Linguistics

Georgian Tactile Alphabet (GeoLorm)

Tamar Makharoblidze

Ilia State University, Tbilisi, Georgia

(Presented by Academy Member Thomas Gamkrelidze)

ABSTRACT. Writing systems used for Deaf-Blind people are mostly based on Latin alphabet or arbitrary symbols, although the method of tracing or 'print-on-palm' is also used. One of the most successful systems for communication with Deaf-Blind people is the Lorm tactile alphabet, which is widely used in many European countries with certain adaptations. The first Georgian tactical alphabet – GeoLorm was created for Deaf-Blind people living in Georgia. Along with other tactile communication systems GeoLorm is vital for local Deaf-Blind people. It is based on the international Lorm alphabet. At the same time, this alphabet refers to the Georgian language material and is connected with some well-known themes: *ts – tseri* 'the thumb', *n – nek'i* – 'little finger', *sh – shua titti* 'the middle finger', *j – jvari* 'cross', *ts' – ts're* 'circle'. Some symmetries are also protected in Geo-Lorm between the voiced fricatives *z – j*, voiced stops *b – g – d,* voiceless aspirated *p – k,* affricates *dz – ch'*. The ten rules for tactile communication were also elaborated. To conduct detailed neurocognitive studies are planned for the near future, as these types of alphabets should be tested with methods of neurocognitive linguistics in order to determine how successful the communication system is. © *2019 Bull. Georg. Natl. Acad. Sci.*

The number of Deaf-Blind population in Georgia is not big. It can be around seven hundred. However, this statistic is not well-investigated yet, because of the different origin of the problem. Even if the number of such people is very little, all kind of educational tools must be evaluated in order to overcome the stigma and to help these people to integrate into the civil society. Thus, development of tactile systems for local Deaf-Blind population is very important. Along with other tactile communication systems the Georgian version of Lorm alphabet – GeoLorm is vital for local Deaf-Blind people.

The tactile alphabets are systems of writing on the hand of a Deaf-Blind person, who can read the tactile by touch. There are different types of tactile systems [1-6]. The tactile systems are based either on Latin (Roman) letters or on arbitrary symbols. If the Deaf-Blind person knows the written alphabet, then the communicating person can write the letters on his/her palm using a method of tracing or 'print-on-palm'.

Lorm is a hand-touch alphabet, which was developed in the 19th century by Hieronymus Lorm, who was a Deaf-Blind inventor and novelist. The different versions of Lorm are widely and

successfully used for Deaf-Blind communication in the most European countries. Below the first Georgian tactile alphabet is introduced, the Georgian Lorm – GeoLorm. It is mainly based on the International Lorm system, and in addition it has the specific Georgian letters. This alphabet includes some Georgian language material and is connected with all the well-known themes such as: *ts – tseri* 'the thumb', *n – nek'i* – little finger, *sh – shua titti* 'the middle finger', *j – jvari* 'cross', *ts' – ts're* 'circle'. Some kind of symmetries are also protected in Geo-Lorm between the voiced fricatives *z – j*, voiced stops *b – g – d*, voiceless aspirated *p – k*, affricates *dz – ch'*.

Geo-Lorm was created for the Deaf-Blind people living in Georgia. Georgian Deaf-Blind can use the tactile signs if they were Deaf before they became blind and if they have the knowledge of Georgian Sign Language (GESL). The four-handed version of the Georgian dactyl alphabet [7] can be also useful for such Deaf-Blind persons.

The rules of tactile communication were discussed by number of authors [8-12]. The ten rules for tactile communication are elaborated:

1. The contact space must be chosen carefully. The best position is to sit;
2. Keep the correct contrasting lights: create a contrast between yourself and the background – stay in a bright place.
3. A light-skinned communicator should have a dark cloth, and a dark-skinned communicator should wear light-colored clothing;
4. The communicator should not smell of food, perfume, cigarettes and / or alcohol.
5. The communicator must sit to the right of the Deaf-Blind person;
6. The communicator must follow the ethics of communication with Deaf-Blind people. Smoking, drinking and/or eating is strongly forbidden in communication process;
7. The communicator must be sure, that the Deaf-Blind person understands his/her tactile.

8. The role-shifting strategy must be very simple and understandable for the Deaf-Blind person;
9. In case of misunderstanding, the whole word must be repeated;
10. Spelling rules of certain languages must be observed.

