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## Support (= Light) Verbs

### Abstract

The paper proposes a formal definition of support verb as (roughly) a semantically empty verb serving as a syntactic “prop” to a predicative noun such that the phrase  $V_{(\text{support})}(N) + N$  is synonymous with the verb  $V_0$  derived form  $N$ : ‘ $V_{(\text{support})}(N) + N$ ’ = ‘ $V_0(N)$ ’, as in ‘to give an order’ = ‘to order’ or ‘to receive an order’ = ‘to be ordered’. The following points are discussed: support verbs as collocates, representation of support verbs in terms of lexical functions, semantic and syntactic properties of support verbs, semantic additions to support verbs (in particular, causation and phasic meanings), realization verbs, and the role of support verbs in theoretical and applied linguistics.

### Keywords

English, syntax, phraseology, paraphrasing, support verbs, lexical functions, collocations, the quasi-direct-objectival surface-syntactic relation

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## 1 The Statement of the Problem

This paper's goal is to offer a logically coherent, comprehensive and formal enough description of an important subclass of verbs in world languages: so-called support verbs. This perspective requires a strict formal frame, and the Meaning-Text approach is adopted as such a frame (e.g., Mel'čuk 2012—2015 or 2016); it is taken to be known to the reader. Its fundamental notions—describing the language in the direction from Meaning to Text, the deep-syntactic structure, actants, government pattern, syntactic relations, phrasemes, lexical functions, etc.—and corresponding formalisms are used practically with no explanations.

The paper has all the characteristics of an encyclopedia article: it presents no new facts and no new solutions to some old problems, but makes an attempt to expound the key elements of available knowledge about support verbs systematically and logically.

The literature on support verbs is too rich for a reasonable overview; therefore, references are reduced to a strict minimum. A detailed enough description of support verbs even in one language would require a lengthy monograph, and thus the subsequent discussion is limited practically to support verbs in Standard Average European [SAE] languages, more specifically in English. Illustrations are basically from English, but also from French and Russian. Many important linguistic properties of support verbs are passed over.

It is, however, worth mentioning that support verbs, under the name of *Oper<sub>1</sub>*-type verbs, were formally described in the first publications on the Meaning-Text approach and the lexical functions: Žolkovskij & Mel'čuk 1965, 1967 and Mel'čuk 1974, pp. 92—94; see Section 4 below.

### Abbreviations and Notations

$A_{(poss)}$	: possessive pronoun ( <i>my, your, his, ...</i> )	$V_{(support)}$	: support verb
ART	: article or any equivalent determiner	<b>I, II, ...</b>	: deep-syntactic actants <b>I, II, ...</b>
DirO	: direct object	$L_1 \rightarrow L_2$	: $L_2$ syntactically depends on $L_1$
DSynt-	: deep-syntactic	~	: keyword of the given lexical function
IndirO	: indirect object	$\sim \rightarrow N$	: $N$ syntactically depends on the keyword
L	: lexical unit	[ ]	: the government pattern of the support verb
LF	: lexical function	[[ $\sigma$ ]]	: presupposition—such a part of meaning ' $\sigma$ ' that is not affected by the negation or interrogation of the whole ' $\sigma$ '
L(' $\sigma$ ')	: L that expresses the meaning ' $\sigma$ '		
$N_X, N_Y$	: N that expresses actants 'X' and 'Y'		
OblO	: oblique object		
' $\sigma$ '	: a particular meaning		

SAE : Standard Average European (language) 'L<sub>1</sub> L<sub>2</sub> L<sub>3</sub> ...' : idiom L<sub>1</sub> L<sub>2</sub> L<sub>3</sub> ...  
 SSynt- : surface-syntactic 'X' and 'Y' : semantic actants 1 and 2 of  
 a predicate

Technical terms, on the first mention, are printed in Helvetica.

## 2 The Notion of Support Verb

The verbs under consideration are also known as light verbs; however, the term *support verb* has to be preferred, since it explicitly refers to the main function of these verbs: to serve as **verbal support** for predicative nouns, that is, to make them “grammatically fit” to be used in the syntactic position of the head of a sentence.

### Definition 1: support verb [V<sub>(support)</sub>]

Let there be a noun N whose meaning is a semantic predicate ‘σ’: N(‘σ’). Then:

A verbal lexeme V is a support verb V<sub>(support)</sub> if and only if

- 1) V is used with an N(‘σ’) such that this N(‘σ’) is its DSynt-actant:  
 V–I/II/...→N(‘σ’);

and

- 2) the meaning of the phrase V→N(‘σ’) is the same as that of N(‘σ’), i.e., it is ‘σ’:

$$‘V→N(‘σ’)’ = ‘N(‘σ’)’ = ‘σ’.$$

For simplicity’s sake, in what follows, only bi-actantial predicates ‘σ’ are considered; generalizing for *n*-actantial predicates is unproblematic.

### Examples

Eng.	<i>make a DECISION</i>	<i>A MISFORTUNE befalls</i> N <sub>X</sub> .	<i>put</i> N <sub>Y</sub> under <i>QUARANTINE</i>
Fr.	<i>prendre</i> ‘take’ <i>une DÉCISION</i>	<i>Un MALHEUR arrive</i> à ‘arrives to’ N <sub>X</sub> .	<i>mettre</i> N <sub>Y</sub> en ‘put in’ <i>QUARANTAINE</i>
Rus.	<i>prinjat’</i> ‘receive’ <i>REŠENIE</i>	<i>NESČAST’E slučajsja s’</i> ‘happens with’ N <sub>X-INSTR</sub> .	<i>pomestit’</i> N <sub>Y-ACC</sub> v ‘place into’ <i>KARANTIN</i>

☞ The support verb is printed in **boldface** and the predicative N, its actant, in *SMALL CAPS*.

Condition 2 of Definition 1 can be illustrated by such examples as

‘to make a decision’	= ‘to decide’,
‘to give a groan’	= ‘to groan’,
‘to put N <sub>Y</sub> under quarantine’	= ‘to quarantine N <sub>Y</sub> ’,
‘to offer N <sub>Y</sub> an apology’	= ‘to apologize to N <sub>Y</sub> ’, etc.

In other words, the meaning of the phrase  $V_{(\text{support})} \rightarrow N$  is identical to the meaning of a full verb derivationally related to  $N$  and having the same meaning as  $N$ . Let us denote such a verb as  $V_0$ ,  $N$  as  $S_0(V_0)$ , and  $V_{(\text{support})}$  as  $V_{(\text{support})}(S_0(V_0))$ . Then we can write

$$'V_0' = 'S_0(V_0) \leftarrow V_{(\text{support})}(S_0(V_0))'$$

This semantic equality, expressed in terms of lexical functions [LFs], underlies all paraphrastic manipulations with the  $V_{(\text{support})}S$ .

**NB** The above equality holds only “ideally.” In actual texts, it is often violated, just as beautiful physical laws are violated in ugly practical reality. Therefore, in many cases special amendments are needed in the lexicographic description of particular  $V_{(\text{support})} \rightarrow N$  collocations; see Section 5.

Thus, a  $V_{(\text{support})}$  does not add lexical meaning to “its” predicative noun; it plays a strictly syntactic role: supplies the top node of the syntactic tree of the sentence (a sentence is impossible without a finite verb as its syntactic head).

In many cases, a semantically full verb equivalent to the phrase  $V_{(\text{support})} \rightarrow N$  may be absent from the language. Thus, English does not have a full verb synonymous with *A misfortune befalls* [ $N_x$ ]; there are no full verbs for *engage in an activity*, *give an ovation*, *have an affair*, *issue an ultimatum*, *pay attention*, *take a break*, etc. In other words, the corresponding semantic predicates have only nominal expressions. This is, however, irrelevant to our topic here.<sup>1</sup>

## Comments

1) While discussing support verbs, it is crucial to speak of a verbal lexeme (rather than simply of a verb), since a support verb lexeme can be, and most of the time is, homophonous with a full verbal lexeme. Thus, the semantically empty  $V_{(\text{support})}$  *PAY* in *PAY ATTENTION* is homophonous with *PAY* ‘X gives Y money Z for W’. To preclude confusion, a precise specification of the lexeme under consideration is needed.

2) The phrase  $V_{(\text{support})} \rightarrow N('σ')$ , where the meaning ‘ $σ$ ’ is, as stated above, a bi-actantial predicate, can feature exactly three types of deep-syntactic dependency:

$V_{(\text{support})} \text{—I} \rightarrow N('σ')$ ; for instance, *An EARTHQUAKE<sub>N('σ')</sub> ← I—rattles the island.*

$V_{(\text{support})} \text{—II} \rightarrow N('σ')$ ; for instance, *Moore was—II → in CONTROL<sub>N('σ')</sub> of the situation.*

$V_{(\text{support})} \text{—III} \rightarrow N('σ')$ ; for instance, *...the situation, which Moore held—III → under CONTROL<sub>N('σ')</sub>.*

A widespread, but mistaken opinion has it that a  $V_{(\text{support})}$  takes  $N('σ')$  only as its Direct Object. In fact, the  $N('σ')$  as a DirO of a  $V_{(\text{support})}$  is by far the most frequent, but by no means the only, possibility.  $N('σ')$  can be the Subject, the DirO, the IndirO and an Oblique Object of a  $V_{(\text{support})}$ .

