# Comparing polysemy of English and Croatian verbs by using FrameNet

# MAJA ŽIVKO

**Abstract**— In this paper will be shown the way of describing polysemy of Croatian and English verb from a contrastive point of view by using FrameNet. This paper will follow the theoretical and practical advantages of Fillmore's Frame Semantics. Semantic frames can be used not only for describing and comparing polysemy of verbs of two languages but also as organizational devices for structuring the lexicon in bilingual dictionaries. This means that semantic frames can be used for describing polysemy in linguistics theory but also in applied lexicography.

*Keywords*—semantic frames, polysemy, lexicography, translation, verbs

## I. INTRODUCTION

 $\mathbf{P}$  olysemy verbs are verbs that have a multiple but related meanings. Understanding polysemy is very important in translation and computational linguistics. It is the most important problem facing natural language understanding system. By appearance of machine-readable versions of dictionaries, language corpora and the growth of statistical work in NLP, the number of possibilities of describing polysemy growned. Today there are lot of free statistical multilingual machine-translators (e.g. Google translator) and translation softwares (e.g. Promt) which translate polysemy verbs. Language corpora enable that for each word, the lexicographer calls up a concordance for the word, divides the concordance lines into clusters, so that, all members of each cluster have much in common with each other, and little in common with members of other clusters. For each cluster, works out what it is that makes its members belong together, re-organising clusters as necessary; takes these conclusions and codes them in the highly constrained language of a dictionary definition. [11]

#### **II. FRAMENET**

This paper will show how describing and comparing polysemy of Croatian and English verbs can be solved by using FrameNet.

The FrameNet project is building a lexical database of English based on annotating examples of how words are used

M. Živko is a science researcher at the Department of Information and Communication Sciences, Faculty of Humanities and Social Sciences, University of Zagreb, Croatia (mazivko@ffzg.hr) in actual texts. It provides a unique training dataset for semantic role labeling, used in applications such as information extraction, machine translation, event recognition, sentiment analysis, etc. [1] FrameNet is based on a theory of meaning called Frame Semantics. It relates linguistic semantics to encyclopaedic knowledge. The basic idea of Frame Semantics is that one cannot understand the meaning of a single word without access to all the essential knowledge that relates to that word [6] e.g. the person can not understand the word cure without knowing anything about the situation of curing, which also involves a doctor, patient, medicaments, hospital and relationships between curing and doctor, doctor and patient and so on...Word activates a frame of semantic knowledge relating to the specific concept it refers. A semantic frame is a collection of facts that specify characteristic features, attributes, and functions of a denotatum, and its characteristic interactions with things necessarily or typically associated with it.[6] A semantic frame can also be defined as a coherent structure of related concepts that are related such that without knowledge of all of them, one does not have complete knowledge of any one; [6]Frames are based on recurring experiences. So the curing frame is based on recurring experiences of curing. Words specify a certain perspective from which the frame is viewed.[6] For example cure views the situation from the perspective of the doctor and sickness from the perspective of the patient as the main semantic principle.

Fillmore [2] says that the classification of frame types can be used in analyzing the vocabulary of a language. "This analysis can begin at the one end with lexical items that have relatively simple word-to word mappings, such as the names of colors or the names of natural kind, and can continue on to the highly elaborated conceptual freameworks that preuposse subtle sorts of knowledge about the intellectual and institutional use".

The basic idea of FrameNet is that the meanings of most words can best be understood on the basis of a semantic frame. In the FrameNet project there are frame lements and lexical units. Here is the example when lexical unit is noun [1]:

[ Punishment This attack was conducted] [Support in] RETALIATION [ Injury for the U.S. bombing raid on Tripoli...

or adjectives such as asleep in the Sleep frame:

[Sleeper They] [Copula were] ASLEEP [Duration for hours]Helpful Hints

#### A. Frame Semantics and polysemy

Charles Fillmore's [2] Frame Semantics centers around the idea that in order to understand the meanings of words in a

language one must first have knowledge of the semantic frames, or conceptual structures, that underlie their usage. Frames serve as a type of cognitive structuring device that provide the background knowledge and motivation for the existence of words in a language as well as how they are used in discourse.

