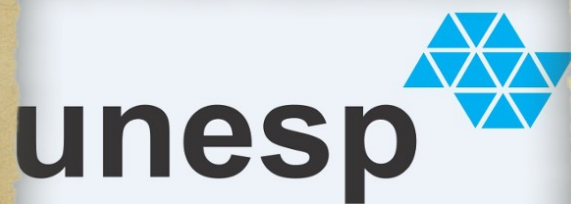


# The Ancient Greek middle voice and Brazilian Sign Language

*Caio Vieira Reis de Camargo*

*Sao Paulo State University / School of Humanities and Sciences of Araraquara*

*Sunoikisis DC 2019*





# Digital technology and inclusion

- How can digital technology be used for inclusion, specially for deaf community?
- How to bring Ancient Greek and Brazilian Sign Language to one common research and comparative path?
- How Brazilian Sign Language users can benefit from digital technology?



# Theoretical basis and corpus

- Allan (2003) and the cognitive approach of the Greek Middle Voice
- Quadros (2009) and the studies of Brazilian Sign Language Syntax and Morphology
- Pausanias and the “Description of Greece”, Book 1, Attic.



# First step: the middle voice

- In Ancient Greek, there are three verb voices: active, passive and middle.
- The middle voice has a semantic feature, *subject affectedness*
- Seven different classifications
- Process; Mental Process; Reflexive; Movements; Reciprocal; Act of speech and Perceptive



# Example

Ex.1) [...] καὶ χειρωσάμενος τὸν λέοντα τὴν μὲν δορὰν **ἠμφιέσατο**  
[...] - (Apol. *Biblio.* 2.4.10) - After defeating the lion, he **dressed**  
**himself** with the skin [...]

Reflexive middle



# Second step: Brazilian Sign Language

- Language from the French Sign Language
- There are iconic and non-iconic signals
- 5 parameters to compose the meanings
- Hand Configuration; Point of articulation; Movement; Orientation/Direction; Face or body expression





**Alegre**



**Triste**



**Ato-Sexual**



**Ladrão/Roubar**



**Helicóptero**



**Moto**







# Third step: where is digital technology?

- Corpus analysis by word list
- The middle voice is morphologically marked
- AntConc
- Ugarit for a trilingual translation



File Global Settings Tool Preferences About

## Corpus Files

TLG0548.apo.

Concordance

Concordance Plot

File View

Clusters

Collocates

Word List

Hits

0

Total No. of Word Types: 8496

Total No. of Word Tokens: 27282

Rank

Freq

Word

Lemma Word Form(s)