3) A  $V_{(\text{support})}$  in a  $V_{(\text{support})} \rightarrow N$  phrase is semantically empty. This statement has the following precise technical sense:

|| “A  $V_{(\text{support})}$  is semantically empty” means that it is selected by the Speaker and introduced into the DSynt-structure of the utterance under production not as all “normal” lexical units are, that is, in order to express its own meaning, but in order to fulfill a necessary syntactic role—to be the syntactic tree’s top node and to carry the obligatory verbal grammemes (the mood and, perhaps, the tense).<sup>2</sup>

4) In spite of its semantic emptiness (in the above technical sense), a  $V_{(\text{support})}$  appears in the DSynt-structure: without it a well-formed syntactic structure dominated by an  $N(\sigma)$  as a syntactic representation of a sentence is impossible.

On the notion of support verb, see also Langer 2005.

### 3 Support Verbs as Collocates

From the definition of support verb it does not follow that in a phrase  $V_{(\text{support})} \rightarrow N$  the  $V_{(\text{support})}$  must be phraseologically bound by  $N$ . In other words, the selection of the  $V_{(\text{support})}$  by the Speaker is not necessarily function of  $N$ . For instance, Japanese, where  $V_{(\text{support})} \rightarrow N$  phrases are widespread, has practically just one support verb for all possible semantically predicative  $N$ s: *SURU* ‘do’. But in an SAE language (and this paper is intended to account, in the first place, for  $V_{(\text{support})} \rightarrow N$  phrases precisely in Germanic, Romance, and Slavic languages), a  $V_{(\text{support})}$  is, as a general rule, specific to the corresponding  $N$ : the phrase  $V_{(\text{support})} \rightarrow N$  is a semantic-lexemic phraseme, or, more precisely, a collocation.

#### Definition 2: semantic-lexemic phraseme

|| A phrase is a semantic-lexemic phraseme if and only if it is constrained with respect to its meaning.

When, in order to express a given meaning, the Speaker produces a semantic-lexemic phraseme, he cannot select all the necessary lexemic components independently of each other—each one for its own meaning and other properties; at least some of these components are selected as function of others.

There are two families of semantic-lexemic phrasemes: semantically compositional, called collocations, and semantically non-compositional, or idioms; in what follows, idioms are left out.

**Definition 3: collocation**

|| A semantic-lexemic phraseme is a collocation if and only if it is semantically compositional.

“Phrase  $L_1 \oplus L_2$  is semantically compositional” means that ‘ $L_1 \oplus L_2$ ’ = ‘ $L_1$ ’  $\oplus$  ‘ $L_2$ ’: in prose, the meaning of the regular union of the lexemes  $L_1$  and  $L_2$  is equal to the regular union of their meanings ‘ $L_1$ ’ and ‘ $L_2$ ’. In a collocation, one lexeme is selected by the Speaker freely—for its meaning; this is the base. The other lexeme is selected as a function of the base; this is the collocate, which expresses the remaining part of the collocation’s meaning.

Such is the case of a  $V_{(\text{support})} \rightarrow N$  phrase in an SAE language: N is selected for its own meaning, but the corresponding  $V_{(\text{support})}$  is selected—to fulfill the necessary syntactic role, that is, to be the top node of the syntactic tree—as a function of its N. Thus, the phrase  $V_{(\text{support})} \rightarrow N$  in an SAE language is a collocation, of which N is the base and  $V_{(\text{support})}$  is the collocate.

A  $V_{(\text{support})}$  phrase is a collocation, and the collocations are described by means of lexical functions. (For more on collocations, see Mel’čuk 2023.)

## 4 Support Verbs and Lexical Functions

Lexical functions represent a formal technique introduced for the description of collocations: a collocate is function of the base, which allows for its specification by special functions (in the mathematical sense), whose arguments and values are lexical units (for LFs, see Mel’čuk 2012—2015: vol. 3, Ch. 14 and Mel’čuk & Polguère 2021).

An LF is identified by an abbreviated Latin name, see below. The argument of an LF—i.e., the base of the corresponding collocation—is called its keyword (in order to avoid the proliferation of polysemy of the term *argument*). The value of an LF is, generally speaking, a set of (near)synonymous lexical units. In what follows, the keyword of an LF is denoted by L; in the examples, the keyword is printed in *SMALL CAPS*, and the elements of the LF’s value, in **boldface**.

Three LFs describe all logically possible syntactic types of support verbs:

- $\text{OPER}_1$  [Lat. *operārī* ‘to work, to operate’], which takes the keyword L as its DSynt-actant II (on the SSynt-level, it is the DirO); for instance,  $\text{OPER}_1(\text{attention}) = \text{pay} [\sim]$ :  $\text{PAY-II} \rightarrow \text{ATTENTION}$  (*One must **pay** close ATTENTION<sub>II</sub> to all the details.*).
- $\text{FUNC}_1$  [Lat. *\*functionāre* ‘to fulfill, to accomplish’], which takes the keyword L as its DSynt-actant I (Subject); for instance,  $\text{FUNC}_1(\text{misfortune}) = \text{be-fall} [\text{N}_x]$ :  $\text{MISFORTUNE} \leftarrow \text{I} \rightarrow \text{BEFALL}$  (*A terrible MISFORTUNE<sub>I</sub> **befell** the child.*).

- $Labor_{ij}$  [Lat. *laborāre* ‘to work’], which takes the keyword L as its DSynt-actant **III** (IndirO or OblO); for instance,  $Labor_{12}(respect) = hold$  [ $N_Y in \sim$ ]: HOLD-**III**→RESPECT (*The scientific community **holds** Debakey’s work<sub>II</sub> in high RESPECT<sub>III</sub>*).

For a support verb LF, the keyword is a (predicative) noun; the keyword’s meaning must be a semantic predicate. (With quasi-predicative nouns denoting entities—devices, vehicles, substances, etc.—the realization verbs are used, see Section 6.)

$Oper_i$ ,  $Func_i$  and  $Labor_{ij}$  are deep lexemes, which appear only in DSynt-structures. They are linguistically universal in that they exist *a priori* in any language—with the same properties. The elements of their value, that is, the actual support verbs, are their surface implementations. Reasoning on the DSynt-level and in terms of LFs, one can say there are three language-universal support verbs, named above. Let us illustrate them one after the other.

Here and below, English examples are given in alphabetical order of the keywords. In French and Russian examples the keywords are semantic equivalents of the English ones and follow their order.

The subscripts *i* and *j* to the names of LFs refer to the DSynt-actants of the keyword: the subscript <sub>0</sub> means that there is no such actant, <sub>1</sub> indicates DSynt-actant **I**, <sub>2</sub>—DSynt-actant **II**, etc.

### **Oper<sub>1</sub>**

$Oper_1$  is a verb that, as indicated, takes its keyword L as its DSynt-actant **II**; DSynt-actant **I** of  $Oper_1$  is DSynt-actant **I** of L, and DSynt-actant **I** of  $Oper_2$  is DSynt-actant **II** of L.  $Oper_0$  has no DSynt-actant **I**.

	<b>Oper<sub>1</sub></b>	<b>Oper<sub>2</sub></b>
<b>English</b>		
$X_I$ ’s BACKING of $Y_{II}$	<i>give</i> [ $N_Y A_{(poss)}(N_X) \leftarrow \sim$ ]	<i>enjoy</i> [ $N_X$ ’s $\leftarrow \sim$ ]
$X_I$ ’s INFLUENCE over $Y_{II}$	<i>exert</i> [ $\sim on N_Y$ ]	<i>be</i> [ <i>under</i> $N_X$ ’s $\leftarrow \sim$ ]
$X_I$ ’s VISIT to $Y_{II}$	<i>pay</i> [ $N_Y ART \sim$ ]	<i>receive</i> [ $N_X$ ’s $\leftarrow \sim$ ]
<b>French</b>		
SOUTIEN de $X_I$ pour $Y_{II}$	<i>accorder</i> [ $A_{(poss)}(N_X) \leftarrow \sim \grave{a} N_Y$ ]	<i>avoir</i> [ $A_{(poss)}(N_X) \leftarrow \sim$ ]
INFLUENCE de $X_I$ sur $Y_{II}$	<i>avoir</i> [ $ART \sim sur N_Y$ ]	<i>être</i> [ <i>sous</i> $ART \sim \rightarrow de N_X$ ]
VISITE de $X_I$ à $Y_{II}$	<i>rendre</i> [ $\sim \grave{a} N_Y$ ]	<i>recevoir</i> [ $ART \sim \rightarrow de N_X$ ]
<b>Russian</b>		
PODDERŽK A $Y_{II}$ -a $X_I$ -om	<i>okazyvat'</i> [ $\sim u N_{Y-DAT}$ ]	<i>polučit'</i> [ $\sim u ot N_{X-GEN}$ ]
VLIJAN E $X_I$ -a na $Y_{II}$ -a	<i>okazyvat'</i> [ $\sim e na N_{Y-ACC}$ ]	<i>naxodit'sja</i> [ <i>pod</i> $\sim em \rightarrow N_{X-GEN}$ ]
VIZIT $X_I$ -a k $Y_{II}$ -u	<i>nanesti</i> [ $\sim N_{Y-DAT}$ ]	<i>prinimat'</i> [ $\sim \rightarrow N_{X-GEN}$ ]

In case of a tri-actantial keyword, Oper<sub>3</sub> appears:

X<sub>I</sub>'s ORDER to Z<sub>III</sub> to do Y<sub>II</sub> : Oper<sub>3</sub>(order) = receive [from N<sub>X</sub> ART ~]  
 DISPUTE between X<sub>I</sub> and Y<sub>II</sub> over Z<sub>III</sub>: Oper<sub>3</sub>(dispute) = be a (subject) matter [of A<sub>(poss)</sub>(N<sub>X</sub>&Y)←~]

“Higher” Oper<sub>s</sub> are not known (for the time being). But the technique of numbering DSynt- actants allows for their easy introduction, should they be discovered one day.