Georgian – National translite-ration system	GeoLorm	Description
a		Touch the tip of his/her thumb.
b		Strike downwards along his/her index finger from the tip till just above his/her palm, don't touch the palm.
g		Strike downwards along his/her ring finger from the tip till just above his palm, do not touch palm.
d		Strike downwards along his/her middle finger from the tip till just above his palm, do not touch palm.
e		Touch the tip of his/her index finger.
v		Touch with one tip in the palm (left side) between the basis of the thumb and the index finger.
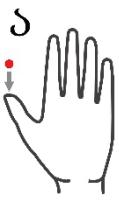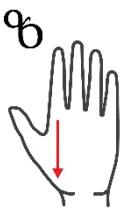
z	ჰ	Strike vertical on his/her palm from the bottom of the index finger down to the bottom of the thumb.	o	თ	Touch the tip of his/her ring finger.
t	თ	Strike downwards on the outside of his/her thumb.	p'	პ	Strike upwards on the outside (on the edge) of his/her wrist up to the top of the thumb.
i	ი	Touch the tip of his/her middle finger.	zh	ჟ	Strike vertical downward on his/her palm from the bottom of the index figure to the edge if the wrist.
k'	კ	Touch with your tips together (index, middle and ring fingers) in the middle of the palm of his/her hand.	r	რ	Drum slightly with several of your tips in the middle of the palm of his/her hand.
l	ლ	Strike downwards form the top of his/her middle finger to the writs.	s	ს	Touch his/her palm at the wrist.
m	მ	Touch the palm at the bottom of his/her index finger.	t'	ტ	Gently squeeze together the tips of his/her index and middle fingers.
n	ნ	Touch the palm at the bottom of his/her little finger.	u	უ	Touch the tip of his/her little finger.
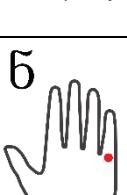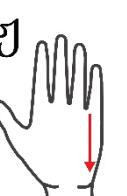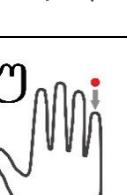
p		Strike upwards on the outside of his/her index finger.	dz		Touch the middle point of his/her palm by the top of the index figure.
k		Strike upwards form the edge of his/her hand near the wrist up to the top of the little finger.	ts'		Make a circle in the middle of the palm of his/her hand.
gh		Strike downwards the tips of index and middle fingers from the center of his/her palm to the wrist.	ch'		Sketch the edge of his/her wrist.
q'		Strike horizontal from left to right over the center of all his/her fingers.	kh		Strike horizontal (from left to right) over his/her wrist.
sh		Gently squeeze the tip of his/her middle finger.	j		Paint a cross on his/her palm, first strike the vertical line down from the bottom of the middle finger to the wrist, then strike the horizontal line from left to right crossing the vertical line in the middle.
ch		Gently squeeze together the all his/her fingers except the thumb.	h		Strike downwards along his little finger from the tip till just above his/her palm, do not touch palm.
ts		Gently squeeze the tip of his/her thumb.			
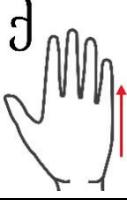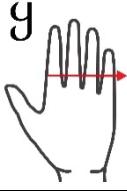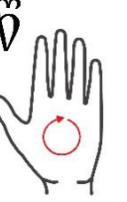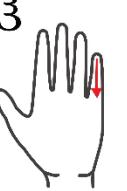
The whole form of GeoLorm looks as follows:

ქართული ლორმის ანბანი
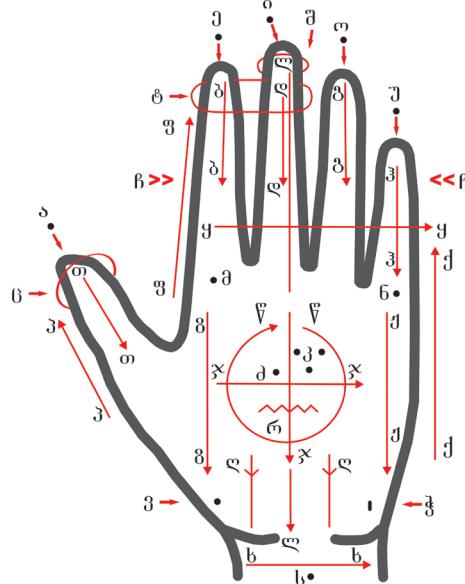
GeoLorm

In the nearest future detailed neurocognitive studies are planned, as these types of alphabets should be tested with methods of neurocognitive linguistics in order to determine how successful the communication system is.