1

1

βα

2

1

φῆέβα

3

1

σύριγγα

4

1

Σφίγγα

5

1

μέγα

6

1

ὀπίγνα

7

1

Κουρήτιδα

8

1

τρίποδα

9

2

Ἴδα

10

1

Πεδιάδα

11

2

πεπιδιάδα

12

1

Ἰπιδιάδα

13

1

Ἄρκάδα

14

5

Ἐπιδιάδα

15

1

Ἀνδρομέδα

16

1

Λήδα

Search Term Word ☐ Case ☐ Regexp Advanced

Start

Stop

Sort

Sort by

Sort by Word End

☐ Invert Order

## Display Options

☐ Treat all data as lowercase

Total No. 1

Files Processed

Reset



Hit Location

Search Only

0

Save Window

Exit



Language

Ancient Greek

Language

Portuguese



Save to DB

Reset



Export as XML



Export Translation Pairs

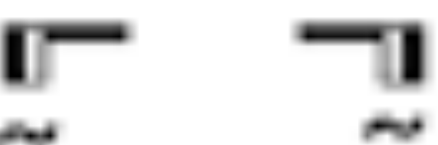
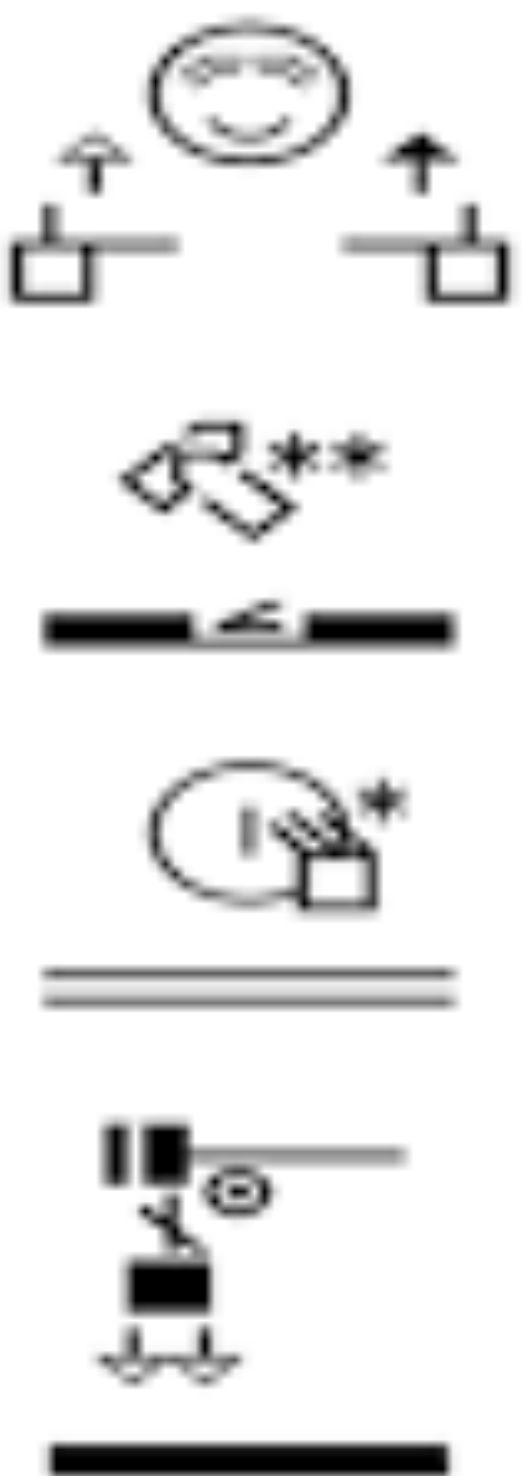


Alignment Geometry

τῆς ἡπείρου τῆς Ἑλληνικῆς κατὰ νήσους τὰς Κυκλ  
Αἰγαῖον ἄκρα Σούνιον πρόκειται γῆς τῆς Ἀττικῆς :  
καὶ λιμὴν τε  
παραπλεύσαντι τὴν ἄκραν ἐστὶ καὶ ναὸς Ἀθηνᾶς Σοι  
ἄκρας . πλέοντι δὲ ἐς τὸ πρόσω Λαύριόν τέ ἐστιν  
, ἔνθα ποτὲ Ἀθηναίοις ἦν ἀργύρου μέταλλα ,  
καὶ νῆσος ἔρημος οὐ μεγάλη Πατρόκλου καλουμένη  
: τεῖχος  
γὰρ ὠκοδομήσατο ἐν αὐτῇ καὶ χάρακα ἐβάλετο Πάτ  
, ὃς τριήρεσιν ὑπέπλει ναύαρχος Αἰγυπτίαις ,  
ᾧς Πτολεμαῖος ὁ Πτολεμαίου τοῦ Λάγου τιμωρεῖν ἔ  
,  
ὅτε σφίσιν Ἀντίγονος ὁ Δημητρίου στρατιᾷ τεαυτὲ  
κατεῖργεν .

Na terra firme da Hélade , em frente às ilhas  
Cíclades e o mar Egeu , o cabo Súnio situa-se à  
frente da terra ática . Circundado o cabo , ao se  
navegar , há um porto e um templo de Atena de  
Súnio . Mais distante está Láurio , onde outrora  
os atenienses tinham minas de prata , e uma  
solitária e pequena ilha chamada Ilha de Pátroclo  
. Pois , Pátroclo nela construiu uma muralha e  
lançou uma trincheira , comandante do trirreme  
dos Egípcios que Ptolemeu , filho de Ptolemeu ,  
filho de Lago , enviou para socorrer os  
atenienses , quando o próprio Antígono , filho de  
Demétrio , destruía o país , invadido com seu  
próprio exército , e , ao mesmo tempo ,  
bloqueava os navios do mar .