This paper will show how Fillmore's [2] Frame Semantics can be useful for describing verbal argument realization patterns across languages. By examining semantic frames of some verbs will be shown that frame-semantic descriptions offer a unified way of relating the full range of lexical units that instantiate the same semantic concept.

FrameNet is a corpus-based research programme which look for a large nuber of examples of each word, sorting these according to the conceptual structures. It is built on Fillmore Semantic frames theory and it can be very useful in describing and comparing polysemy of two languages.

In this paper will be compared systematically the polysemy structures of some verbs in English and Croatian languages on the basis of frame semantic principles and FrameNet.

## B. Polysemy of English and Croatian verbs

Divergences are cases in which different languages use different means to convey a given meaning. In the case of English *look*, this means translation equivalent of this verb in Croatian language.

I will show in this paper how are verbs *look*, *run*, *carry*, *play* and *take* are translated in Croatian language expressed in terms of distinct syntactic frames.

English polysemy word *look* is expressed in Croatian language by different verbs. It is expressed by verbs *izgledati*, *očekivati*, *namjeravati*, *osloniti se*, *potražiti*, *pripaziti*, *veseliti se*, *istražiti*, *poboljšati se*, *potražiti*, *pripaziti*, etc. Here are semantic frames of verb *look*:

# Frame *perception* active

This frame contains perception words whose perceivers intentionally direct their attention to some entity or phenomenon in order to have a perceptual experience. The perceiver role in this frame is called *perceiver-agentive*. [1] Examples:

Sorry, I wasn't looking. Can you show me again? Look carefully at this picture.

Oprosti, nisam gledao. Možeš li mi ponovo pokazati? Pogledaj pažljivo ovu sliku.

She looked out of the window.

Gledala je kroz prozor.

She blushed and looked away.

Pocrvenjela je i skrenula pogled.

She looked through book.

Prošla je kroz knjigu.

She looks round the house

Pogledala je okolo kuće.

She looked up and smiled.

Pogledala je prema gore i nasmiješila se.

He looks up to him

Cijenio ga je. Poštivao ga je.

Frame attention

This frame concerns readiness to some process.

Examples:

Look where you are going!

Pazi kamo ideš!

Look who is come to see us.

Pogledaj/vidi tko nas je došao vidjeti.

Look, Will, I know you are busy but could you give me a hand?

Gledaj, Will, znam da si zauzet ali možeš li mi dati ruku?

I can find somebody to look after the children.

Mogu pronaći nekog da se brine o djeci.

He looked after all her financial affairs.

Brinuo se o svim njenim financijskim stvarima.

Look out! There is a bike coming. Look out for thieves!

Pazi! Dolazi bicikl. Pazi na lopove.

Frame *being\_located* 

This frame concerns location.

Examples:

This room looks south so it gets the sun.

Ova soba gleda prema jugu i tako je osunčana.

Frame purpose

This frame contains achieving a goal.

Examples:

We are looking to double our profits over the next five years. Gledamo/namjeravamo/planiramo udvostručiti naše profite u sljedećih pet godina.

Frame *create\_sensation* 

It contains perception words and describing perceptual properties.

Examples:

You look very smart in that shirt. The boy looks like his father. You look (to me) as if/as though you need some sleep. That film looks good-I might go and see it.

Izgledaš vrlo pametno u toj majici. Dečki nalikuju/sliče svom ocu. Izgledaš kao da trebaš malo sna. Ovaj film izgleda dobro, vjerojatno ću ga ići pogledati.

Frame scrutiny

It concerns a person or other intelligent being paying close attention to something, in order to discover and note its salient characteristics.

Examples:

We have been looking for you everywhere. I can not find my shoes. "Have you looked under the bed?

