‘swim (by standing up so that you help yourself with your feet)’: *ələmχōləs mil māt ujitanä porät jā-sim jāsät χultχinti, portyinti* ‘when swimming over a deep spot, one flutters and swims upright in the middle, helping oneself with the feet’ (MK 460)

In some cases, verbs with inanimate figures (e.g., a boat, piece of wood, ice) are translated as ‘swim’ but actually refer to a different kind of movement (see ii.). Therefore, the typical ‘swim’ meaning seems to apply only to animals.

14. Original Hungarian or German translation equivalents translated into English by us. The Ob-Ugric language varieties are coded with conventional abbreviations:

DN Demjanka Khanty (Upper Demjanka)	LO Lozva Mansi (Upper Lozva)
E East Khanty	LU Lozva Mansi (Lower Lozva)
KMKonda Mansi (Middle Konda)	N North (Khanty/Mansi)
KU Konda Mansi (Lower Konda)	P Pelym Mansi

ii. Manner of motion: activity/passivity

Most data refer to passive movement, although ‘swim’ is often used as the primary translation equivalent. The lexemes (4a–c) usually refer to the movement of a boat drifting in a water current, although other objects, e.g., waterfowl (cf. 9a), may also drift in the water.

(4) a. Khanty

N *napət-* ‘swim or go with the flow; drifting, going downstream, travelling in the boat without rowing’; DN *nopəttə jěŋk* ‘floating water’ (KT 586, DEWOS 1008)

b. Mansi

N *nāt-* ‘go, swim with the current, float (in the water), be driven (by water, current)’ (MK 332, WWb 518)

c. Mansi

KM KU N *sojy-* ‘swim (fish)’; KU *χāp āst sojyāntij* ‘the boat swims (sails) well’

Also, if the “figure” is not a boat but another inanimate object, the translation equivalent given in the source is ‘swim’, but a more correct translation would be ‘drift’ (5a–c):

(5) Mansi

a. P *nēteγəm* ‘I go with the flow (sit in the boat and do not row)’ (WWb 518)

b. LU *nar nēts* ‘the trunk drifts (with the current)’ (WWb 518)

c. LO *jā(ŋk)nāti* ‘the ice drifts; the river flows free (of ice)’ (WWb 518)

The verb *portyint-* also refers to a passive but different kind of movement, for which the translation equivalent ‘swim’ is also found in the sources, e.g., (6). Cf. also (3b).

(6) Mansi

N *portyint-* ‘float, swim (without moving, e.g., waterfowl, piece of wood)’ (MK 460); cf. also (3b)¹⁵

The examples, thus, suggest that the verbs for passive movement should instead be translated as ‘drift’ or ‘float’.

15. There is also a verb (WWb 627) KM *pōry-* ‘float on the water, drift’, possibly etymologically related to this.

iii. Directionality: down-/upstream

Lexemes denoting the direction of movement along a river are prominent in Ob-Ugric, e.g., (7, 8a–b). The verbs Khanty *nopət-* and Mansi *χiwł-* denote moving downstream, just drifting in Khanty and drifting or rowing in Mansi.

- (7) Khanty
DN *nopət-*: *wot čəncät nopatta* ‘swim, drifting downstream with the wind’ (DEWOS 1638); cf. also (4a)
- (8) Mansi
a. N *χiwł-* ‘swim, row downstream; glide downstream, drift with the current’ (MK 91, WWb 257)
b. N *tal-* ‘(in a river) to ascend, swim, or travel upstream’ (MK 622, WWb 891)

The following two examples illustrate how the translation technique has led to aquamotion verbs being translated with a ‘swim’ verb. The passages are taken from the northern dialects in Munkácsi’s *Vogul Népköltési Gyűjtemény* and show the translations of *nāt-*.

- (9a) VNGy 3/3: 497
nīlā jolpā mān χāp into a small four-seat boat
ūnttāsləm. I sit in (meaning: I start swimming)
ali vōl patitnə sunseyim: I look towards the end of the upper river bend:
īmət-lunt saw por many rafts like decoy geese
saw nātawə, many swim [there]
īmət-wās saw por many rafts like decoy ducks
saw nātawə many swim [there]

We have seen above (3b, 4a) that this verb denotes ‘drifting’ rather than ‘swimming’. In the first two lines of the text, it is clear that the speaker is getting into a boat, i.e., taking to the water, but not that he is swimming or rowing. However, the translation explains the action in brackets for ease of interpretation: ‘I start swimming’ (*úszni kezdek*). In the following lines, the same verb is used to refer to the movement of rafts, which are similar to geese and ducks, and the translation is the same. Example (10) refers to people travelling in boats:

- (10) VNGy 3/3: 498
lāw χumpā χumän χultəχ a men’s fishing team of ten men
nātawə is boating (swimming) [there]
χūs χumpā χumän χultəχ a men’s fishing team of twenty men
nātawə is boating (swimming) [there]

nāt- in both examples refers to the movement of a boat or a raft. Interestingly, Munkácsi translates the verb with Hungarian *ladikázik* ('raft, travel with a boat'), but adds the verb 'swim' (*úszik*) in brackets, in the same way as it is in his dictionary in Hungarian and German. For some reason, Munkácsi seems to be using the verb 'swim' as a general aquamotion verb to clarify the meaning of 'movement on water'. This might be connected to the use of Russian as a metalanguage with his informants.¹⁶

The examples analyzed above reflect the *modus operandi* of field linguistics in those times: to collect as much data as possible and provide them with translations and explanations. As shown above, the use of metalanguages and translations in each individual example may have produced an interpretation which reflects the meaning of the utterance more or less correctly but misrepresents or distorts the system as we would now see it from the point of view of lexical typology. In order to reconstruct the system, a closer look at authentic texts is needed.

2.3. Comparing and reconstructing systems of aquamotion in Uralic

The systems of expressions for aquamotion in Uralic vary greatly in richness. A particularly illustrative example is the comparison between Komi and Udmurt, two fairly closely related sister languages: Komi has a number of lexicalized aquamotion verbs, including *kjvt-* 'sail/row/swim/drift downstream' and *kat-* 'sail/row/swim upstream', whereas Udmurt only knows one specific aquamotion verb *uja-* 'swim, drift, float' and uses general motion verbs for other types of aquamotion (Vostrikova 2007: 436–437). This example shows that systems of aquamotion verbs may change in a relatively short time, and far-reaching diachronic conclusions about the richness or poorness of aquamotion systems will mostly remain unwarranted.

16. The text was originally recorded by Antal Reguly and performed by Vasilij Baxtjar. When Munkácsi transcribed Reguly's text in December 1888, his informants and consultants were Mihail Grigorič Peršin (Pěršä), the last descendant of an old Mansi clan of the Middle-Lozva region and the young Tatjana Alekseevna Sotina, a pupil of Pěršä (see also VNGy 4/2: 259, 261). Since Pěršä was one of the Mansi language teachers of Munkácsi, there can be no doubt that at least he, but presumably both of them, were Mansi-Russian bilinguals.

Probably, the structures of aquamotion systems can also reflect cultural contacts. Not only are individual aquamotion verbs borrowed, but also expressions for new categories of aquamotion may be lexicalized. This seems to be the case, for instance, with Estonian, which has lexicalized a separate verb for the cultural innovation of recreational swimming (*suple-*), while Finnish uses the ancient ‘swim’ verb *ui-* for both swimming as a skill or sports and for recreational “bathing”.

Since aquamotion systems are diverse and prone to both contact-induced and externally-motivated changes, reconstructing them for proto-languages is a highly speculative enterprise. An illustrative example is given by Normanskaja & Krasikova (2009: 57, Table 4). They compare the aquamotion systems of modern Samoyedic languages and the Proto-Samoyedic system, consisting of 13 verbs reconstructed by Janhunen (1977) and two additional ones. These are divided into the four domains postulated by Majsak & Raxilina (2007), as follows (the English translations are ours, in brackets we additionally give the original German translations of Janhunen):

- SWIMMING: **kuptâ-* ‘strand, get to the shore’ (Janhunen 1977: 78 gives a German translation ‘landen’, for Nganasan specifically the meaning ‘to swim to the shore (of animals)’); **pât-* ‘dive’ (ibid.: 114); **u-* ‘swim’ (ibid.: 29); **mulV-* ‘bathe; swim’ (absent in Janhunen 1977);
- SAILING/ROWING: **cicä-* ‘row upstream’ (ibid.: 33 ‘gegen den Strom fahren’); **kârâ-* ‘reach the shore’ (ibid.: 54 ‘landen’, Tundra Nenets ‘ans Ufer getrieben werden’); **toj-* ~ **tuj-* ‘arrive’ (ibid.: 164); **tu-* (**tuâ-*) ‘row’ (ibid.: 166); **wâjâ-* ‘cross (a river)’ (ibid.: 169); **solV-* ‘scoop, get filled with water, sink (a boat)’ (absent in Janhunen 1977);
- DRIFTING/FLOATING/SINKING (passive aquamotion): **ku-* ‘drift downstream’ (ibid.: 76); **pencâ-* ~ **pencâ-* ‘slide, drift downstream’ (ibid.: 120); **sejâ-* ‘sink, drown’ (ibid.: 138 ‘versinken’);
- The movement of water itself: **kâmcâ-* ‘pour’ (ibid.: 52); **tesâ-* ‘drop, leak’ (ibid.: 156).