# RESULTS

MIDDLE GROUP	TOKENS	TYPES	RESULTS
Process	398	71	32%
Mental Process	83	24	7%
Displacement	228	54	19%
Reciprocal	43	11	3,5%
Perceptive	36	07	3%
Act of speech	65	43	5,2%
Reflexive	399	84	32%



# RESULTS

- Subject affectedness can be identified in, at least, one of the elements of meanings in BSL
- The face or body expression was the most frequent followed by the direction of the signs
- Only in one case of middle verbs the subject affectedness' is not clearly marked, the displacement one
- The affectedness can be found by the subject identification in the same proportion as face expression



# References

- ALBRES, N. *Ensino de libras: aspectos históricos e sociais para a formação didática de professores*. Curitiba: Appris, 2016.
- ALLAN, R. J. *The middle voice in Ancient Greek: a study of polysemy*. Leiden: Brill, 2003.
- BENVENISTE, É. Actif et moyen dans le verbe. In: *Problèmes de linguistique générale*. Paris: Gallimard, 1966. v. 1, p. 168-175.
- BERBER SARDINHA, T. B. Linguística de Corpus: histórico e problemática. *D.E.L.T.A.* São Paulo, v. 16, n. 2, p. 323-367. Disponível em: <[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S010244502000000200005](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S010244502000000200005)>. Acesso em: 15 fev. 2018.
- BODDARD, G. *Digital Classics Outside The Echo-Chamber*. Londres: Ubiquity Press, 2016.
- BOTELHO, P. *Linguagem e letramento na educação dos surdos: ideologias e práticas pedagógicas*. 4.ed. Belo Horizonte: Autêntica, 2013.
- BRUGMANN, K. *Greek Grammar*. Munique: Bech, 1903.
- CRANE, G. *What do you do with a million books?* *D-Lib Magazine*, v. 12. Disponível em: <http://www.dlib.org/dlib/march06/cra/03crane.html>. Acesso em: 15 jul. 2013.
- ESTELITTA, M. *Elis: sistema brasileiro de escrita de sinais*. Porto Alegre: Penso, 2015.
- LACERDA, C. B. F. de.; SANTOS, L. F. dos. (Org.). *Tenho um aluno surdo, e agora?* Introdução à LIBRAS e educação de surdos. São Carlos: Ed. UFSCar, 2014.
- \_\_\_\_\_. *Intérprete de libras em atuação na educação infantil e no ensino fundamental*. Porto Alegre: Mediação, 2016.
- GESSER, A. *LIBRAS? que língua é essa?: Crenças e preconceitos em torno da língua de sinais e da realidade surda*. São Paulo: Parábola, 2009.
- GHORBEL, H.; BALLIM, A.; CORAY, G. *ROSETTA: Rhetorical and Semantic Environment for Text Alignment*. In: RAYSON, P.; WILSON, A.; McENERY A. M.; HARDIE, A.; KHOJA, S. (Org.). *Proceedings of Corpus Linguistics*. Lancaster: [s.n.], 2001. p. 224-233.



# References

GILDERSLEEVE, B. L. *Syntax of Classical Greek from Homer to Demosthenes*. New York: American Book Company, 1911.

HEYER, G.; SCHUBERT, C. eAQUA: Extraktion von strukturiertem Wissen aus Antiken Quellen für die Altertumswissenschaft. *Proceedings des Statusseminars BMBF-Förderschwerpunkt: Wechselwirkungen zwischen Natur – und Geisteswissenschaften*. Bonn: BMBF, 2010.

GUARINELLO, A. C. Reflexões sobre a aquisição do português escrito como segunda língua de uma criança surda. *Cadernos de Pesquisas em Linguística*, Porto Alegre, v.1, n. 1, p. 63-66, ago. 2005.

KEMMER, S. *The middle voice*. Amsterdam: John Benjamins, 1993

KNOEPFLER, D.; PIÉRART, M. (Org.). Éditer, traduire, commenter Pausanias en l'an 2000. Actes du Colloque de Neuchâtel et de Fribourg (18-22 septembre 1998). Genève: Droz, 2001.

KÜHNER, R.; GERTH, B. *Ausführliche grammatik der griechischen Sprache*. Capítulo 1: elementar - und Formenlehre. Hanover: Hahnsche Buchhandlung, 1904. 2 v.

LANGACKER, R. W. *Foundations of cognitive grammar*. Stanford: Stanford University Press, 1987. v. 1.

\_\_\_\_\_. A dynamic usage-based model. In: BARLOW, M.; KEMMER, S. *Usage-based models of language*. Stanford: CSLI, 2000.