Tražili smo te posvuda. Ne mogu pronaći svoje cipele. Jesi li pogledala ispod kreveta?

A committee was set up to look into the causes of the accident. Sastavljen je komiteta kako bi se otkrio uzrok nesreće.

He looks up a word in a dictionary.

Potražio je riječ u rječniku.

Frame *emotions\_of\_mental\_activity* 

This frame contains emotions.

Example:

Im looking forward to the weekend.

Veselim se vikendu.

Frame expectation

This frame concerns that someone believe that something will take place in the future.

Examples:

She is looking to a promotion.

INTERNATIONAL JOURNAL OF EDUCATION AND INFORMATION TECHNOLOGIES Issue 3, Volume 7, 2013

Očekivala je promoviranje.
He always looked to his father for advice.
Uvijek je očekivao od oca savjet.
Frame <i>reliance</i>
It contains depending on someone or something.
Example:
Look to your friends for support.
Osloni se na svoje prijatelje.
Frame <i>progress</i>
In this frame entity changes from a prior state to a post state in
a sequence leading to improvement. [1]
Example:
Business is looking up.
Posao se poboljšao.

Table I semantic frames of the English verb *look* in comparing with Croatian verbs

frame	eng.	croat.
perception_active	look	gledati
create_attention	look	gledati, vidjeti, paziti, pripaziti
being_located	look (south)	biti smješten, nalaziti se, gledati prema
purpose	look to	namjeravati
create_sensation	look (smart, bad)	izgledati
scrutiny	look for	tražiti
emotions_of_mental activity	look (forward)	radovati, veseliti se
progress	look up	napredovati
expectation	look to sbd, sth	očekivati
reliance	look to	osloniti se na koga/što, poštivati

English polysemy verb *run* is expressed in Croatian language by verbs, such as *pobjeći, naletjeti, pregaziti, projuriti, proći* etc.

These are semantic frames of verb run:

Frame *self\_motion* 

In this frame the self\_mover, moves under its own direction along a path. [1] Examples: *I had to run to catch the bus. Morao sam trčati da uhvatim autobus. I often go running in the evenings.* 

Često navečer idem trčati.

I have been running around all day.

Jurio sam okolo čitav dan.

They ran away. Psobjegli su. She ran into him. Naletjela je na njega. She ran her finger down the list of passengers. Projurila j/prošla je prstom po listi putnika. Frame cause harm This frame contains some injures to a victim. Examples: He ran his car into a brick wall. Udario je autom u zid. They ran off with money. Pobjegli su s novcem. Car runs over him. Pregazio ga je auto. The car ran off the road and hit a tree. Auto je sjurio s ceste i udario u stablo. Car runs over him. Pregazio ga je auto. Frame *fluidic\_motion* In this frame a fluid moves from a source to a goal along a path or within an area. [1] Examples: At Oregon Caves, a stream runs through the dinning room. U Oregon pećinama potok teče kroz blagovaonice. When it is really cold, my nose runs. Kada je izrazito hladno, curi mi nos. I can hear a tap running somewhere. Čujem da negdje curi slavina. *My face was running with sweat.* mojim licem je tekao znoj. Frame motion In this frame some entity starts out in one place and ends up in some other place, having covered some space between the two places.[1] Example: The road runs along the side of a lake. Cesta prolazi pored jezera. Frame *function* The entity in this frame is designed for or exists to perform an activity or fulfill a role. [1] Examples: The engine is running very smoothly now. Uređjaj sada radi glatko. We are running a new computer program today. Otvaramo/Pokrećemo danas novi računalni program. Frame relative time In this frame words relate to the relative ordering of two events or times. Examples: All the trains are running late today. Svi vlakovi voze danas kasnije. We'd better hurry up-we're running behind schedule. Trebamo požuriti, kasnimo s programom. Frame *price\_per\_unit* In this frame some product is offered by a particular price. Example: It costs a lot to run a car.

INTERNATIONAL JOURNAL OF EDUCATION AND INFORMATION TECHNOLOGIES Issue 3, Volume 7, 2013

Vožnja autom mnogo košta.