These reconstructed meanings are often questionable and speculative. Also, not all of these verbs are originally or primarily aquamotion verbs. For the verb **solV-*, the semantic development from ‘scoop’ to ‘get filled with water, sink’ is more plausible than the reverse, and the latter meaning only occurs in Nenets and Enets as a secondary development – as Normanskaja & Krasikova (2009: 57) themselves state. The verb **toj-* ~ **tuj-* (< PU **tuli-*) is an ancient, pan-Uralic general motion verb ‘come, arrive’, and it is not clear why it should be classified as an aquamotion verb in Samoyedic.

2.4. Metaphorical extensions of aquamotion verbs

Beyond the lexicalized meanings of aquamotion verbs and the systematic structures behind their lexicalization, their metaphorical extensions may reveal something about how aquamotion is conceptualized and its expressions are systematized in a certain language. For example, Lander et al. (2012: 70) point out that in many languages, the idea of immersion in the liquid medium (together with its further metaphorical extension: having an overly great quantity of something) is expressed with verbs which also denote the swimming of animate beings. Further examples are easy to find especially for the three major Uralic languages (for minor Uralic languages, more systematic studies would be needed). For instance, in Hungarian, very greasy food *úszik a zsírban* ‘swims in lard’, or a person heavily in debt *úszik az adósságban* ‘swims in debt’ (MNYÉSz s.v. *úszik*).

Uralic ‘swim’ verbs, which often also denote the ‘drifting’ or ‘floating’ of inanimate objects, may develop meanings of ‘smooth, effortless, stealthy movement’, also figuratively. Although the open-access corpora of *Kielipankki* do not yield any examples of Finnish *ui-* ‘swim’ being used for water flowing, there are some examples with ‘water’ as the subject, in which the verb *ui-* denotes stealthy penetration into narrow spaces, pores, or crevices, as in (...) *betoni on ulompana kuin hirret, joten vesi ”ui” betonina myöten hirren alle* ‘the concrete extends farther than the logs, so that the water [= humidity] will “swim” [“creep”] along the concrete to below the log’ (from a discussion on the Internet forum Suomi24 in 2007, urn:nbn:fi:lb-2020021803). The same metaphor of smooth, stealthy movement into a (metaphorically) confined space also occurs, for instance, in the colloquial Finnish idiom *uida liiveihin* ‘to come physically close (threatening with physical violence or making sexual advances)’, lit. ‘swim into (somebody’s) vest’ (see also Mustajoki & Protasova 2007: 390). Also in Estonian, the verb ‘swim’ can metaphorically denote a stealthy, often undesired approach: *purjus mees ujus tüdrukule külje alla, hakkas juttu tegema* (EKSS s.v. *ujuma*) ‘a drunken man made advances to the girl [lit. ‘swam to under the girl’s side’], started a chat’. In Komi, we find the use of the verb for ‘swimming/floating downstream’ in figurative uses for ‘effortless, smooth movement’, as in *šidīs českidj kilalis* ‘the soup went easily down [somebody’s throat]’ (Vostrikova 2007: 428).

An even more abstract metaphorization of ‘swimming’ in the sense of ‘avoiding or escaping something with ease’ is Hungarian *meg-úszik* [PERF-swim] ‘come through, escape, get away (with something)’,¹⁷ e.g., *egy évi*

17. *Megúszik*, in a non-metaphorical sense, can be used as a transitive verb for ‘crossing (a river or lake) by swimming’. According to MNYÉSz, this usage belongs to the

börtönnel megúszta ‘(s/he) got away (“swam it”) with one year’s imprisonment’ (implication: much more severe consequences would have been possible; MNyÉSz s.v. *megúszik*).

In the metaphorical uses of ‘sail’, the idea of smooth, effortless movement is combined with pride, grandeur, or confidence. In Finnish and Estonian, a person (stereotypically, a conspicuously good-looking and/or self-confident one) can “sail” through a room (*mööda purjetab uhke naisolevus* ‘a gorgeous female sails by’, EKSS s.v. *purjetama*). This metaphorical “sailing” can also include an idea of navigating around obstacles, as in Finnish *purjehti vastustajan puolustuksen läpi ja teki maalin* ‘(an ice hockey player) “sailed” (“navigated”, with conspicuous ease) through the opposing team’s defense and scored’ (KS s.v. *purjehtia*).

