

Northeast Caucasian languages and the Ainu-Minoan stock

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Abstract

The hypothesis that Northwest and Northeast Caucasian languages are related was proposed by S. A. Starostin, however, the methodology used by Starostin (comparison of the so-called basic vocabulary) cannot resolve the question of whether the compared languages are related. The only tool that can detect the relatedness of certain languages is the comparison of grammar. Previously it was proved that the Northwest Caucasian family is a part of the Ainu-Minoan stock. In this paper the question of whether Northeast Caucasian languages are related to the Ainu-Minoan stock is resolved by Verb Grammar Correlation Index (VGCI): Tabasaran is compared with Kabardian. If the value of VGCI is about 0.4 or more then compared languages are related. VGCI of Tabasaran and Kabardian is 0.39, so they belong to the same family, and due to the transitivity of relatedness Northeast Caucasian languages belong to the Ainu-Minoan stock.

Keywords: Northwest Caucasian languages; Northeast Caucasian languages; Caucasian languages; Tabasaran language; Kabardian language; Verb Grammar Correlation Index

1. Introduction

The hypothesis that Northwest and Northeast Caucasian languages are related was proposed by S. A. Starostin (see for instance: Starostin 1984). Starostin also supposed that Northwest Caucasian languages are related to Hattic and Northeast Caucasian are related to Hurro-Urartian. The relatedness of Northwest Caucasian and Hattic is real (Akulov 2018), while the relatedness of Northeast Caucasian and Hurro-Urartian is pretty doubtful and can be a matter of future research.

Also Starostin suggested that North Caucasian languages are related to Sino-Tibetan and Yeniseian (for example Starostin 1991), and spoke about Sino-Caucasian stock/macroeconomy. This hypothesis was confirmed: it appeared that there is Ainu-Minoan stock that consists of the following languages/families: Ainu, Andamanese, Sino-Tibetan, Northwest Caucasian, Hattic, and highly likely Minoan (Akulov 2018), and also Yeniseian languages (Akulov 2019).

It should be noted that hypotheses proposed by Starostin show perspective directions, but the methodology of detecting the relationship of languages used by Starostin and his followers, namely the comparison of the so-called basic vocabulary, cannot resolve the question of whether the compared languages are related, because using such method can be made different conclusions about the same languages.

Only comparing grammatical systems can answer the question about the relatedness of certain languages.

In this paper the question of whether Northeast Caucasian languages are related to the Ainu-Minoan stock is resolved by Verb Grammar Correlation Index: Tabasaran is compared with Kabardian.

Tabasaran belongs to the Lezgian group of the Northeast Caucasian family and Kabardian belongs to the Northwest Caucasian family.

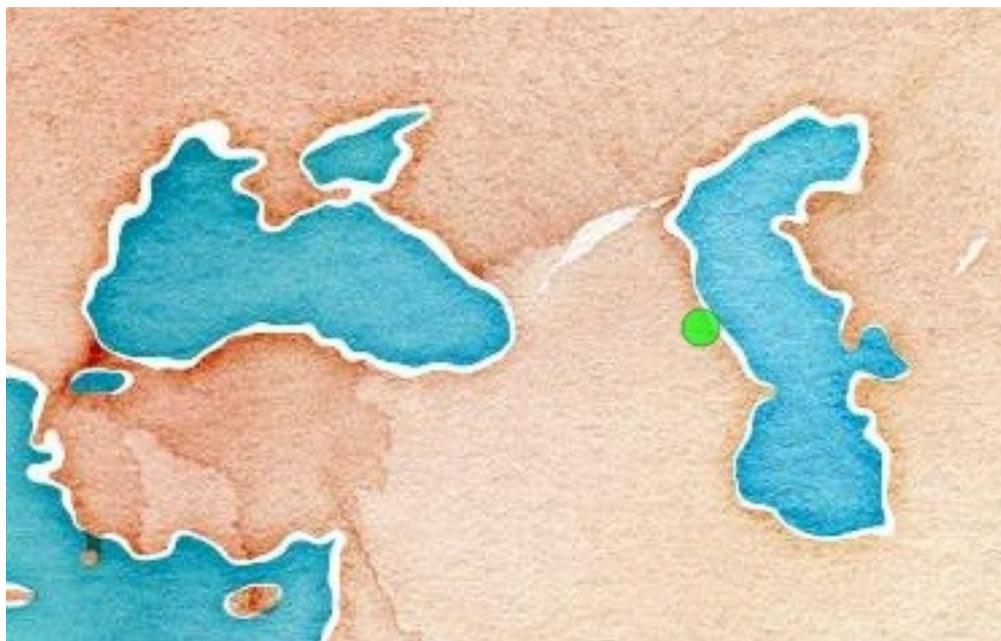


Fig. 1. The region where Tabasaran language is spoken (image source – Tabasaran. Glottolog)



Fig 2. The region where Kabardian is spoken (image source – Kabardian. Glottolog)

2. The method of VGCI

Verb Grammar Correlation Index (VGCI) is a precise typological method of comparative linguistics.