Frame *duration\_desrciption* 

In this frame is described duration of some event or state. Example:

The play ran for nearly two years in a London theatre. Predstava je igrala skoro dvije godine u londonskom kazalištu.

Frame competition

This frame is concerned with the idea that people participate in an organized, rule-governed activity in order to achieve some advantageous outcome. Rank and Score are different criteria by which the degree of achievement of the advantageous outcome is judged. [1]

Example:

He is running for president.

Natječe se za predjednika.

Frame *public\_services* 

This frame concerns permanent organizations (the Institutions) that are intended to help members of the target group in a particular domain with a service action. [1]

Example:

She ran a restauran.

Držala je restoran. Imala je restoran.

Frame inspecting

In this frame an inspector directs his/her perceptual attention to a ground to ascertain whether the groun is intact or whether an unwanted entity is present. [1]

Example:

They're running checks on the power supply to see what the problem is.

Provjeravali su napajanje da vide u čemu je problem.

Frame *cotheme* 

This frame contains words that necessarily indicate the motion of two distinct objects. [1]

Example:

She ran after him

Lovila ga je.

Frame downing

In this frame the subject (Agent) disables a flying or floating patient causing it to be unable to support itself in its current medium. [1]

Example:

*He is always running her down in front of other people. Uvijek ju je kritizirao pred drugim ljudima.* 

Frame *being published* 

In this frame subject (Agent) publish some object. Example:

He is running a series of articles on pollution.

On tiska seriju članaka o trovanju.

Frame *measure\_duration* 

This frame contains (transparent ) nouns that are units of measurement for time. [1] Example:

My passport runs out next month.

Moja putovnica izlazi sljedeći mjesec.

*My* contract has two months left to run.

Moj ugovor vrijedi još dva mjeseca.

Frame *expend\_resource* In this frame a subject uses a resource which is consumed and unavailable for future use. [1] *We've run out of coffee. Potrošili smo svu kavu. Ostali smo bez kave.* 

Frame *difficulty* 

In this frame the subject has an easy or difficult time carrying out an activity. [1] If you run into any problems, just let me know. Ako naideš na bilo kakve probleme javi mi.

# Frame duplication

This frame involves a creator making a duplicate and the copy, of some original entity. [1] Example: *He ran papers off. Kopirao je papir.* 

Table II semantic frames of the English verb *run* in comparing with Croatian verbs

frame	eng.	croat.
self_motion	run	trčati, naletjeti, projuriti, proći
cause_harm	run over	pregaziti, udariti
fluidic_motion	run	curiti, teći
function	run	raditi, funkcionirati, pokretati
time_period of action	run	kasniti
price_per unit	run	koštati
duration_description	run	igrati
competition	run for	natjecati se
public_services	run	držati, imati
inspecting	run	provjeravati
cotheme	run after	loviti
downing	run down	kritizirati
being_published	run	tiskati
measure_duration	run	istjecati
expend_resource	run out off	potrošiti

# INTERNATIONAL JOURNAL OF EDUCATION AND INFORMATION TECHNOLOGIES Issue 3, Volume 7, 2013

difficulty	run into	naići	(na
		problem)	
duplication	run off	kopirati	

Verb *carry* is in Croatian language expressed by verbs provesti, čuti, nositi, etc...These are semantic frames of verb *carry*:

Frame bringing

This frame concerns the movement of something (Theme) and subject (Carrier). [1]

Examples:

could you carry this bag for me?

Možeš li nositi/ponijeti ovu torbu za mene?

She was carrying a rucksack on her back.

Nosila je ruksak na leđima.

I never carry much money with me.

Nikada ne nosim mnogo novaca sa sobom.

Do the police carry guns in your country.

Nosi li policija oružje u tvojoj državi?

Strong winds carried the boat off course.

Jaki vjetar nosio je brod.