Logically, an Oper<sub>0</sub>, that is, an Oper having no DSynt-actant I and a dummy SSynt-Subject, is possible and a couple examples are found in Russian:

ZAPAX ‘smell<sub>(N)</sub>’ X<sub>I</sub>-a Y<sub>II</sub>-a’: Ø<sub>(neu)3,SG</sub><sup>DUMMY</sup> *tjanet*<sub>Oper<sub>0</sub></sub> ZAPAXOM<sub>II</sub>→ryby<sub>Y</sub> ‘[It] draws with.smell of.fish’.  
 VOZDUX ‘air<sub>(N)</sub>’ Y<sub>II</sub>-a’: Ø<sub>(neu)3,SG</sub><sup>DUMMY</sup> *veet*<sub>Oper<sub>0</sub></sub> VOZDUXOM<sub>II</sub>→svobody<sub>Y</sub> ‘[It] blows with.air of.liberty’.

**Func<sub>i</sub>**

	<b>Func<sub>1</sub></b>	<b>Func<sub>2</sub></b>
<b>English</b>		
X <sub>I</sub> 's AID to Y <sub>II</sub>	<i>comes</i> [from N <sub>X</sub> ]	<i>comes</i> [to N <sub>Y</sub> ]
X <sub>I</sub> 's PLAN to do Y <sub>II</sub>	<i>comes</i> [from N <sub>X</sub> ]	<i>calls</i> [for V <sub>Y-ING</sub> ]
X <sub>I</sub> 's RESPONSIBILITY of Y <sub>II</sub> -ing	<i>rests</i> [with N <sub>X</sub> ]	<i>is</i> [V <sub>Y-ING</sub> /to V <sub>Y</sub> ]
<b>French</b>		
AIDE de X <sub>I</sub> à Y <sub>II</sub>	<i>vient</i> [de N <sub>X</sub> ]	<i>va</i> [à N <sub>Y</sub> ]
PLAN de X <sub>I</sub> de faire Y <sub>II</sub>	<i>vient</i> [de N <sub>X</sub> ]	<i>prévoit</i> [N <sub>Y</sub> ]
RESPONSABILITÉ de X <sub>I</sub> de faire Y <sub>II</sub>	<i>incombe</i> [à N <sub>X</sub> ]	<i>est</i> [de V <sub>Y-INF</sub> ]
<b>Russian</b>		
POMOŠČ' X <sub>I</sub> -a Y <sub>II</sub> -u : <i>prixodit</i> [ot N <sub>X-GEN</sub> ]		<i>dostavljaetsja</i> [N <sub>Y-DAT</sub> ]
PLAN X <sub>I</sub> -a Y <sub>II</sub> -it' : <i>isxodit</i> [ot N <sub>X-GEN</sub> ]		<i>sostoit</i> [v tom, čtoby V <sub>Y-INF</sub> ]
OTVETSTVENNOST' X <sub>I</sub> -a za Y <sub>II</sub> : <i>ležit</i> [na N <sub>X-PREP</sub> ]		Ø <sup>BYT'</sup> [V <sub>Y-INF</sub> ]

What has been said about a tri-actantial keyword in connection with Oper<sub>3</sub> is valid for Func<sub>3</sub> as well:

DIFFERENCE Z<sub>III</sub> between X<sub>I</sub> and Y<sub>II</sub> : Func<sub>3</sub>(difference) = lies [in N<sub>Z</sub>]  
 X<sub>I</sub>'s ULTIMATUM to Y<sub>II</sub> to do Z<sub>III</sub> before T<sub>IV</sub> : Func<sub>3</sub>(ultimatum) = calls [for N<sub>Z</sub>]



An even “higher” Func is known:  $\text{Func}_4(\textit{ultimatum}) = \textit{expires}$  [at N<sub>T</sub>]

As far as  $\text{Func}_0$  is concerned, that is, a Func having no object, such support verbs are quite common:

CHANGE	: $\text{Func}_0(\textit{change})$	= [ART ~] <i>occurs</i>
HURRICANE	: $\text{Func}_0(\textit{hurricane})$	= [ART ~] <i>churns</i>
SITUATION	: $\text{Func}_0(\textit{situation})$	= [ART ~] <i>unfolds</i>
SOUND	: $\text{Func}_0(\textit{sound})$	= [ART ~] <i>'rings out'</i>
'STATE OF AFFAIRS'	: $\text{Func}_0(\textit{'state of affairs'})$	= [ART ~] <i>obtains</i>
WAR	: $\text{Func}_0(\textit{war})$	= <i>there 'is</i> [ART ~] <i>on'</i>
WIND	: $\text{Func}_0(\textit{wind})$	= [ART ~] <i>blows</i>

### Labor<sub>ij</sub>

	Labor <sub>12</sub>	Labor <sub>21</sub>
<b>English</b>		
Y <sub>II</sub> , X <sub>I</sub> 's INHERITANCE from Z <sub>III</sub>	<i>receive</i> [N <sub>Y</sub> as ~ from N <sub>Z</sub> ]	<i>come</i> [to N <sub>X</sub> as ~ from N <sub>Z</sub> ]
Y <sub>II</sub> , RESULT of X <sub>I</sub>	<i>give</i> [N <sub>Y</sub> as a ~]	_____
X <sub>I</sub> , Y <sub>II</sub> 's WIDOWER	_____	<i>leave</i> [N <sub>X</sub> a ~]
<b>French</b>		
Y <sub>II</sub> , HÉRITAGE de X <sub>I</sub> de Z <sub>III</sub>	<i>recevoir</i> [N <sub>Y</sub> en ~ de N <sub>Z</sub> ]	<i>venir</i> [à N <sub>X</sub> en ~ de N <sub>Z</sub> ]
Y <sub>II</sub> , RÉSULTAT de X <sub>I</sub>	<i>donne</i> [N <sub>Y</sub> comme ~]	_____
X <sub>I</sub> , VEUF de Y <sub>I</sub>	_____	<i>laisser</i> [N <sub>X</sub> un ~]
<b>Russian</b>		
Y <sub>II</sub> , NASLEDSTV O X <sub>I</sub> -a ot Z <sub>III</sub> -a	<i>polučit'</i> [N <sub>Y</sub> -ACC v ~o ot N <sub>Z</sub> -GEN]	<i>dostat'sja</i> [N <sub>X</sub> -DAT v ~o ot N <sub>Z</sub> -GEN]
Y <sub>II</sub> , REZUL'TAT X <sub>I</sub> -a	<i>dat'</i> [N <sub>Y</sub> -ACC kak ~]	_____
X <sub>I</sub> , VDOVEC Y <sub>II</sub> -a	_____	<i>ostavit'</i> [N <sub>X</sub> -ACC ~om]

In parallel to  $\text{Oper}_0$ , Russian presents a  $\text{Labor}_{01}$ :

OTČAJANIE 'despair(N) X-a:  $\emptyset_{(\text{neu})3, \text{SG}}^{\text{DUMMY}}$  *menja*<sub>II</sub> *nakryvaet*<sub>Labor01</sub> OTČAJANIEM<sub>III</sub>  
lit. '[It] envelopes me with.despair'.

### Schematic Representation of the Support Verbs' System

Figure 1 visualizes the relations between the three support verbs (for the keyword INTERROGATION).



Another way to summarize the system of support verbs that serve a bi-actantial predicative noun L is in the form of a table.

**Table 1**  
*Support Verbs and Their DSynt-Actants*

<b>DSynt-role of L and L's actants with respect to <math>V_{(supp)}</math></b>	<b><math>V_{(supp)}</math>'s DSyntA I is:</b>	<b><math>V_{(supp)}</math>'s DSyntA II is:</b>	<b><math>V_{(supp)}</math>'s DSyntA III is:</b>
$V_{(supp)}$			
Oper <sub>0/1/2</sub>	none / L's I / L's II	L / L / L	—
Func <sub>0/1/2</sub>	L / L / L	none / L's I / L's II	—
Labor <sub>01/12/21</sub>	none / L's I / L's II	L's I / L's II / L's I	L's II / L / L

- NB 1.** The “extra” DSynt-actants appear with Labors (and not only: see immediately below), because the keyword itself becomes an additional actant of the support verb.
- 2.** In the SSynt-structure the verbs that implement the “o” support verb and have no DSynt-actant I receive a dummy SSynt-subject:  $\emptyset^{DUMMY}$ .