The method supposes direct comparison of really existing/existed languages and doesn't deal with reconstructions since reconstructions are often nothing else, but constructed languages based on the "artist sees so" principle.

The method is based on the idea that language is determined by a set of grammatical meanings and by their positional distributions, and degrees of correlations of both issues can be calculated.

The method doesn't pay any attention to material exponents at all, it deals with pure structures.

VGCI is the superposition (conjunction) of two indexes: grammatical meanings sets correlation index and index of correlation of positional distributions of common meanings. The formula for calculation of VGCI is the following:

$$VGCI = \left(\frac{N_{e(A \cap B)}}{N_{e(A)}} + \frac{N_{e(A \cap B)}}{N_{e(B)}} \right) \frac{1}{2} \times \left(\frac{i_1 + i_2 + \dots + i_n}{N_{e(A \cap B)}} \right)$$

where:

A is the set of grammatical meanings of one language;

B is the set of grammatical meanings of another language;

N_e means the number of elements;

i means an index of positional correlation.

The more closely related languages demonstrate the higher values of VGCI (since they have more alike sets of grammatical meanings, so intersection ratio to each set of grammatical meanings is higher; and due to the fact that common grammatical meanings are distributed in more alike positions); languages that are more distant relatives demonstrate lower values of VGCI and those that are not related demonstrate much lower values of VGCI.

Tests of the method on the material of firmly assembled stocks (Indo-European; Sino-Tibetan; Austronesian) show the following: if a value of VGCI is about 0.4 or more then considered languages are related; if a value of VGCI is about 0.3 or less then considered languages are not related. VGCI observes the whole depth of the history of languages of modern type: if VGCI says that certain languages are unrelated it means that they are unrelated in reality, i.e.: for instance, there could be a common ancestor of Ainu-Minoan and Indo-European stocks, but it evidently existed outside the languages of modern type and therefore, any attempts to somehow get to such a language by existing means of comparative linguistics will always be naïve constructions on the verge of unverifiable fantasies and amateurism.

The error of measurement is about 2%.

Relatedness is an equivalence relation since it meets necessary and sufficient requirements for a binary relation to be considered as equivalence relation:

- 1) Reflexivity: $a \sim a$: a is related to a;

- 2) Symmetry: if $a \sim b$ then $b \sim a$: if a is related with b then b is related with a ;
- 3) Transitivity: if $a \sim b$ and $b \sim c$ then $a \sim c$: if a is related with b and b is related with c then a is related with c .

For more details about VGCI see Akulov 2015, 2018.

3. Comparison of Tabasaran and Kabardian

3.1. The list of grammatical meanings expressed in Tabasaran verb

The list of grammatical meanings of Tabasaran verb has been compiled after (Alekseev, Shikhalieva 2003)

1. Agent: 6 -sfx
2. Categorical future: -sfx
3. Conditional: -sfx
4. Deontic modality: -sfx + -pp + -pp
5. Direction 1: prfx-
6. Direction 2: prfx-
7. Direction 3: prfx-
8. Direction 4: prfx-
9. Direction 5: prfx-
10. Direction 6: prfx-
11. Direction 7: prfx-
12. Future (general future): -sfx + -pp
13. Imperative: zero marker/fusion
14. Indicative: zero marker
15. Interrogative: -sfx
16. Hypothetical future: -sfx
17. Negation: -sfx / prfx- / -inxf-
18. Narrative past: -sfx
19. Perfect: -sfx
20. Pluperfect: -sfx + -pp
21. Plural: prfx * fusion * 3 -sfx / prfx- / prfx- * 3 -sfx / prfx + fusion / -sfx
22. Present: -sfx + -pp
23. Prohibitive: prxf-
24. Singular: 2 prfx * fusion * 3 -sfx / 2 prfx- / 2 prfx- * 3 -sfx / prfx + fusion
25. Subject: 6 -sfx
26. Volitional mood: -sfx + -pp

3.2. The list of grammatical meanings expressed in Kabardian verb

The list of grammatical meanings of Kabardian verb has been compiled after Matasović 2010.