Of vertical aquamotion, the downward movement (or lack of it: ‘floating’ in the sense of ‘not sinking’) seems to be more clearly lexicalized than the upward movement (for which often only general motion verbs are used, though Ob-Ugric languages have both ‘emerge’ verbs and general motion verbs with preverbs meaning ‘up’). These expressions can metaphorize basically in two ways. Firstly, they can denote physical immersion into something (Estonian: *karusnahkadesse uppuv daam* ‘a lady “sinking” into [= copiously clothed in] furs’, EKSS s.v. *uppuma*) or intensive mental involvement with something (Finnish: *upota kirjoihin* ‘to “sink” into books [= get immersed into reading]’; KS s.v. *upota*). Secondly, they can express downward movement on the metaphorical vertical axis, the lower end of which represents less power, more negative values, increasing concreteness, density, or heaviness, or increasing emotionality and decreasing rationality or control (for a summary, see, e.g., Cian 2017), as in Hungarian *szolgasorba ~ kétségbeesésbe sülyyed* ‘sinks into servitude ~ despair’ (MNyÉSz s.v. *sülyyed*), or Finnish *syvälle paheisiin vajonnut* ‘sunk deep into vice’ (KS s.v. *vajota*).

A specific case of semantic development is the lexicalization of ‘sinking’ to the meaning ‘be drowned, die by drowning’. Interestingly, we see this development in Estonian (*ka hea ujuja võib külmas vees ära uppuda* ‘also a good swimmer can drown in cold water’; EKSS s.v. *uppuma*, note the use of the perfectivizing particle *ära*) but not in Finnish or Hungarian, where ‘death by drowning’ is lexicalized from ‘getting lost, perishing’ (Finnish *hukkua* also ‘be lost (of an object)’, cf. Estonian *hukkuma* ‘perish’) or ‘suffocating in water’ (Hungarian *vízbe fullad*). In Synja Khanty, ‘death by drowning’ is expressed by the combinations *jɨŋk-a pit-* ‘fall into water’ or *jɨŋk-an jɨnʂəltijɨl-* ‘slake one’s thirst with water’ (Lel’xova 2012: 35).

literary language, which indicates that in today’s language use, the metaphorical lexicalization has already ousted the non-metaphoric meaning.

3. Conclusions

On the basis of our by far not exhaustive data, the following features recur throughout Uralic and may well be ancient:

- The domains of ‘swimming’ and ‘floating/drifting’ are often conflated, i.e., the reflex of the ancient ‘swim’ verb **uji-* can refer to both.
- The domains of ‘swimming/floating/drifting’ and ‘sailing, travelling by boat’ are often kept distinct (even in languages otherwise strongly impacted by Russian).¹⁸ For the latter, often general motion verbs are used.
- The flowing of water itself is kept distinct from aquamotion proper (animate beings or inanimate objects moving in water).

For languages spoken in the Taiga forest zone, where fishing and transportation by boat along rivers are of special importance, the opposition ‘downstream’ vs. ‘upstream’ is relevant; in Komi and Selkup, it is lexicalized by separate verbs; in Ob-Ugric, it can also be expressed by specialized preverbs (of adverbial origin; the use of preverbs in this function would deserve a separate study). Such preverbal systems also include an opposition ‘water-to-shore’ vs. ‘shore-to-water’ that can be used not only with aquamotion verbs, but also with general verbs of motion and translocation (‘come’, ‘throw’).

The comparison of Uralic aquamotion systems reveals a considerable diversity. Despite the fact that some features of such systems may be diachronically fairly stable, we can see that aquamotion systems may change relatively fast, also due to external factors, as shown by comparisons between closely-related languages (Komi and Udmurt; North and South Selkup). Any generalizations or conclusions based on the structure, dimensions, or richness of aquamotion systems must, therefore, be taken with a grain of salt – this also concerns our historical generalizations presented above. As always, the validity of typological generalizations is also dependent on the quality of sources and their interpretation. As shown above in Section 2.2, the use of classical Uralistic sources requires a solid knowledge of the research tradition and its use of metalanguages.

18. However, in Mari (MED s.v. *ияш*) and Udmurt (Vostrikova 2007: 432) the ancient ‘swim’ verb can also be used for the movement of ships or boats and also for travelling in a boat.

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