LEE, J. A. Computational model of text reuse in ancient literary texts. In: Annual Meeting of the Association of Computational Linguistics, 45th, 2005. *Proceedings...* New York: ACM Press, 2005. p. 517-524.

\_\_\_\_\_. Linguistic Annotations for literary studies. In: OLIVEIRA, J. K.; SANTOS, F. B. dos. (Org.). *Estudos Clássicos e seus desdobramentos*. São Paulo: Ateliê Editorial. No prelo.

LYONS, J. *Linguistic Semantics*. Cambridge: Cambridge University Press, 1996.

MANNEY, L. J. *The middle voice in modern Greek*. Amsterdam: John Benjamins, 1998.

MEILLET, A. Introduction à l'étude comparative des langues indo-européennes. Paris: [s.n.], 1937.

QUADROS, R. M. de. *Língua de herança, língua brasileira de sinais*. Porto Alegre: Penso, 2017.

\_\_\_\_\_. *Estudos da Língua Brasileira de Sinais*. Florianópolis: Insular, 2014.



# References

QUADROS, R. M. de; KARNOPP, L. *Língua de sinais brasileira: estudos linguísticos*. Porto Alegre: Artmed, 2004.

OWEN, C. Corpus-based grammar and the Heineken effect: Lexico-grammatical description for language learners. *Applied Linguistics*, v. 14, p. 167-187, 1992.

PAUSANIAS. *Graeciae descriptio*. (F. Spiro, Ed.). Lipsiae: Teubner, 1903. Edição digital disponível em Perseus Digital Library's CapiTainS Environment (Ambiente CapiTainS da Biblioteca Digital Perseu): <https://cts.perseids.org/read/greekLit/tlg0525>.

RIJKSBARON, A. *The syntax and semantics of the verb in Classical Greek*. Amsterdam: Gieben, 1994.

\_\_\_\_\_. *Description of Greece*. (W.H.S Jones, Ed.; H.A. Ormerod, Trad.). Loeb Classical Library. London/New York: Heineman/Putnam's Sons, 1935. Edição digital disponível em Perseus Digital Library's CapiTainS Environment (Ambiente CapiTainS da Biblioteca Digital Perseu): <https://cts.perseids.org/read/greekLit/tlg0525>.

\_\_\_\_\_. *Graeciae descriptio*. (Edição crítica de Maria Helena da Rocha Pereira). Leipzig: Teubner, 1973. (Vol. I. Libri 1-IV).

PRETZLER, M. 2007. Pausanias: travel writing in ancient Greece. Classical Literature and Society. London: Duckwort, 2007.

Schmidt, A.; Aidoo, K. A.; Takaluoma, A.; Tuomela, U.; Van Laerhoven, K.; Van de Velde, W. Advanced interaction in context. In: The First International Symposium on Handheld and Ubiquitous Computing Proceedings of HUC'99, 1st, p. 89-101. Karlsruhe: [s.n.], 1999.

SCREIBMAN, S.; KUMAR, A.; McDONALD, J. The versioning machine. *Literary and Linguistic Computing*, Volume 18, Issue 1, 1 April 2003, Pages 101–107, <https://doi.org/10.1093/lc/18.1.101>

SKLIAR, C. (Org.). *Atualidade da educação bilíngue para surdos: intercaces entre pedagogia e linguística*. 6.ed. Porto Alegre: Mediação, 2016. 2 v.

STEIN, B.; MEYER zu EISSEN, S. Near Similarity Search and Plagiarism Analysis. In: SPILIOPOULOS, M.; KRUSE, R.; BORGELT, C.; NÜRNBERGER, A.; GAUL, W. (Org.). *From Data and Information Analysis to Knowledge Engineering*. Berlim: Springer, 2005. p.430-437.

STEWART, G.; CRANE, G.; BABEU, A. A new generation of textual corpora: mining corpora from very large collections. In: JCDL 2007. ACM/IEEE-CS Joint Conference on Digital Libraries, 7th. *Proceedings...* New York: ACM Press, 2007. p. 356-365.

ZAFRIN, V. *Two perspectives on collaboration in the Humanities*. 2013 Disponível em: <http://dspace.hil.unb.ca:8080/bitstream/handle/1882/983/zafrin.pdf?sequence=3>. Acesso em: 15 set. 2013.