1. Admirative: -sfx
2. Affirmative: -sfx
3. Agent: 6 prfx-

4. Anterior preterite: -sfx
5. Anterior pluperfect: -sfx
6. Benefactive version: prfx-
7. Causative: prfx-
8. Causative – factitive: prfx-
9. Categorical future – Future simple: -sfx
10. Comitative version: prfx-
11. Conditional: -sfx
12. Deontic modality: prfx-/-sfx
13. Directional: prfx-
14. Factual future: -sfx
15. Future 2: -sfx
16. Hypothetical mood: “the action has probably happened, but it isn’t evident for speaker”: -sfx/-pp
17. Imperative: zero marker
18. Imprefect – Durative: -sfx₁/-sfx₂
19. Indefinite person: -sfx
20. Indicative: zero marker
21. Involuntative: prfx-
22. Interrogative: -sfx₁/-sfx₂/-sfx₃
23. Negation: prfx-/-sfx
24. Optative: prfx-/-sfx
25. Patient: 6 prfx-
26. Permissive: -sfx
27. Pluperfect: -sfx
28. Plural 8 prfx-
29. Potential mood: prfx-
30. Present simple: prfx₋₁ + [-sfx]/prfx₋₂ + [-sfx]
31. Preterite: -sfx
32. Reciprocity: prfx-1/prfx-2
33. Reflexive: prfx-
34. Singular: 8 prfx-
35. Subject: 10 prfx-

3.3. The VGCI of Tabasaran and Kabardian

T means Tabasaran forms, K means Kabardian forms.

1. Agent: T: 6 -sfx ≠ K: 6 prfx- 0
2. Categorical future ~ Categorical future – Future simple: -sfx ~ -sfx 1
3. Conditional: T -sfx ~ K -sfx 1
4. Deontic: T: -sfx + -pp + -pp ~ K prfx-/-sfx $(1 + \frac{1}{2})/2 * (1+1/3)/2 \approx 0.495$
5. Direction 1 ~ Directional: T prfx ~ K prfx 1
6. Future (general future) ~ Future 2: T -sfx + -pp ~ K -sfx 0.75
7. Hypothetical future ~ Hypothetical mood: T -sfx ~ K -sfx/-pp 0.75
8. Imperative: T: zero marker/fusion forms ~ K bare stem 0.75
9. Indicative: zero marker ~ zero marker 1

10. Interrogative: T: -sfx ~ K: -sfx₁/-sfx₂/-sfx₃ 0.66
11. Narrative past ~ Preterite: -sfx ~ -sfx 1
12. Negation: T -sfx / prfx- / -inx- ~ K prfx-/sfx (2/3 + 1)/2 ≈ 0.83
13. Prefect ~ Anterior preterite T -sfx ~ K -sfx 1
14. Pluperfect: T- -sfx + -pp ~ K: -sfx 0.75
15. Plural: T: prfx * fusion * 3 -sfx / prfx- / prfx- * 3 -sfx / prfx + fusion / -sfx ~ K 8 prfx- (1/9 + 1/8)/2 ≈ 0.12
16. Present simple: T: -sfx + -pp ≠ K Present simple: prfx₋₁ + [-sfx]/prfx₋₂ + [-sfx] 0
17. Singular: T Singular: 2 prfx * fusion * 3 -sfx / 2 prfx- / 2 prfx- * 3 -sfx / prfx + fusion ~ K: 8 prfx- (2/8 + 2/15)/2 ≈ 0.19
18. Subject: T: 6 -sfx ≠ K 10 prfx- 0
19. Volition ~ Optative: T: -sfx + pp ~ K: prfx-/sfx (1 + 1/2)/2 * (1 + 1/2)/2 ≈ 0.56

VGCI (T and K) = (19/26 + 19/35)/2 * (6 + 0.83 + 4*0.75 + 0.66 + 0.56 + 0.495 + 0.19 + 0.12)/19 ≈ 0.39.

Such value means that compared languages belong to the same family.

And due to the transitivity of relatedness Tabasaran and Northeast Caucasian languages are parts of the Ainu-Minoan stock.

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