The semantic relation between the three  $V_{(support)}$ S is conversion, for instance:

$$\text{Oper}_1(L) = \text{Conv}_{321}(\text{Oper}_2(L))$$

*John<sub>I</sub> gives<sub>Oper<sub>1</sub></sub> Mary<sub>III</sub> a CALL<sub>II</sub>.  $\cong$  Mary<sub>I</sub> gets<sub>Oper<sub>2</sub></sub> a CALL<sub>II</sub> from John<sub>III</sub>.*

$$\text{Func}_2(L) = \text{Conv}_{231}(\text{Oper}_1(L))$$

*The SUPPORT<sub>I</sub> comes<sub>Func<sub>2</sub></sub> to Mary<sub>II</sub> from John<sub>III</sub>.  $\cong$  John<sub>I</sub> provides<sub>Oper<sub>1</sub></sub> SUPPORT<sub>II</sub> to Mary<sub>III</sub>.*

$$\text{Labor}_{12}(L) = \text{Conv}_{1(1)21}(\text{Func}_2(L))$$

*They<sub>I</sub> sprayed<sub>Labor<sub>12</sub></sub> the village<sub>II</sub> with AUTOMATIC FIRE<sub>III</sub>.  $\cong$   
Their<sub>I(1)</sub> AUTOMATIC FIRE<sub>I</sub> hit<sub>Func<sub>2</sub></sub> the village<sub>II</sub>.*

- ☞ The subscript “<sub>1(1)</sub>” to Conv stands for ‘DSynt-actant I of DSynt-actant I of the keyword’: the lexeme THEIR in the last example.

Such equivalences underlie paraphrasing rules formulated in terms of  $V_{(support)}$ S (Section 8).

The three  $V_{(support)}$ S **are not equal** in that Oper<sub>1</sub>S are several times more numerous in a language than Oper<sub>2</sub>S, and even more so than Funcs and Labors. This is quite natural: the semantic links of a verb are the strongest with its DirO, and this guarantees that the crushing majority of constrained  $V \rightarrow N$  phrases are of the form  $V \rightarrow \text{DirO}$ .<sup>3</sup> The semantic links are much weaker in the combination  $V \rightarrow \text{Subj}$  and the weakest are for  $V \rightarrow \text{IndirO/ObIO}$ .

## 5 Some Relevant Properties of Support Verb Collocations

### Semantics

Two of the crucial semantic properties of support verb collocations will be indicated here:

- semantic discrepancies between a  $V_{(\text{support})} \rightarrow N$  and the corresponding lexical verb;
- “impure”  $V_{(\text{support})}S$ .

### $V_{(\text{support})} \rightarrow N$ collocations and corresponding full verbs

The semantic equivalence  $V_0 \equiv S_0(V_0) \leftarrow V_{(\text{support})}(S_0(V_0))$  (Section 2) functions perfectly in many cases; for instance:

- (2) *John offered<sub>V<sub>0</sub></sub> Mary \$1,000,000 for the villa.*  $\equiv$   
*John **made**<sub>OpEr<sub>1</sub>(S<sub>0</sub>(V<sub>0</sub>))</sub> Mary an **OFFER**<sub>S<sub>0</sub>(V<sub>0</sub>)</sub> of \$1,000,000 for the villa.*

Such examples can be cited in droves.

At the same time, also in many cases, the said equivalence breaks down:

- (3) a. *John kissed Mary.*  $\cong$   
 b. *John **gave** Mary a **KISS**.*

The equivalence in (3) is only approximate, since (3a) can describe multiple kisses, but not (3b).

Similarly, there is no full semantic equivalence in (4):

- (4) Russian  
 a. *Ivan raduetsja<sub>V<sub>0</sub></sub> ‘Ivan is.joyful’.*  $\neq$   
 b. *Ivan **ispytyvaet**<sub>OpEr<sub>1</sub>(S<sub>0</sub>(V<sub>0</sub>))</sub> **RADOST'**<sub>S<sub>0</sub>(V<sub>0</sub>)</sub> lit. ‘Ivan experiences joy’.*

(4a) implies external manifestations of joy, while (4b) does not; it is the reason why (4c) is normal and (4d) bizarre:

- c. *Vse vidjat, čto Ivan raduetsja* lit. ‘Everybody sees that Ivan is.joyful’.  
 d. *?Vse vidjat, čto Ivan ispytyvaet radost'* lit. ‘Everybody sees that Ivan experiences joy’.

To be protected against wrong equivalences, it is necessary to indicate with each  $V_{(\text{support})}$  the corresponding semantic constraints.

### “Impure” $V_{(\text{support})}$ s (= configurational LFs)

On many occasions a  $V_{(\text{support})}$  appears with a semantic addition (this addition is boxed in the examples below):

(5) a. *make an EFFORT* =  $\text{Oper}_1(\text{EFFORT}) \rightarrow \text{EFFORT}$ ,  
but

*spare no EFFORT* =  $[\text{Magn}] + \text{Oper}_1(\text{EFFORT}) \rightarrow \text{EFFORT}$ :

the verb *spare* [*no ...*] serves not only as an  $\text{Oper}_1$ , but also expresses a high degree of effort (the LF *Magn*).

b. *CLOUDS scud across the skies* denotes, in addition to the presence of clouds, their rapid movement:

*CLOUDS scud across the skies* =  $[\text{moving fast}] + \text{Func}_0(\text{CLOUDS}) \rightarrow \text{CLOUDS}$

c. *lavish* [ $N_Y$ ] with *COMPLIMENTS* means that there are many compliments:

$[\text{Magn}^{\text{quant}}] + \text{Labor}_{12}(\text{COMPLIMENTS}) \rightarrow \text{COMPLIMENTS}$

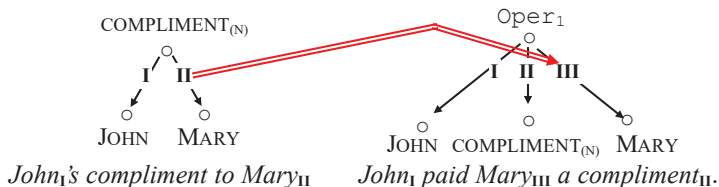
Such semantic additions are part of configurational LFs, which appear in the DSynt-structure; no semantic nuance is lost in the proposed description.

### Syntax

A support verb  $V_{(\text{support})}$  is, as stated above, semantically empty or emptied; because of this, either it has no semantic actants, or, if it has them (in the lexicon), they are ignored in its usage as a  $V_{(\text{support})}$ . Nevertheless, a  $V_{(\text{support})}$  appears in the DSynt-structure; therefore, it has its own DSynt-actants. The  $V_{(\text{support})}$ 's DSynt-actants correspond to the DSynt-actants of its keyword L (i.e., of the supported noun/adjective). However, the correspondence is not one-to-one, and this happens for an obvious reason: the  $V_{(\text{support})}$  takes L itself as its “additional” DSynt-actant, and L's DSynt-actants may (and sometimes must) migrate to the  $V_{(\text{support})}$ . This produces a shift in the actantial numbers in L's DSynt-actants. A possible result is illustrated in Figure 2:

**Figure 2**

*An  $\text{Oper}_1$ 's Actantial Structure as the Result of L's Migrating DSynt-actants*



In a  $V_{(\text{support})} \rightarrow N$  collocation, the DSynt-actants of N may stay with N or migrate to  $V_{(\text{support})}$ —depending on  $V_{(\text{support})}$  and/or on N. Sometimes such a migration is obligatory (the migrating actant is boxed):

- (6) a. *John apologized to the fans.*  
 b. *John's ← apology → to the fans*  
 c. *John gave → the fans a heartfelt APOLOGY.*

In other cases, it is impossible:

- (7) a. *John uses this technique.*  
 b. *John's ← use → of this technique*  
 c. *John makes → USE → of this technique. ~ \*John makes → of this technique an intensive USE.*

And quite often, the DSynt-actant migration is possible, but not obligatory:

- (8) a. *John lectures the club members.*  
 b. *John's ← lecture → to the club members*  
 c. *John gave → [a] → LECTURE → to the club members.*  
 d. *John gave → the club members a very interesting LECTURE.*

The necessary information must be stored in the government patterns of  $V_{(\text{support})}S$ , see Section 7.

For a detailed discussion of the distribution of N's DSynt-actants between the N and the  $V_{(\text{support})}$  in  $V_{(\text{support})} \rightarrow N$  collocations, see Alonso Ramos 2004, pp. 253—270 and 2007.

### Morphology

Particular languages impose particular morphological restrictions on the members of  $V_{(\text{support})} \rightarrow N$  collocations; here are the most frequent ones.

### The Noun

In an SAE language that has the inflectional category of determination, that is, articles, the  $V_{(\text{support})} \rightarrow N$  collocation (as, by the way, all collocations) may show certain particularities as regards the presence/absence of the corresponding grammemes. Thus, in [to] *open FIRE* the noun has no article, while in [to] *give an ACCOUNT* an article (or another determiner) with the noun is necessary. The use of determiners with the supported noun N—the keyword of the corresponding  $V_{(\text{support})}$ —depends as well on

the presence of a modifier with this N. The inflectional number of N—singular vs. plural—may also be fixed in a particular collocation. (See Alonso Ramos 2001b.)

