

Three-participant verbs in Ancient Greek in Universal Dependencies annotation

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INTRODUCTION

Universal Dependencies (De Marneffe et al., 2021) is a framework designed for representing grammatical relations across various languages, with the goal of providing a universal model for syntactic analysis. This framework employs a **dependency structure** that places the verb at the head of the sentence, detailing the relationships between the verb and its arguments through a series of consistently labeled dependencies across different languages. The objective of this study was to **analyze the structure of three-argument verbs in Ancient Greek** and to investigate the potential methods for encoding them within the UD framework.

THREE-ARGUMENTAL VERBS IN ANCIENT GREEK

Ditransitive Constructions (Malchukov et al., 2010): [T moves from A to R]

1. **Indirective** or Indirect Object **Alignment** [T=P≠R] (e.g., *dídōmi* ‘to give’)
2. **Secundative** or Secondary Object **Alignment** [T≠P=R] (e.g., *πimplēmi* ‘to fill’)
3. **Neutral Alignment** (Double Object Construction (DOC) in Ancient Greek manifests as “Double Accusative Construction” (DAC)) [T=R=P] (e.g., *didáskō* ‘to teach’)

Constructions with Obliques:

psychén dè eis tò méson autoû theis “having placed the soul **in the center** of the body (literally: of this)” (Plat. *Tim.* 34b)

Causatives in Ancient Greek:

1. **Lexical Causatives** (cf., e.g., *thnēsō* ‘to die’ / *kteinō* ‘to kill’; *didáskō* ‘to teach’)
2. **Periphrastic Causatives**: *poiēō* ‘to make’ with ACC and INF (e.g., *epeí ár se theoí poiēsán ikésthai oíkon* “After the **gods made you** return home.” (Od. 23.258-259))

SYNTAX OF THREE-PARTICIPANT VERBS IN UNIVERSAL DEPENDENCIES

Ditransitive Construction	Indirective Alignment	Secundative Alignment
Constructions with Obliques : obl:arg.	R=iobj; T=obj	R=obj; T=iobj
Periphrastic Constructions: third argument xcomp/ccomp (verb) or obl:arg (sostantive).		

ISSUES AND SOLUTION

A **DAC** does not automatically correspond to a **DOC** (Jacquinod 1989; Luraghi and Zanchi 2018); therefore, the annotation must account for this (UD can have only one iobj and one obj).

Non-double object constructions R=obj; T=obl:arg	The whole part construction Cognate object construction
Secundative Alignment R=obj; T=iobj	Lexical Causatives Construction with Maleficiary Verbs of asking
Indirective Alignment	Accusative with verbs of motion: T=obj; R=obl:arg Verbs of saying: T=obj; R=iobj

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