Frame *transportation status* 

A train carrying hundreds of passengers crashed yesterday. Vlak koji je prevozio stotine putnika, jučer se sudario.

viak koji je prevožio sioline pulnika, jučer se sudi

Frame *medical\_conditions* 

Words in this frame name medical conditions or diseases that a patient suffers from, is being treated for, may be cured of, or die of. [1]

Examples:

Do gnats carry disease?

Prenose li komarci bolest?

Frame hear

In this frame the subject (Hearer) receives a message or communication on a particular Topic. [1]

Example:

You will have to speak louder if you want your voice to carry to the back of the room.

Morat ćete govoriti glasnije ako želite da se vaš glas čuje u stražnjoj sobi.

Table III semantic frames of the English verb *carry* in comparing with Croatian verbs

frame	eng.	croat.
bringing	carry	nositi
transportational_ status	carry	prevoziti
medical conditions	carry	prenositi
hear	carry to	čuti

Verb *play* is translated to Croatian language by verbs *igrati se*, *svirati*, *glumiti*, *uključiti*..

Here are semantic frames of verb *play*:

Frame *Performers\_and\_Roles* 

In this frame the subject (Performer) has a certain role in a performance and plays their part by following the directions in the script for that particular role. [1] Examples: The children have been playing on the beach all day. Djeca su se igrala na plaži cijeli dan. Emma 's found a new friend to play with. Emma je pronašla novog prijatelja s kojim se može igrati. He is going to play Romeo. On će glumiti Romea. Frame competition Example: I usually play against Bill. Često igram protiv Billa. She played him at table tennis and won.

Igrala je s njim stolni tenis i pobijedila.

Do you know how to play chess?

Znaš li igrati šah?

Frame *performing\_art* 

In this frame the subject (Performers) together with behind the scenes personnel, execute a performance according to a script and/or score.[1]

Examples:

My son is learning the piano. He plays very well.

Moj sin svira piano. jako lijepo svira.

*She played a few notes on the violin.* 

Odsvirala je nekoliko nota na violini.

Frame *change\_operational state* 

In this frame device or machine is put in (or out of) service either by a volitional subject (Agent) or by a cause event or force acting on the device. [1]

Example:

Shall I play the CD for you again. Mogu li ti ponovo pustiti CD?

Table IV semantic frames of the English verb *play* in comparing with Croatian verbs

frame	eng.	croat.
Performers_and_roles	play	glumiti, igrati se
competition	play	igrati (protiv koga)
performing_art	play	svirati
change_operational_state	play	pustiti, uključiti

Verb *take* is expressed in Croatian language by different verbs. These are semantic frames of verb *take*:

Frame taking

In this frame a subject (Agent) removes an object (Theme) from a source so that the it is in the subject's (Agent's) possession. [1] Examples: Take your coat with you-it's cold. Uzmi kaput, hladno je. The ambulance took him to hospital. Hitna pomoć ga je odvezla u bolnicu. I'm taking the children swimming this afternoon. Odvest ću djecu na plivanje ovo poslijepodne. She held out the keys, and I took them. Ispružila je ključeve i ja sam ih uzela. He took a sweater. Uzeo je pulover. She took my hand/me by the hand. Uzela mi je ruku. uzela me za ruku. Come in and take your coat off. Dođi i uzmi svoj kaput. I'm going to take a week off. Uzet ću tjedan dana slobodno. I need to take some money out of the bank. Moram izvaditi/podići novce u banci. The burglars took all my jewellery. Lopovi su uzeli sav moj nakit. Who is taken my pen? Tko mi je uzeo olovku? Frame killing In this frame a subject (Killer) cause the death of the object (Victim). Example: She took his life. Ubila ga je. Frame *excreting* In this frame a subject (Excreter) excretes Excreta. [1] Example: He took a piss. Pomokrio se. Frame respond\_to\_proposal In this frame the subject (Speaker) addresses a proposal made by an interlocutor, either agreeing to it or rejecting it. [1] Examples: If you take my advice you will forget all about him. Ako prihvatiš moj savjet zaboravit ćeš ga. Do you take credit cards? Da li primaš kreditnu karticu? What coins does the machine take? Koje novčanice prima uređaj? I'm not going to take the blame for the aacident. Ne ću preuzeti krivnju za nesreću. She is not going to take the job. Ona ne će preuzeti posao. Frame *control* This frame contains controlling entity, controlling situation or controlling variable and their control a dependent entity, dependent situation or dependent variable. [1] Examples:

The state will take control of the company. Država će preuzeti kontrolu nad kompanijom. The firm is being taken over by a large company. Tvrtka je preuzela velik dio kompanije. Frame grasp

In this frame a subject (Cognizer) possesses knowledge about the workings, significance, or meaning of an idea or object (Phenomenon) and is able to make predictions about the behavior or occurrence of the Phenomenon. [1] Examples: She took what he said as a compliment. Shvatila je što je rekao kao compliment. I wish you would take things more seriously. Voljela bih kad bi prihvaćao stvari ozbiljnije. There was too much in the museum to take in at one go. Bilo je previše toga za razumjeti najednom. Frame *emotions\_of\_mental activity* In this frame the subject (Experiencer) can be described as having an emotion as induced by a stimulus. [1] Examples: He takes great pleasure in his grandchildren. Uživa u svojim unucima. When she failed the exam she took comfort from the fact that it was only by a few marks. Kad je pala na ispitu utješila ju je činjenica da se radilo o samo par ocjena. Frame *tolerating* In this frame words describe a subject's (Experiencer's) feelings of tolerating with respect to some content. [1] Example: I can't take much more of this heat. Ne mogu više podnositi ovu vrućinu. Frame *needing* In this frame the speaker believes that some state of affairs or entity must be present in order to cause some other dependent state of affairs to occur. [1] Examples: It took three people to move the piano. Porebno je troje ljudi da pomaknu piano. It took a lot of courage to say that. Potrebno je mnogo hrabrosti da se to kaže. Frame *taking\_time* In this frame an activity takes some Time\_length to complete [1]. Examples: How long did the journey take? Koliko dugo je trajalo putovanje? Frame *cure* In this frame patient takes some medical treatment. Example: Take two tablets four times a day! Uzmi dvije tablete četiri puta na dan! Frame food This frame contains words referring to items of food. [1] Example: Do you take sugar in tea? Stavljaš li šećer u čaj? Frame text\_creation In this frame an author creates a text. Examples: She took notes during the lecture.

Example: Zapisivala je bilješke tijekom predavanja. The police officer took my name and address. Policijski službenik zapisao je moje ime i adresu. They took down his words. Zapisali su ono što je rekao. Frame create physical artwork In this frame a physical object is produced by a creator to stimulate the perceptions, emotions, or cognition of an audience. [1] Example: I took some nice photos of the wedding. Fotografirao sam na vjenčanju. Frame *medical\_intervention* This frame concerns some interventions used on some object (Patient). Examples: The doctor took my temperature/pulse/blood/pressure. Liječnik mi je izmjerio temperature. Liječnik mi je izvadio krv. Liječnik mi je izmjerio tlak. Frame dimension This frame concerns words that express an object's position on a scale, its measurement, with respect to some attribute, its dimension. [1] Examples: What size shoes do you take? Koji broj cipela nosiš? How many passengers can this bus take? Za koliko putnika ima ovaj autobus mjesta? Frame intentionally\_act This is an abstract frame for acts performed by sentient beings. [1] Examples: Take a look at this article. Pogledaj ovaj članak. subject. We have to take a decision. Moramo donijeti odluku. Frame examination This frame deals with testing or examination of someone's knowledge or skill in a particular area. [1] Examples: I took my driving test. Položio sam vozački ispit. Frame *education* teaching This frame contains words referring to teaching and the participants in teaching. [1] Example: Who takes you for English? Tko te podučava Engleski? Frame transportation status In this frame a subject (Rider) is being transported in a Vehicle, or is moving on foot. [1] Example: I always take the train to York. Uvijek uzimam vlak za York. Frame roadways Tis frame involves stable roadways which connect two stable endpoints (the Source and the Goal). They also cover ground,

so they may have a path that the travel occurs in. [1]