### The Verb

In many English  $V_{(\text{support})} \rightarrow N$  collocations, the passivization of the verb is impossible:

(9) *The man on the right gave a GROAN.* vs. *\*A groan was given by the man on the right.*

All such particularities are also described in a  $V_{(\text{support})}$ 's government pattern.

## 6 Regular Semantic Additions to a Support Verb (= Complex LFs)

As was said, support verbs, being semantically empty, readily accept various meaning additions. Among these the following two stand out—because of their regularity and systematicity:

- phasal meanings, i.e., ‘beginning’, ‘continuation’ and ‘end’ (of a dynamic fact L); and
- causation meanings, i.e., ‘causing the beginning’, ‘causing the continuation’ and ‘causing the end’, as well as ‘not causing the end’ (of fact L).

Phasal and causation meanings are represented by phasal and causation LFs; these LFs are joined to the support verb LFs and form with them so-called complex LFs. The phasal and causation LFs are, of course, semantically full.

### 6.1 A Support Verb Plus a Phasal Verb

The three phasal meanings have the following semantic structures:

‘L begins’	= ‘[[no L,] then L’
‘L ends’	= ‘[[L,] then no L’
‘L continues’	= ‘[[L,] then L does not end’

These meanings are captured by the three phasal LF-verbs:

‘begin’ — Incep; ‘end’ — Fin; ‘continue’ — Cont

A phasal verb does not change the actantial structure of the support verb to which it is added; thus, *IncepOper<sub>1</sub>* has the same actantial structure as *Oper<sub>1</sub>*, etc.

<b>Incep</b>	<b>IncepOper<sub>1</sub></b>	<b>IncepFunc<sub>1</sub></b>
<b>English</b>		
X <sub>I</sub> 'S DESPAIR	<i>sink</i> [ <i>into</i> ~]	[~] 'takes possession' [ <i>of</i> N <sub>X</sub> ]
X <sub>I</sub> 'S POST of Y <sub>II</sub>	<i>get</i> [ART ~]	[~] <i>goes</i> [ <i>to</i> N <sub>X</sub> ]
<b>French</b>		
DÉSESPOIR de X <sub>I</sub>	<i>somber</i> [ <i>dans</i> ART ~]	[~] <i>saisit</i> [N <sub>X</sub> ]
POSTE de X <sub>I</sub> de Y <sub>II</sub>	<i>obtenir</i> [ART ~]	[~] <i>va</i> [ <i>à</i> N <sub>X</sub> ]
<b>Russian</b>		
OTČAJANI E X <sub>I</sub> -a	<i>pridti</i> [ <i>v</i> ~e]	[~e] <i>oxvatilo</i> [N <sub>X</sub> -ACC]
POST X <sub>I</sub> -a Y <sub>II</sub> -a	<i>polučit'</i> [~]	[~] <i>dostalsja</i> [N <sub>X</sub> -DAT]
<b>Fin</b>		
	<b>FinOper<sub>1</sub></b>	<b>FinFunc<sub>0</sub></b>
<b>English</b>		
X <sub>I</sub> 'S OPERATION [milit.]	<i>stop</i> [ART ~]	[~] 'winds up'
X <sub>I</sub> 'S GRIP [on power]	<i>lose</i> [ART ~]	[~] 'slips away'
<b>French</b>		
OPÉRATION [milit.] de X <sub>I</sub>	<i>arrêter</i> [ART ~]	[~] <i>se termine</i>
POUVOIR de X <sub>I</sub>	<i>perdre</i> [ART ~]	[~] <i>s'écroule</i>
<b>Russian</b>		
OPERACI JA [milit.] X <sub>I</sub> -a	<i>ostanovit'</i> [~ju]	[~ja] <i>byla svěrnuta</i>
VLASTI' X <sub>I</sub> -a	<i>poterjat'</i> [~']	[~'] <i>končilas'</i>
<b>Cont</b>		
	<b>ContOper<sub>1</sub></b>	<b>ContFunc<sub>1</sub></b>
<b>English</b>		
X <sub>I</sub> 'S OPERATION [milit.]	'press ahead' [ <i>with</i> ART ~]	—
X <sub>I</sub> 'S GRIP [on power]	<i>retain</i> [ART ~]	[~] <i>remains</i> [ <i>with</i> N <sub>X</sub> ]
<b>French</b>		
OPÉRATION [milit.] de X <sub>I</sub>	<i>poursuivre</i> [ART ~]	<i>se poursuit</i>
POUVOIR de X <sub>I</sub>	<i>rester</i> [ <i>au</i> ~]	[~] <i>reste</i> [ <i>aux mains de</i> N <sub>X</sub> ]
<b>Russian</b>		
OPERACI JA [milit.] X <sub>I</sub> -a	<i>prodolžat'</i> [~ju]	<i>prodolžaetsja</i>
VLASTI' X <sub>I</sub> -a	<i>soxranit'</i> [~]	[~] <i>ostalas'</i> [ <i>v rukax</i> N <sub>X</sub> -GEN]



## 6.2 A Support Verb Plus a Causation Verb

There are three causation meanings that are modeled by LF-verbs:

- ‘to cause fact L to begin’ — Caus  
 ‘to cause fact L to end’ — Liqu  
 ‘not to cause fact L to end’ — Perm

Like phasal LFs, the causation LFs are also linked by semantic relations based on negation:

$$\begin{aligned} \text{Liqu(L)} &= \text{AntiCaus(L)} = \text{Caus(NonL)} \\ \text{Perm(L)} &= \text{NonLiqu(L)} = \text{NonCaus(NonL)} \end{aligned}$$

In sharp contrast to phasal LFs, a causation LF introduces, in the general case, a new actant with respect to L’s actants: the Cause/the Causer; this changes the actantial structure of the support verb to which a causation verb is added. The additional actant is DSynt-actant **I**, and the numbers of all  $V_{(\text{support})}$ ’s own actants are increased by 1. For instance (the Roman numbers in subscript indicate the DSynt-actants of the  $V_{(\text{support})}$ ):

- (10) a. *John*<sub>X<sub>I</sub></sub> **was**<sub>Oper<sub>I</sub></sub> **in** *DESPAIR*<sub>II</sub>.  
 b. *John*<sub>X<sub>I</sub></sub> **sank**<sub>IncepOper<sub>I</sub></sub> **into** *DESPAIR*<sub>II</sub>.  
 c. *Mary’s letter*<sub>I</sub> **sent**<sub>CausIncepOper<sub>I</sub></sub> *John*<sub>X<sub>II</sub></sub> **into** *DESPAIR*<sub>III</sub>.

Just as with the support verbs, the three causation verbs are not equal: the semantically simplest Caus appears about three times more frequently than Liqu, while the most complex Perm is 25 times rarer than Liqu. (The numbers come from my own databases for English and French collocations.)

<b>Caus</b>	<b>CausOper<sub>I</sub></b>	<b>CausFunc<sub>I</sub></b>
<b>English</b>		
X <sub>I</sub> ’s DESPAIR	<i>send</i> [N <sub>X</sub> into ~]	—
X <sub>I</sub> ’s POST of Y <sub>II</sub>	<i>put</i> [N <sub>X</sub> in ART ~]	<i>give</i> [ART ~ to N <sub>X</sub> ]
<b>French</b>		
DÉSESPOIR de X <sub>I</sub>	<i>plonger</i> [N <sub>X</sub> dans ART ~]	—
POSTE de X <sub>I</sub> de Y <sub>II</sub>	<i>désigner</i> [N <sub>X</sub> à ART ~]	<i>donner</i> [ART ~ à N <sub>X</sub> ]
<b>Russian</b>		
OTČAJANI E X <sub>I</sub> -a	<i>pogruzit’</i> [N <sub>X-ACC</sub> v ~e]	—
POST X <sub>I</sub> -a Y <sub>II</sub> -a	<i>postavit’</i> [N <sub>X-ACC</sub> na ~]	<i>otdat’</i> [~ N <sub>X-DAT</sub> ]

**Liqu**

	<b>LiquOper<sub>1</sub></b>	<b>LiquFunc<sub>0</sub></b>
<b>English</b>		
X <sub>I</sub> 'S HABIT of Y <sub>II</sub>	<i>break</i> [N <sub>x</sub> of ART ~]	<i>kill</i> [ART ~]
X <sub>I</sub> 'S PAIN in Y <sub>II</sub>	<i>deliver</i> [N <sub>x</sub> of ART ~]	<i>kill</i> [ART ~]
<b>French</b>		
HABITUDE de X <sub>I</sub> de Y <sub>II</sub>	<i>détâcher</i> [N <sub>x</sub> de ART ~]	<i>éliminer</i> [ART ~]
DOULEUR de X <sub>I</sub> de Y <sub>II</sub>	<i>délivrer</i> [N <sub>x</sub> de ART ~]	<i>apaiser</i> [ART ~]
<b>Russian</b>		
PRIVYČKA X <sub>I</sub> -a Y <sub>II</sub> -it'	<i>izbavit'</i> [N <sub>x</sub> -ACC ot ~i]	<i>istrebit'</i> [~u]
BOL' X <sub>I</sub> -a v Y <sub>II</sub> -e	<i>izbavit'</i> [N <sub>x</sub> -ACC ot ~i]	<b>techn.</b> <i>snjat'</i> [~]