ენათმეცნიერება

ქართული ტაქტილური ანბანი (გეოლორმი)

თ. მახარობლიძე

ილიას სახელმწიფო უნივერსიტეტი, თბილისი, საქართველო

(წარმოდგენილია აკადემიის წევრის თ. გამყრელიძის მიერ)

უსინათლო ჯგუფებისთვის გამოყენებული ხელზე დამწერლობის სისტემები ძირითადად ან ლათინურ ანბანს ეყრდნობა, ან თავისუფალ სიმბოლურ ნიშნებს. ასევე გამოიყენება ხელისგულზე ასოების წერის მეთოდიც – დერმობრაზია. ერთ-ერთი ყველაზე წარმატებული სისტემა არის ლორმის ტაქტილური ანბანი, რომელიც შესაბამისი ადაპტირებით ფართოდ გამოიყენება ევროპის მრავალ ქვეყანაში. საქართველოში მცხოვრები უსინათლო ჯგუფებისათვის ჩემ მიერ შექმნილი პირველი ქართული ტაქტილური ანბანი, რომელიც წარმოდგენილია სტატიაში, ეყრდნობა საერთაშორისო ლორმის ანბანს. ამასთანავე, იგი ითვალისწინებს ქართული ენის მასალას და შესაძლებლისდაგვარად უკავშირდება საყოველთაოდ ცნობილ თემებს (*ც – ცერი, ნ – ნეკი, შ – შუა თითი, ჯ – ჯვარი, წ – წრე*). ასევე, ზოგან დაცულია გარკვეული ტაქტილური სიმეტრიები და ასეა წარმოდგენილი წყვილეულის მჟღერი ნაპრალოვნები *ზ – ჟ*, სამეულის მჟღერი ხშულები *ბ – გ – დ;* ყრუ ფშვინიერები: *ფ – ქ* და აფრიკატები *ძ – ჭ*. ასევე შევიმუშავეთ ტაქტილირების ათი წესი. უახლოეს მომავალში ვგეგმავთ დეტალური ნეირკოგნიტური კვლევების ჩატარებას, რადგანაც მიგვაჩნია, რომ ამ ტიპის ანბანთა ტესტირება უნდა მოხდეს ნეირკოგნიტური ლინგვისტიკის მეთოდებით, რათა გამოვლინდეს, თუ რამდენად წარმატებულია ესა თუ ის საკომუნიკაციო სისტემა. სხვა ტაქტილურ საკომუნიკაციო სისტემებთან ერთად, ქართულ ტაქტილურ ანბანს სასიცოცხლო მნიშვნელობა აქვს ადგილობრივი უსინათლო ჯგუფებისათვის.

REFERENCES

1. Scott M. (Ed.) (2012) Deaf-Blind reality: Living the Life Stoffel. Gallaudet University Press.
2. Metzger Melanie; Fleetwood Earl; Collins, Steven D. (2004) Discourage genre and linguistic mode: Interpreter influences in visual and tactile interpreted interaction. *Sign Language Studies,* **4** (3): 118-136.
3. Frankel M. A. (2002) Deaf-Blind interpreting: interpreters' use of negation in tactile American Sign Language. *Sign Language Studies,* **2** (2): 169-180. Gallaudet University Press.
4. National task force on Deaf-Blind interpreting (2008) Deaf-Blind interpreting: many paths on the road. *Views*, **25** (2): 11-13.
5. DeafBlind interpreting: toward effective practice (2018) DeafBlind interpreting National Training and Resource Center Regional Resource Center on Deafness. Western Oregon University. www.dbinterpreting.org *access: December 2018.*
6. Sauerburger D. (1993) Independence without sight or sound: suggestions for practitioners working with deaf-blind adults. ISBN-13: 978-0891282464. New York: AFB Press.
7. Makharoblidze T. (2013) The Georgian dactyl alphabet. *Disability Studies Quarterly. DSQ,* **33** (3) http://dsq-sds.org/article/view/3318
8. Gaus J., Florence I. (2014) Deaf-Blind Interpreting guidelines. National task force on Deaf-Blind interpreting (NTFDBI).
9. Jacobs R. (1997) Deaf-Blind Interpreting 101. *Views,* **14 (**11): 8-9.
10. Cooper S. B. (1997) A glossary of some communication methods used by deaf-blind people. *Views*, **14 (**11): 6-7.
11. Smith Theresa B. (2002) Guidlines: practical tips for working and socializing with DeafBlind people sign media, Inc. ISBN-13: 978-1881133179.
12. Aj granda & Jelica Nuccio (2018) Protactile principles. Tactile Communications. WASLI. Seattle, Washington. http://wasli.org/wp-content/uploads/2018/05/PT-Principles-Movies-Final.pdf *Access: December 2018 .*