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Syntax of Russian Modal 'Dolzhen' and Embedded Infinitival Clauses[1]

Different ideas on the syntactic structure of modal verbs have been advanced by various scholars. (Ross 1969; Jackendoff 1972; Zubizarreta 1982) claim that epistemic modal verbs are expected to behave as raising predicates while root modals should be analyzed as control predicates. Contrariwise, according to Wurmbrand (1999), all modal verbs must be raising verbs.

Russian modal *dolzhen* is thought to take both root and epistemic readings (Paducheva 2014). I argue that *dolzhen* has three different interpretations, two of which are root and the third one is pseudo-epistemic[2] (see Yalcin 2016). Root readings differ in that one of them obligatorily assigns theta-role (i.e. the subject and obligation bearer[3] have to coincide) and the other does not. I will refer to the former as *directed root* and to the latter as *undirected root*[4]. In the past and future tenses *dolzhen* requires the copula *byt'* which can either precede or follow the modal. *Dolzhen* with preceding copula may only take directed root reading.

Directed root *dolzhen* never occurs with passives (1) and non-agentive subjects (2). It is also never followed by Neg-Raising (3). The negation can appear in the infinitival clause with directed root *dolzhen* (4).

(1)   *Aleksey byl dolzhen byt' vypuschen is strany.
        Intended: 'Alexey should be released from the country'.

(2)   Derevo bylo dolzhno upast'.
        Intended: 'The tree must have fallen'.

(3)   Petya ne byl dolzhen xodit' v shkolu.
        'Petya didn't have an obligation to go to school'.
        *'Petya should have stayed out of school'.

(4)   Petya byl dolzhen ne xodit' v shkolu.
        'Petya should have stayed out of school'.

Undirected root, on the contrary, can be used with passives, non-agentive predicates and is obligatorily accompanied by Neg-Raising. It also does not allow embedded negation as in (4).

As opposed to previous researches on the syntax of epistemic and root modals, I claim that directed root *dolzhen* is a control predicate while undirected root and epistemic *dolzhen* are raising predicates. I use the following diagnostics: the presence of obligatory theta-role assignment, passive test, idioms

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[2] In contrast to my statement that *dolhen* does not take true epistemic reading, I will continue to use the term epistemic referring to pseudo-epistemic interpretations just as a matter of convenience.
[3] The term is borrowed from (Grano 2015).
[4] The term *directed deontic interpretation* (Barbiers 1995) refers to contexts where the subject of the modal verb has an obligation or permission.

test, the availability of indefinite non-specific -*nibud'* pronouns[5] in subject position, and the licensing of the Genitive of negation. The results are presented in table (1).

Table 1.

Test	directed root	undirected root	epistemic
Theta-role assignment	CONTROL	RAISING	RAISING
Passive	CONTROL	RAISING	RAISING
Non-agentive subject	CONTROL	RAISING	RAISING
Idioms	CONTROL	RAISING	RAISING
-*nibud'* pronouns	*RAISING	RAISING	RAISING
Genitive of negation	*RAISING	RAISING	RAISING

The other issue I intend to discuss is whether these three types of *dolzhen* show properties of restructuring predicates. In (Wurmbrand 2004) two types of restructuring are set out: *functional* restructuring and *lexical* restructuring. Both two different root and epistemic readings show transparency effects such as interclausal negative concord and the licensing of Genitive of negation in the embedded clause by the negation marker in the matrix clause. Following Wurmbrand's criteria for distinguishing between lexical and functional restructuring, I propose the following analysis: directed root *dolzhen* is a lexical restructuring predicate allowing the NegP projection in the complementation (4) while epistemic and undirected root dolzhen are functional restructuring predicates.

The paper also presents some conclusions on the position of pseudo-epistemic modals in Cinque's (1999) functional hierarchy.

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[5] See (Letuchiy & Viklova 2020) for substantiation of this diagnostic.

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