**Perm**

	<b>PermOper<sub>1</sub></b>	<b>PermFunc<sub>0</sub></b>
<b>English</b>		
X <sub>I</sub> 'S AGGRESSION against Y <sub>II</sub>	—	<i>condone</i> [ART ~]
<b>French</b>		
AGGRESSION de X <sub>I</sub> contre Y <sub>II</sub>	—	'fermer les yeux' [sur ART ~]
<b>Russian</b>		
AGRESSIJA X <sub>I</sub> -a protiv Y <sub>II</sub> -a	—	<i>dopustit'</i> [~ju]; <i>popustitel'stovat'</i> [~i]

The actantial structure of a causation verb can be complicated by the following fact: the Cause/the Causer can be one of the participants of the situation denoted by the keyword L. Thus, the person who *throws a PARTY* normally is one of those who take part in it. In such a case, the name of the causation LF carries the number of the corresponding L's actant: *throw* in *throw a party* is encoded as Caus<sub>1</sub>Func<sub>0</sub>(party). More examples:

Caus <sub>1</sub> Oper <sub>1</sub> (decision)	= <i>come</i> [to ART ~]	Caus <sub>2</sub> Oper <sub>2</sub> (lover)	= <i>take</i> [a ~]
Caus <sub>1</sub> Oper <sub>2</sub> (control)	= <i>get</i> [N <sub>v</sub> under ~]	Caus <sub>2</sub> Func <sub>1</sub> (attention)	= <i>get</i> [N <sub>x</sub> 's ← ~]
Caus <sub>1</sub> Func <sub>1</sub> (control)	= <i>establish</i> [N <sub>x</sub> 's ← ~], <i>take</i> [~]	Caus <sub>2</sub> Func <sub>2</sub> (criticism)	= <i>draw</i> [N <sub>x</sub> 's ← ~]

## 7 Realization Verbs

Along with support verbs, natural languages make extensive use of so-called realization verbs  $Real_i$ ,  $Fact_i$  and  $Labreal_{ij}$ . Contrary to support verbs, which are semantically empty, realization verbs are semantically full: they mean, roughly, ‘fulfill the requirement of the keyword L’= ‘do with L what one is supposed to do with L’ or ‘L fulfills its own requirement’; they also, like support verbs, form collocations with their bases.

The “requirements” in question are particular components in the L’s definition: thus, the “requirement” of a HYPOTHESIS is its confirmation, since ‘X’s hypothesis on Y being Z’ $\approx$  ‘explanation Z of a phenomenon Y proposed by X and expected to be **shown valid or not**’.

Similarly, the “requirement” of an ILLNESS is the **malfunctioning** < **death** of the organism affected: ‘illness of X’ $\approx$  ‘temporary state of the organism of X that tends to cause its **malfunctioning** and perhaps eventually **death**’.

The “requirement” of an artifact is that it be used according to its intended function—that is, to do whatever it was designed for.

$Real_{0/i}$  [Lat. *realis* ‘real’],  $Fact_{0/i}$  [Lat. *factum* ‘fait’] and  $Labreal_{ij}$  [is a hybrid of  $Labor$  and  $Real$ ] are (more or less) propositionally synonymous full verbs, different with respect to their syntax; their keywords are nouns whose meaning includes the component corresponding to a “requirement”: ‘supposed to...’, ‘tending to...’, ‘designed to...’, etc.

Syntactically,  $Real_i$ ,  $Fact_i$  and  $Labreal_{ij}$  are analogous to the LFs  $Oper_i$ ,  $Func_i$  and  $Labor_{ij}$ , respectively. The keyword L and its DSyntAs fulfill with respect to  $Real_i$  the same syntactic roles as they do with respect to  $Oper_i$ , etc. Therefore, realization verbs are linked to their keywords in the following way:

$$Real_i-II \rightarrow L, Fact_i-I \rightarrow L, \text{ and } Labreal_{ij}-III/IV \rightarrow L.$$

### Examples

Eng.	$Real_1(duty)$	= <i>discharge, do, fulfill</i> [ $A_{(poss)}(N_X) \leftarrow \sim$ ]
Fr.	$Real_1(devoir)$	= <i>accomplir</i> lit. ‘accomplish’ [ $A_{(poss)}(N_X) \leftarrow \sim$ ]
Rus.	$Real_1(dolg)$	= <i>ispolnit'</i> lit. ‘execute’ [ $svoj \leftarrow \sim$ ]
Eng.	$Real_2(requirement_{(N)})$	= <i>meet</i> [ART $\sim$ ]
Fr.	$Real_2(exigence)$	= <i>remplir</i> lit. ‘fill’ [ART $\sim$ ]
Rus.	$Real_2(trebovani_e)$	= <i>udovletvorjat'</i> lit. ‘satisfy’ [ART $\sim ju$ ]

## Compare:

Oper <sub>1</sub> ( <i>duty</i> )	= <i>have</i> [ART ~]	~	Real <sub>1</sub> ( <i>duty</i> )	= <i>fulfill</i> [ART ~]
Oper <sub>1</sub> ( <i>threat</i> <sub>(N)</sub> )	= <i>make</i> [ART ~]	~	Real <sub>1</sub> ( <i>threat</i> <sub>(N)</sub> )	= 'make good' [on ART ~]
Oper <sub>2</sub> ( <i>attack</i> <sub>(N)</sub> )	= <i>be</i> [under ART ~]	~	Real <sub>2</sub> ( <i>attack</i> <sub>(N)</sub> )	= <i>fall</i> [to ART ~→of N <sub>X</sub> ]
Oper <sub>2</sub> ( <i>exam</i> <sub>(N)</sub> )	= <i>take</i> [ART ~], <i>sit</i> [ART ~]	~	Real <sub>2</sub> ( <i>exam</i> <sub>(N)</sub> )	= <i>pass</i> [ART ~]
Eng. Fact <sub>0</sub> ( <i>film</i> <sub>(N)</sub> )	= <i>is playing, is on</i>			
Fr. Fact <sub>0</sub> ( <i>film</i> )	= <i>se joue</i> lit. 'is played', ' <i>est à l'affiche</i> ' lit. 'is on the poster'			
Rus. Fact <sub>0</sub> ( <i>fil'm</i> )	= <i>idët</i> lit. 'is walking'			
Eng. Fact <sub>0</sub> ( <i>wish</i> <sub>(N)</sub> )	= 'comes true'			
Fr. Fact <sub>0</sub> ( <i>désir</i> 'wish <sub>(N)</sub> ')	= <i>devient réalité</i> lit. 'becomes reality'			
Rus. Fact <sub>0</sub> ( <i>želani e</i> 'wish <sub>(N)</sub> ')	= <i>sbyvaetsja</i> lit. 'realizes itself'			

## 8 Support Verbs in Theoretical Linguistics

The support verbs as a specific subclass of verbs are important for the linguistic theory, since they feature several peculiarities that have to be paid close attention. Three examples can be cited here: V<sub>(support)</sub>S in syntax, in lexicography and in neurolinguistics.

### Syntax: Extraction from the V<sub>(support)</sub> phrases

Let there be a phrase of the form N<sub>1</sub>—obl—obj→N<sub>2</sub> (e.g., *an attack*<sub>N<sub>1</sub></sub>—obl—obj→*against the city*<sub>N<sub>2</sub></sub>) that is the DirO of a verb V. The subphrase N<sub>2</sub>=*against the city* can be extracted by interrogation or clefting if and only if this V is a V<sub>(support)</sub> (more generally, any LF verb; Abeillé 1988).

- (11) a. *King John launched*<sub>IncepOper<sub>1</sub></sub> *an ATTACK*→*against the city*.

vs.

*Which city did King John launch an attack against?*

*It is against this city that King John launched an attack.*

- b. *King John watched* *an attack*→*against the city*.

vs.

\**Which city did King John watch an attack against?*

\**It is against this city that King John watched an attack.*

A similar Russian example:

- (12) a. *Ivan okazal<sub>Oper<sub>1</sub></sub> pomošč'* → *sosedjam* lit. 'Ivan provided help to.neighbors'.  
 vs.  
*Komu Ivan okazal pomošč'?* lit. 'To.whom Ivan provided help?'  
*Sosedjam Ivan okazal pomošč'* lit. 'It.is.to.neighbors [that] Ivan provided help'.  
 b. *Ivan rasxvalival pomošč'* → *sosedjam* lit. 'Ivan was.lauding help→to.neighbors'.  
 vs.  
*\*Komu Ivan rasxvalival pomošč'?* lit. 'To.whom Ivan was.lauding help?'  
*\*Sosedjam Ivan rasxvalival pomošč'* lit. 'It.is to.neighbors [that] Ivan was.lauding help'  
 (Both sentences are ungrammatical in the sense 'help to the neighbors').