Which road do you take to Hove? Kojim putem ideš do Hovea? Frame *coming* to believe In this frame a person comes to believe something, sometimes after a process of reasoning. This change in belief is usually initiated by a person or piece of evidence. Example: I take it that you are not coming? Pretpostavljam da ne ćeš doći? Frame certainty This frame concerns a certainty about the correctness of beliefs or expectations of the subject. [1] Examples: Take it from me. Vjeruj mi. I was completely taken in by her story. Potpuno sam povjerovala u njenu priču. Frame cause harm The words in this frame describe situations in which subject injures an object. Examples: She took a lot out of them. Izmorila ih je. She took it out on him. Napala ga je. Frame attempt In this frame a subject attempts to achieve a goal. Example: It takes a lot of effort. To zahtijeva/nalaže mnogo truda.. Frame *just\_found\_out* This frame contains surprised emotion that affect on the Example: She took them aback. Šokirala ih je. Iznenadila ih je. Frame *separating* This frame concerns that a subject separates a whole into parts or separates one part from another. Example: She took them apart. Razdvojila ih je. Frame *removing* This frame concerns moving away from the location. This frame concerns that a subject (an Agent ) causes an object (a Theme) to move away from a location (the Source). Examples: These aspirins will take the pain away. Aspirini će odstraniti bol. She took the scissors away from the child. Odnijela je škare od djece. They took the tent down and started the journey home. Sklopili su šator i otputovali kući. He is having two teeth taken out. Izvadili su mu dva zuba.

He took a notebook out of his pocket.

Izvadio je notebook iz svog džepa.

*My name had been taken off the list.* Moje ime je izbrisano/maknuto s liste. Frame *bringing* Examples: He took her book back. Vratio je natrag njenu knjigu. Could you take this letter home to your parents? Možeš li odnijeti ovo pismo kući roditeljima? Frame *getting\_vehicle\_underway* In this frame a subject (a Vehicle) is detached from a place where it was held. [1] Example: The plane took off. Avion je poletio. Frame progress In this frame entity changes from a prior state to a post state in a sequence leading to improvement. Example: He took off very soon. Vrlo brzo je napredovao. Frame *imitating* In this frame a subject (an Agent) displays a characteristis of a standard in his or her own way of behaving. [1] Example: She took him off. Oponašala ga je. Frame *hiring* In this frame a subject (an Employer) hires an object (Employee), promising the a certain compensation in exchange for the performance of a job. [1] Example: The firm is taking on new staff. Tvrtka je počela zapošljavati novo osoblje. Frame *activity* In this frame the subject (agent) enters an ongoing state of the activity, remains in this state for some duration of time and leaves this state either by finishing or by stopping. [1] Example: He is taken on a lot of extra work. Preuzeo je mnogo dodatnog posla. She has taken to learning English. Počela je učiti engleski. I've taken up voga recently. nedavno sam počela ići na jogu. Frame *feeling* In this frame a subject (an Experiencer) experiences an emotion or is in an emotional state. Example: She took to him. počeo joj se sviđati Frame *activity* pause In this frame the agent pauses in the course of an activity. Example: When we will take a break? Kada će biti pauza? Frame undressing

In this frame a wearer removes an item of clothing from a body location (the part of the body that the clothing is prototypically worn on). [1] Example: Walking on sand is better if you take off your shoes. Šetanje na pijesku je bolje ako skineš cipele. Frame *participation* In this frame an event with multiple participants takes place. Example: *I took part in the party.* Bila sam na zabavi. Frame event In this frame an event takes place at a place and time. Example: The party will take place on Sunday. Zabava će biti u nedjelju

Table V semantic frames of the English verb *take* in comparing with Croatian verbs

0		
frame	eng.	croat.
taking	take	izvaditi, odvesti,
		podići, uzeti
killing	take	ubiti
excreting	take (a piss)	pomokriti se
respond_to_proposal	take	prihvatiti,
		preuzeti, primati
control	take, take over	preuzeti
grasp	take, take in	shvatiti
emotions_of_mental	take	tješiti se, uživati
activity		
tolerating	take	podnositi
needing	take	biti potrebno,
		trebati
taking_time	take	trajati
cure	take	uzimati
food	take	staviti
text_creation	take	zapisivati
create_physical	take	fotografirati
artwork		
medical_intervention	take	izmjeriti, izvaditi
dimension	take	nositi, imati (
		mjesta)
intentionally_act	take	pogledati,
		donijeti
examination	take	položiti
education_teaching	take	podučavati
transportation_status	take	uzeti
roadways	take	ići
coming_to_believe	take	pretpostavljati
certainty	take	vjerovati,
-		povjerovati
cause_harm	take	izmoriti, napasti
attempt	take	nalagati,
-		zahtijevati
just_found_out	take	iznenaditi,
		šokirati

# INTERNATIONAL JOURNAL OF EDUCATION AND INFORMATION TECHNOLOGIES Issue 3, Volume 7, 2013

separating	take apart	razdvojiti
removing	take	izbrisati, izvaditi,
		odnijeti,
		odstraniti,
		sklopiti, uzeti
bringing	take	odnijeti, vratiti
getting_vehicle_	take off	poletjeti, uzletjeti
underway		
progress	take off	napredovati
imitating	take off	oponašati
hiring	take on	zapošljavati
activity	take on, take to	početi, preuzeti
feeling	take to	početi (se sviđati)
activity_pause	take (a break)	biti (pauza)
undressing	take off	skinuti
participation	take part	sudjelovati
event	take place	biti, održavati se

### **III** . CONCLUSION

Semantic frames serve as a type of cognitive structuring device that provide the background knowledge and motivation for the existence of words in a language as well as how they are used in discourse. In this paper was compared polysemy of English verbs *look, run, carry, play and take* with Croatian translation equivalents on the basis of frame semantic principles. By describing and comparing semantic frames across languages was shown the usefulness of Frame Semantics. This paper addresses the question of how to account for verbal polysemy from a contrastive point of view.

In this paper was shown that frame-semantic descriptions offer a unified way of relating the full range of lexical units.

#### REFERENCES

[1] http://www.framenet.icsi.berkeley.edu

[2] Fillmore C 1982 Frame Semantics. In Linguistic Society of Korea (ed.), Linguistics in the Morning Calm. Seoul, Hanshin, pp 111-138.1982

[3] Johnson C, Fillmore C, Wood E, Ruppenhofer J, Urban M, Petruck M, Baker C The FrameNet Project: Tools for Lexicon Building. Manuscript. Berkeley, CA, International Computer Science (2001)

[4] Levin B. English Verb Classes and Alternations. Chicago, Chicago University Press. (1993)

[5] Gačić, M. Corpus Lexicography in Languages for Specific Purposes-Creating a Minimum Vocabulary, WSEAS (2013)

[6] Y. Ravin, C. Leacock Polysemy Theoretical and Computational Approaches, Oxford, Oxford university press (2006)

 [7] F. A.El. Mouadib, Interactive Natural Language Interface, WSEAS (2009)
[8]B. Ismaili. Latent Knowledge Structures of Traversal Behaviour in Hypertext Environment. WSEAS (2009)

[9] Zubrinic, K., Milicevic, M., Zakarija, I. Classification of concept Maps Using Bag of Words Model, WSEAS (2013)

[10] Oxford Student's dictionary of English. Oxford. Oxford University Press. (2004)

[11] Nerlich, B., Vimala H., Clarke, D. Polysemy Flexible Patterns of Meaning in Mind and Language, Berlin, New York, Mouton de Gruyter, (2003)