### Lexicography: Government Patterns of $V_{(\text{support})}$ s and Morphological Restrictions on the $V_{(\text{support})}$ and the N

The phraseologized (collocational) character of SAE support verbs is manifested in that a  $V_{(\text{support})}$  may require a specific government. Thus,  $N_X$  *has INFLUENCE* on  $N_Y$ , but *holds INFLUENCE* over  $N_Y$ ; you *give*  $N_Y$  a good LESSON or *give* a good LESSON to  $N_Y$ , but you can only *give*  $N_Y$  a good WHACK (no *\*give* a good WHACK to  $N_Y$ ); something *is* on the INCREASE, but somebody *is* under SUSPICION;  $N_X$  *takes PRIDE* in  $N_Y$ , but a LOOK at  $N_Y$ ; etc. Because of this, the  $V_{(\text{support})}$ s in the lexicon—where they are stored in the restricted lexical cooccurrence zone of lexical entries—must be supplied with their own government patterns. Here is an example:  $V_{(\text{support})}$ s for the noun ATTENTION with their government patterns.

#### $X_1$ 's ATTENTION TO $Y_{II}$

$Oper_1$	: pay [ $\sim$ to $N_Y$ ]
$Oper_2$	: get, receive [ $\sim$ from $N_Y$ ]
$CausOper_2$	: bring [ $N_Y$ to $N_X$ 's←~]
$CausFunc_2$	: call [ $N_X$ 's←~ to $N_Y$ ]
$Caus_2Func_2$	: catch [ $N_X$ 's←~]
$LiquFunc_2$	: deflect, divert [ $N_X$ 's←~ from $N_Y$ ]
$Liqu_1Func_2$ and $Caus_1Func_2$	: redirect, turn [ $N_X$ 's←~ from $N_Y'$ to $N_Y''$ ]
$Caus_2ContFunc_2$	: hold [ $N_X$ 's←~]

As can be seen from these examples, a government pattern of a  $V_{(\text{support})}$  specifies as well the determination of the keyword, since it is also phraseologized. But this

is still not the end of the story: as indicated in Section 4, a  $V_{(\text{support})} \rightarrow N$  collocation may feature various restrictions concerning both V and N. As a result, a  $V_{(\text{support})}$  in a lexical entry of its keyword can involve a mini-entry of its own.

### Neurolinguistics: Neural Processing of the $V_{(\text{support})}$ phrases

An experimental psycholinguistic study (of German  $V_{(\text{support})}$  phrases; Wittenberg et al. 2014) has discovered an important fact: a  $V_{(\text{support})}$  phrase—such as  $[N_X]$  *takes control* [*of*  $N_Y$ ]*—needs more time to be understood* 1) than a phrase with the same noun, but with a semantically full verb—e.g.,  $[N_X]$  *describes the control* [*of*  $N_Y$ ], and 2) than a phrase with the homophonous full verb and a non-predicative noun—e.g., *take an orange*. A plausible hypothesis (put forth by the authors) to explain this phenomenon is that the slowdown is due to the additional computations necessary for properly superposing the actantial structures of the  $V_{(\text{support})}$  and its keyword noun.

## 9 Support Verbs in Paraphrasing/Translation

LFs—that is, among others, support verbs—have two crucial applications:

- In the lexicon, LFs ensure a correct lexicalization of the starting semantic representation, since they specify the appropriate collocates for eventual collocation bases.
- In the process of text production, LFs ensure a convenient formalization of synonymous paraphrasing both within a given language and between languages—that is, of translation operations.

The role of LFs in the lexicon (for lexical choices) has been illustrated in Section 7; now it is turn of paraphrasing. The preponderant role of synonymy, that is, of paraphrasing in natural language is one of the pillars of the Meaning-Text approach; LFs in general and  $V_{(\text{support})}$  LFs in particular constitute a powerful tool for describing intra- and inter-lingual paraphrasing.

The main paraphrasing rule involving  $V_{(\text{support})}$  LFs is as follows:

- (13)  $L_{(V)} = S_0(L_{(V)}) \leftarrow \mathbf{II} \text{---} \text{Oper}_1(S_0(L_{(V)}))$
- |                                     |                          |          |                                                    |
|-------------------------------------|--------------------------|----------|----------------------------------------------------|
| For $L_{(V)} = \text{ACT}_{(V)}$ :  | <i>to act</i>            | $\equiv$ | <i>to <b>take</b> ACTION</i>                       |
| For $L_{(V)} = \text{FINE}_{(V)}$ : | <i>to fine</i> [ $N_Y$ ] | $\equiv$ | <i>to <b>slap</b> a FINE [on <math>N_Y</math>]</i> |
| For $L_{(V)} = \text{KISS}_{(V)}$ : | <i>to kiss</i> [ $N_Y$ ] | $\equiv$ | <i>to <b>give</b> [<math>N_Y</math>] a KISS</i>    |

Since  $\text{Oper}_{i_1}$ ,  $\text{Func}_i$  and  $\text{Labor}_{i_j}$  are related between themselves as conversives (Section 4, p. 11), it is easy to derive numerous similar equalities from (13) by substituting into this rule other support verbs (with the corresponding syntactic adaptations). Thus, one has:

- (14) a.  $L_{(V)} = S_0(L_{(V)}) \leftarrow \text{II-Oper}_2(S_0(L_{(V)}))$   
 For  $L_{(V)} = \text{FINE}_{(V)}$ : *to fine* [ $N_Y$ ]  $\equiv$  *to receive a FINE* [from  $N_X$ ]  
 b.  $L_{(V)} = S_0(L_{(V)}) \leftarrow \text{I-Func}_1(S_0(L_{(V)}))$   
 For  $L_{(V)} = \text{ANSWER}_{(V)}$ : *to answer* [ $N_Y$ ]  $\equiv$  *An ANSWER comes* [from  $N_X$  to  $N_Y$ ].

The interlingual paraphrasing can be illustrated with the translation of sentence (15) into French and Russian.

- (15) *That evening, John lectured<sub>L</sub> the club members on economy.*

French and Russian do not have a verb semantically equivalent to the English [*to*] LECTURE; both languages use instead the collocations *donner une CONFÉRENCE* ‘give a lecture’ and *čítat’ LEKCIJU* lit. ‘read a lecture’. Nevertheless, accurate translations can be produced using the following data:

- 1) Interlinguistic index of semantic equivalences:<sup>4</sup>

English	French	Russian
LECTURE <sub>(V)</sub>	*CONFÉRENCER	*LEKTORIT’

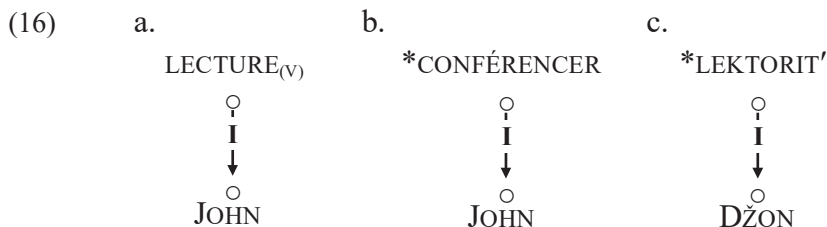
Where a lexical equivalent does not exist in the necessary syntactic form in the language under consideration, a conventional form (marked with an asterisk) is used; such a “pseudolexeme” is exploited in syntactic computations, but does not, of course, appear in the output sentence.

- 2) Language-specific Explanatory-Combinatorial Dictionaries of the languages involved:

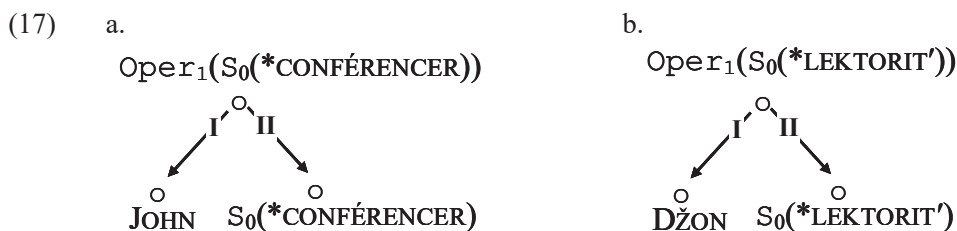
English	French	Russian
LECTURE <sub>(V)</sub>	*CONFÉRENCER	*LEKTORIT’
$S_0$ : lecture <sub>(N)</sub>	$S_0$ : conférence <sub>(N)</sub>	$S_0$ : lekcija
$\text{Oper}_1(S_0)$ : give [ART~]	$\text{Oper}_1(S_0)$ : donner ‘give’ [ART ~]	$\text{Oper}_1(S_0)$ : čítat’ ‘read’ [~ <i>u</i> ]
$\text{Oper}_2(S_0)$ : listen [to ART~]	$\text{Oper}_2(S_0)$ : écouter ‘listen’ [ART ~]	$\text{Oper}_2(S_0)$ : slušat’ ‘listen’ [~ <i>u</i> ]

- 3) Language-universal DSynt-paraphrasing rules, of the (13) and (14) type.

Consider the (partial and simplified) DSynt-structure (16a) of the English sentence (15) and its French and Russian equivalents:



Automatic substitutions of French and Russian semantic equivalents of the English lexemes in the DSynt-structure (16a) give the DSynt-structures (16b) and (16c), which, however, cannot be implemented as such: they contain pseudo-lexemes. Applying to (16b) and (16c) the paraphrasing rule (14a), one obtains the DSynt-structures (17a) and (17b):



Using the corresponding lexical entries and the Meaning-Text models of French and Russian, we obtain the correct (albeit partial) translations of (15):

- (18)      a. French: *John a donné une conférence.*  
           b. Russian: *Džon čital lekciju.*

(On the role of support verbs in paraphrasing/translation, see Milićević 2007 and Mel'čuk 2012—2015, vol. 2, Chapter 9.)

## 10 Support Verbs in World Languages

In SAE languages V<sub>(support)</sub>S play a very important, but not vital role, since in principle it is possible to do without them. However, in some languages they are



really central: phrases of the  $V_{(\text{support})} \rightarrow N$  form are used instead of many, sometimes even most, of the verbs. To round off our picture of support verbs it seems imperative to consider, if only cursorily,  $V_{(\text{support})}$ s in languages of this type. M. Alonso Ramos (2001a) offers an overview of  $V_{(\text{support})}$ s in Persian, Basque and Japanese; here will be presented  $V_{(\text{support})}$ s in Persian and Korean, since both languages manifest interesting particularities concerning these verbs.

### Persian

Persian expresses most ( $\approx 90\%$ ) of verbal meanings not by verbal lexemes but rather by verb-noun phrases of the  $V_{(\text{support})} \rightarrow N$  form, known as compound verbs.

- (19) *Nowruz-ra*    *be*    *šoma*    *TABRIK*    *miguyæm*  
 New.Year DirO    to    you    congratulation    I.say  
 lit. ‘I.say to you congratulation [because of] New.Year’= ‘I wish you a Happy New Year’.

☞ Boxing indicates the DirO.

Sentence (19) contains a typical support verb collocation: the base is *TABRIK* ‘congratulation’, and the collocate, the  $V_{(\text{support})}$  is *GOFTÆN* ‘say’; the collocation meaning is ‘[to] congratulate’. The question is, what is the DSynt-role of the base with respect to the  $V_{(\text{support})}$ ? It cannot be DSynt-actant **II**, as in the most typical and frequent  $\text{OPER}_{1-}\text{II} \rightarrow N$  collocations: in (19) we see a genuine DirO: *Nowruz-ra*, well marked by a special postclitic *-ra*. It is this clause element, rather than *TABRIK*, that must be taken to be DSynt-actant **II** of the verb. The noun *TABRIK*, then, turns out to be DSynt-actant **III** of *GOFTÆN*; this support verb is  $\text{LABOR}_{12}(\text{tabrik})$ .

And what is the situation at the SSynt-level? *Nowruz-ra* is an obvious DirO, and *tabrik* is a Quasi-DirO:  $\text{NOWRUZ} \leftarrow \text{dir-objectival} \text{--GOFTÆN} \text{--quasi-dir-objectival} \rightarrow \text{TABRIK}$ . A Persian Quasi-DirO is syntactically more constrained than a DirO: the noun in this role cannot be pluralized and determined, it cannot have dependents, be relativized or extracted, and tends to be linearly closer to the verb (it can be separated from the verb only by a few auxiliary elements).

Persian has hundreds of similar collocations:

‘[to] finish [N]’	⇔	<i>TÆMAM</i>	<i>kærdæn</i>	[N-ra] lit. ‘finish	do	[N]’
‘[to] begin [N]’	⇔	<i>AĠAZ</i>	<i>kærdæn</i>	[N-ra] lit. ‘beginning	do	[N]’
‘[to] beat [N]’	⇔	<i>KOTÆK</i>	<i>zædæn</i>	[N-ra] lit. ‘beating	hit	[N]’
‘[to] defeat [N]’	⇔	<i>ŠEKÆST</i>	<i>dædæn</i>	[N-ra] lit. ‘defeat	give	[N]’
‘[to] announce [N]’	⇔	<i>E’LAM</i>	<i>daštæn</i>	[N-ra] lit. ‘announcement	have	[N]’
‘[to] measure [N]’	⇔	<i>ÆNDAZE</i>	<i>gereftæn</i>	[N-ra] lit. ‘measure	take	[N]’



d. A Quasi-DirO cannot be “adjectivalized”:

*Johni hanin KODPU* ‘by.John done study’

vs.

\**Johni enehakil hanin KODPU* ‘by.John linguistics done study’.

Simply put, a Quasi-DirO is more constrained than a DirO; it seems to “coalesce” with the support verb.

A similar situation holds in a vast range of languages—for instance, Kurdish, Hindi and Urdu (Butt 1995), Maithili, Malayalam (Mohanan 2017), Japanese, Turkic languages, Chinese, etc.

## Conclusion

The present paper constitutes an attempt to offer a rigorous characterization of an important class of verbs—the so-called support, or light, verbs, which are used in many languages as a vital tool of turning predicative nouns into syntactic predicates, that is, in a sense, into Main Verbs. This characterization is done within the framework of a deductive notional system, where each notion is either an *indefinibilium*, or is defined strictly by the indefinibilia and notions that have been previously defined. Such an approach gives the proposed characterization sufficient robustness and sufficient descriptive power to represent not only the support verbs, but also a few contiguous verb classes. At the same time, the description of support verbs is placed in the realm of phraseology, since phrases of the  $V_{(\text{support})} \rightarrow N$  form are typical collocations. And since collocations are to be described in a lexicon, the support verbs become an important object of lexicology and lexicography. As a result, the paper may contribute to general syntax, general phraseology and general lexicology/lexicography.

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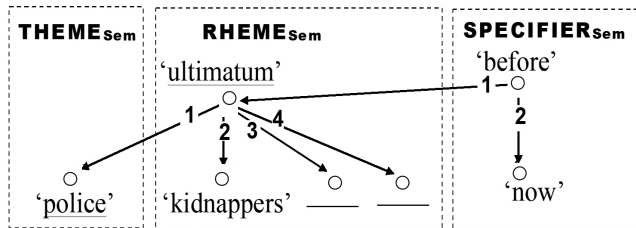
## Notes

<sup>1</sup> For the semantic representation of utterances such predicates—that is, semantic predicates having no corresponding verb in the given language—pose a problem: they appear as all other predicates. Take, for instance, sentence (i):

(i) *The police issued the ultimatum to kidnappers.*

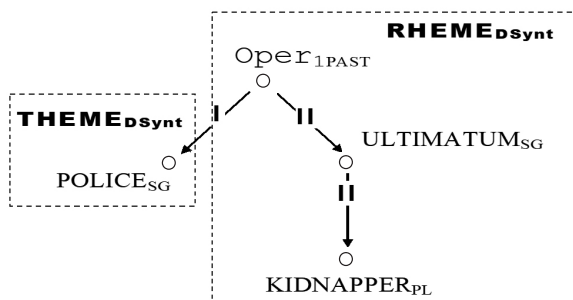
Its semantic representation is (ii):

(ii)



And its DSynt-representation is as follows:

(iii)



The support verb *Oper<sub>1</sub>* is introduced into the DSynt-tree as its top node by a special semantic rule: see Mel'čuk 2012—2015: vol. 2, Ch. 10, Subsection 2.1.2, pp. 237—238, Top-Node Arbor-Sem-Rule 3.

<sup>2</sup> As a result of synonymic syntactic paraphrasing, in an actual sentence a *V<sub>(support)</sub>* may appear in other syntactic roles as well—for instance, in a participial modifying phrase.

<sup>3</sup> The presence of specially strong semantic links between a transitive verb and its DirO is manifested across the world languages in various linguistic phenomena. For instance:

- 1) Many languages have a special grammatical case to mark DirOs: the accusative.
- 2) In the most typical ergative construction, the DirO of a transitive verb is marked by the same case as the Subject of an intransitive verb: by the nominative.
- 3) In languages with nominal incorporation, it is the DirO that is incorporated in the first place.
- 4) Most idioms consist of a verb and its DirO: '*bite the bullet*', '*cut corners*', '*cut [N<sub>v</sub>] some slack*', '*kick the bucket*', '*miss the boat*', '*pull [N<sub>v</sub>'s] leg*', etc.
- 5) In the compounds of the N←ADJ form, N predominantly is, so to speak, a “semantic DirO” of ADJ: *God-fearing*, *peace-loving*, *water-repellent*, etc. One finds the same picture in N<sub>1</sub>←N<sub>2</sub> compounds, as in Rus. *sudo+stroenie* ‘ship.building’, *ljudo+ed* ‘people.eater’, *vino+delie* ‘wine.making’, etc.

A possible explanation lies in the structure of a transitive verb's meaning. For instance, the meaning of the paragon transitive verb [*to*] KILL is—quite approximately—as follows: 'X kills Y'  $\approx$  'X causes that Y dies'; that of the verb [*to*] BUILD 'X builds Y' is  $\approx$  'X causes that Y begins to exist'; etc. Schematically, the meaning of a transitive verb V 'X V-es Y' is 'X causes that P(Y)', where P is a predicate different for different verbs, while the causation component is the same. This shows a more intimate, deeper semantic link of a DirO to its verb than that of a subject.

<sup>4</sup> This is only a simplified example of how this interlanguage index can be organized. Actually, one can do without introducing the fictitious lexemes—by using rules of the form  $V_0 = S_0(V_0) \leftarrow \text{Op}_{e_1}(S_0(V_0))$ .

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